OECD Employment Outlook



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The *OECD Employment Outlook*

Provides an annual assessment of labour market developments and prospects in member countries. Each issue contains an overall analysis of the latest labour market trends and short-term forecasts, and examines key labour market developments. Reference statistics are also included.

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Editorial

Ensuring Equality of Job Opportunities for All

Labour market performance has improved, and ensuring equality of opportunities for all is now the challenge ahead

OECD labour markets have shown significant improvements over the past decade. The average unemployment rate dropped to 5.6% in the OECD area in 2007, the lowest rate since 1980. Employment has also increased significantly and, on average, two-thirds of the working-age population now have a job, an unprecedented achievement in the post-war era. This is welcome news, but no grounds for complacency. Labour market conditions remain difficult for some groups, and downside risks in the global economic environment loom large with possible negative effects on the labour market (see the *OECD Economic Outlook* No. 83 for a discussion).

Looking beyond the current cyclical weakness, the main labour market challenge in OECD countries is how to promote further improvements in living standards in the context of population ageing. The *Reassessed OECD Jobs Strategy* provides a comprehensive policy framework for boosting jobs and incomes. It highlights the fact that assisting potential workers from under-represented groups to find jobs is a key policy priority; in many countries, women, youth, older people and disabled people have relatively low employment rates. But assistance with finding a job is insufficient; major efforts are also needed to ensure that all individuals have access to the same job opportunities. A significant part of the employment growth in many OECD countries over the past two decades has come through increasing the share of workers holding precarious and/or low-paid jobs.

Labour market reforms have fostered participation…

Labour market reforms, implemented by a number of OECD countries, have fostered labour market participation of under-represented groups. These include the implementation of "activation/mutual obligation" strategies, where effective re-employment services are combined with strong job-search incentives; tax/benefit reforms aimed at reducing the tax wedge and making work pay, particularly for low-paid workers; and removal of disincentives to continued work in old-age pension systems and early retirement schemes. For women, they also include flexible working arrangements, adequate parental leave and good quality, affordable child-care.

… but these reforms will be insufficient if barriers limiting access to jobs, such as discrimination, are not properly addressed

Policy actions to raise labour force participation will have limited success if labour demand for under-represented groups does not follow. Promoting equality of opportunities in the

labour market requires long-term investment in education and training, as well as policy interventions to promote access to productive and rewarding jobs. A persistent mismatch between the skills acquired by individuals and those required by firms to navigate in a globalised and more competitive environment still represents a barrier to the employability of certain groups.

In addition, in many countries, labour market discrimination – *i.e.* the unequal treatment of equally productive individuals only because they belong to a specific group – is still a crucial factor inflating disparities in employment and the quality of job opportunities. For example, while female employment rates have expanded considerably and the gender employment and wage gaps have narrowed virtually everywhere, women still have 20% less chance to have a job than men, on average, and they are paid 17% less than their male counterparts. Evidence presented in this edition of the *Employment Outlook* suggests that about 8% of the variation in gender employment gaps and 30% of the variation in gender wage gaps across OECD countries can be explained by discriminatory practices in the labour market. At the same time, workers from ethnic minorities have to search 40% to 50% longer than individuals having the same characteristics but belonging to majority groups before they receive a job offer, which renders them much more vulnerable to the risk of long-term unemployment. And, if employed, the average wages of native-born ethnic minorities in a number of countries are more than 10% less than those of their majority-group counterparts.

Structural reforms can help to reduce discrimination…

Structural reforms, *per se*, are likely to improve the employment prospects of under-represented groups by reducing the scope of discriminatory behaviours. Indeed, by implementing competition-enhancing reforms of product markets in the past two decades, many OECD countries have killed two birds with one stone. On the one hand, they have promoted a better allocation of resources and stronger and more sustainable economic growth, thereby boosting labour demand. On the other hand, by reducing market rents, stronger competition has also weakened the ability of employers to cover the costs of their prejudices in hiring and promoting. In addition, reductions in the expected costs of hiring low-productive workers, relaxation of employment protection legislation where it is overly strict, moderation in minimum wage increases and compression of the tax wedge on low-paid workers all have the potential to weaken discrimination in hiring, when the latter is based on prior beliefs or stereotypes about average group performance.

… but effective enforcement of the legal prohibition of discrimination is crucial…

But specific anti-discrimination legislation and other policies are also needed to combat discrimination effectively. Moreover, legal prohibition of discriminatory behaviour can only be effective if it is enforced. And herein lies a major problem: in all OECD countries, enforcement essentially relies on the victims' willingness to assert their claims. But many people are not even aware of their legal rights regarding discrimination in the workplace. And even if they are, proving a discrimination claim is intrinsically difficult for the claimant and legal action in courts is a costly process, whose benefits down the road are

often small and uncertain. All this discourages victims from lodging complaints. Countries that effectively tackle this issue provide adequate institutional support to plaintiffs. They also specify in their anti-discrimination legislation well-identifiable compensatory damages, and make available alternative simplified procedures for dispute resolution.

Legal rules, however, will have more impact if the enforcement is not exclusively dependent on individual action. Many OECD countries have put in place specialised anti-discrimination agencies. But in only a few of them are these agencies effectively empowered, in the absence of individual complaints, to investigate companies, take actions against employers suspected of operating discriminatory practices, and sanction them when they find evidence of discrimination.

... as are specific incentives for non-discriminatory behaviour and positive actions

Fighting discrimination in the labour market should also go beyond the repression of unwanted behaviours and the compensation of victims. It also demands interventions that promote cultural changes and redefine socially acceptable practices. Enacting simple, consolidated laws and promoting codes of conduct can help employers avoid discriminatory actions in the first place. And, perhaps more importantly, governments can develop incentive schemes to elicit virtuous behaviours, such as labels for non-discriminatory practices and financial incentives for specific positive actions.

Promoting equality of job opportunities for all requires a combination of structural reforms and direct anti-discrimination measures

The *Reassessed OECD Jobs Strategy* has proven to be a useful framework for a comprehensive policy to promote more and better jobs. The good news is that this reform agenda can also contribute to reducing discrimination in the labour market. But direct measures to prevent discrimination are also required. Otherwise, a level playing field cannot be assured for all workers.



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Recent Labour Market Developments and Overview of the Publication

Although the financial market turmoil might have passed its peak, its fallout will continue to act as a brake on growth in the OECD area for considerable time to come. GDP growth slackened in the second half of 2007 and is projected to slow further during the next two years in the OECD area, albeit in a differentiated manner across countries. Overall, employment growth continued moderately strong in 2007, but is projected by the OECD to slow significantly during the next two years. It is projected that 33 million persons will be unemployed in 2008 in the OECD area, up from 32 million in 2007. Against this background, the growth in real compensation per employee should slow down in 2008 in the majority of OECD countries and be broadly in line or below productivity gains.

After discussing recent labour market developments and short-term prospects, the following pages provide a brief overview of the content of Chapters 1-5 of this publication.

1. Recent labour market developments and short-term prospects

1.1. *Recent economic developments*

The financial market turmoil – originating from the US subprime mortgage and derived products problems – is believed to have passed its peak. However, OECD projections show that its consequences – together with other headwinds, including housing market corrections and high commodity prices (*e.g.* for oil and food) – are likely to reduce the pace of economic growth for some time to come.

Economic activity slackened in 2007 in almost all OECD economies after several years of strong growth, but in a differentiated manner (Table 0.1). The slowdown was particularly strong in the United States where private consumption weakened, as higher inflation reduced consumers' purchasing power and business investment decelerated. By contrast, growth in OECD Europe has been more resilient, slowing only by 0.3 percentage point to 3% in 2007. Robust business investment and exports – particularly in Germany – have offset sluggish private consumption and housing downturns, notably in Ireland and Spain. However, the resilience to financial turmoil has been uneven in OECD Europe and economic activity decelerated by more than 1 percentage point in 2007 in Denmark, Hungary, Iceland, Ireland, Luxembourg and Sweden. Economic expansion remained vigorous in Korea, Oceania, Mexico and Turkey, even after slowing markedly in the latter two countries. Only Australia, New Zealand, Norway, and Slovak Republic recorded growth in 2007 that was more than 1 percentage point higher than in 2006.

Economic growth in the emerging markets, while moderating, continued to be brisk. In China, GDP growth slowed, but still registered a robust year-on-year growth of 10.5% in the first quarter of 2008. Domestic demand emerged as the main driver of continued strong growth, as export growth slowed and monetary policy was tightened to fight against soaring headline inflation driven by sharp increases in food prices. Growth in India slackened by about 2 percentage points in 2007, reaching 8½, while surging inflation remains a source of concern. Due to strong increases in investment and consumption, economic growth accelerated in Russia and Brazil in 2007, reaching nearly 8% and 5.5%, respectively.

1.2. *Economic outlook to the year 2009*

The OECD projects that economic growth for the OECD area will slow to 1.8% in 2008 and then to 1.7% in 2009, as a result of the recent financial turmoil, cooling of housing markets and the soaring of commodity prices. The economic slowdown will be strong in 2008 in the United States, with GDP growing below potential, and in neighbouring countries with close economic links, especially Canada. Economic activity will also decelerate significantly in OECD Europe in 2008, with GDP growing below capacity in most countries. Activity will contract quite sharply in Iceland, which is being strongly affected by the financial turmoil. Falling residential construction investment will also be a significant drag on growth in Ireland, Spain and the United Kingdom. Already weak growth in Italy is

Table 0.1. **Growth of real GDP in OECD countries**[a, b]

Percentage change from previous period

	Share in total OECD GDP 2000	Average 1995-2005	2006	2007	Projections	
					2008	2009
North America						
Canada	3.2	3.3	2.8	2.7	1.2	2.0
Mexico	3.3	3.6	4.8	3.3	2.8	3.3
United States	35.8	3.2	2.9	2.2	1.2	1.1
Asia						
Japan	11.8	1.1	2.4	2.1	1.7	1.5
Korea	2.8	4.5	5.1	5.0	4.3	5.0
Europe						
Austria	0.8	2.2	3.3	3.3	2.3	1.7
Belgium	1.0	2.1	2.9	2.8	1.7	1.7
Czech Republic	0.6	2.6	6.4	6.5	4.5	4.8
Denmark	0.6	2.1	3.9	1.8	1.2	0.6
Finland	0.5	3.7	4.8	4.3	2.8	2.3
France	5.6	2.2	2.4	2.1	1.8	1.5
Germany	7.8	1.3	3.1	2.6	1.9	1.1
Greece	0.7	3.9	4.2	4.0	3.5	3.4
Hungary	0.5	4.1	3.9	1.3	2.0	3.1
Iceland	0.0	4.6	4.4	3.8	0.4	–0.4
Ireland	0.4	7.5	5.7	4.0	1.5	3.3
Italy	5.3	1.3	1.9	1.4	0.5	0.9
Luxembourg	0.1	4.9	5.9	4.6	3.0	4.0
Netherlands	1.7	2.6	3.0	3.5	2.3	1.8
Norway	0.6	2.9	2.5	3.5	2.6	1.8
Poland	1.5	4.2	6.2	6.6	5.9	5.0
Portugal	0.6	2.5	1.3	1.9	1.6	1.8
Slovak Republic	0.2	4.3	8.5	10.4	7.3	6.1
Spain	3.1	3.7	3.9	3.8	1.6	1.1
Sweden	0.9	2.9	4.5	2.8	2.1	2.1
Switzerland	0.8	1.7	3.2	3.1	2.0	1.4
Turkey	2.1	4.3	6.9	4.5	3.7	4.5
United Kingdom	5.5	2.8	2.9	3.0	1.8	1.4
Oceania						
Australia	1.9	3.7	2.6	4.1	2.9	2.7
New Zealand	0.3	3.4	2.3	3.4	1.3	2.1
OECD Europe	**41.0**	**2.5**	**3.3**	**3.0**	**2.0**	**1.8**
EU15	**34.6**	**2.2**	**2.8**	**2.6**	**1.6**	**1.3**
EU19	**37.4**	**2.4**	**3.2**	**2.9**	**1.9**	**1.6**
Total OECD	**100.0**	**2.7**	**3.1**	**2.7**	**1.8**	**1.7**

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a) The OECD Secretariat's projection methods and underlying statistical concepts and sources are described in detail in "Sources and Methods: OECD Economic Outlook" which can be downloaded from the OECD Internet site (*www.oecd.org/dataoecd/47/9/36462096.pdf*).

b) Aggregates are computed on the basis of 2000 GDP weights expressed in 2000 purchasing power parities.

Source: OECD (2008), *OECD Economic Outlook*, No. 83, Paris, May.

projected to fall further to just 0.5% in 2008, while activity will slow in Germany and several previously fast growing eastern European economies. In Japan, GDP growth is projected to fall by a modest 0.4 percentage point in 2008, as falling industrial production and business investment, and sluggish private consumption amid rising inflation, are largely offset by strong export growth and improvements in the housing market. Economic activity is projected to slow more markedly in Australia, Korea and New Zealand. Growth is

forecasted to re-accelerate somewhat in 2009 in about one third of the OECD countries, while it is projected to slow further in a larger number of countries, including Iceland where activity is forecasted to recede by 0.4% in 2009.

1.3. Employment and unemployment

Employment growth in the OECD area decelerated to 1.5% in 2007 from 1.7% in the previous year, yet continued to grow somewhat faster than labour supply in most OECD countries (Table 0.2). Employment growth weakened in the United States, affected by the slowdown in economic activity, while it was stronger than in 2006 in more than half of the European countries. In particular, Austria, France, Germany and Poland recorded an acceleration of employment growth of 1 percentage point or more in 2007, while employment growth slowed by at least this amount in Greece, the Slovak Republic and Spain. Employment growth picked up in Australia and Canada in 2007, but slowed in Mexico and New Zealand. In Japan, employment growth remained modest at 0.5% in 2007, while employment growth was stable at 1.2% in Korea.

Employment growth continued to outpace labour force growth in all but three OECD countries in 2007, leading to a fall in the unemployment rate. There were 31.9 million job seekers in the OECD area in 2007. This was down from 34.1 million in 2006 and corresponded to a reduction in the unemployment rate from 6% to 5.6% (Table 0.3). The unemployment rate fell in all OECD countries in 2007, apart from the 0.3 percentage point increase in Portugal and smaller increases in Ireland and Mexico. Unemployment rates fell sharply in 2007 in a considerable number of European countries, reaching their lowest levels since the early 1990s. Unemployment rates were down by more than 1 percentage point in three eastern European economies – the Czech Republic, Poland and the Slovak Republic – and Germany, and by nearly 1 percentage point in Finland, France and Norway. In Japan and Korea, unemployment rates declined a little, approaching their lowest levels during the 1990s.

Employment growth is projected to slow to 0.7% in 2008 and 0.5% in 2009 on average in the OECD area. The projected deceleration in 2008 is widespread, affecting all but three OECD countries (Mexico, Portugal and the United Kingdom), and quite sharp in some countries. Indeed, employment is projected to fall in 2008 in Hungary, Iceland, Japan, New Zealand and the United States, after having risen in all OECD countries in recent years. Employment growth is also projected to decelerate by over 2 percentage points in Ireland and Spain. Conversely, employment is projected to grow at more than 2% in 2008 only in three countries: Australia, Mexico and Poland. In many countries, projected employment growth during 2008-2009 is lower than labour force growth, implying rising unemployment. However, this is not the case in Japan, where both employment and the labour force are projected to decline slightly.

The declining trend in unemployment in recent years is projected to reverse in 2008, with the number of unemployed persons in the OECD area increasing by 1 million persons in 2008 and by nearly a further 2 million in 2009. This will bring the OECD average unemployment rate back up to 6% in 2009, the same level as in 2006. In the United States, the number of unemployed persons is projected to reach 9.5 million persons in 2009 – an increase of 2.4 million persons since 2007 – while the unemployment rate climbs from 4.6% in 2007 to 6.1% in 2009. In OECD Europe, the average unemployment rate is projected to remain essentially unchanged during the next two years, while it increases somewhat in North America and Oceania. The relatively strong performance of the European labour

Table 0.2. **Employment and labour force growth in OECD countries**[a]

Percentage change from previous period

	Employment						Labour force					
	Level 2007	Average 1995-2005	2006	2007	Projections		Level 2007	Average 1995-2005	2006	2007	Projections	
	(000s)				2008	2009	(000s)				2008	2009
North America												
Canada	16 865	2.0	1.9	2.3	1.6	0.8	17 947	1.7	1.4	2.0	1.7	1.0
Mexico	42 552	2.3	3.4	1.7	2.0	2.5	44 048	2.0	3.1	1.9	2.3	2.4
United States	146 049	1.3	1.9	1.1	–0.1	0.1	153 129	1.2	1.4	1.1	0.7	0.9
Asia												
Japan	64 119	–0.2	0.4	0.5	–0.1	0.0	66 687	0.0	0.1	0.2	–0.1	0.0
Korea	23 433	1.1	1.3	1.2	0.5	0.7	24 216	1.3	1.0	1.0	0.4	0.7
Europe												
Austria	4 273	0.6	1.0	2.1	1.0	0.6	4 497	0.6	0.7	1.6	0.9	0.5
Belgium	4 404	0.9	1.3	1.6	0.9	0.4	4 759	0.8	1.0	0.8	0.4	0.6
Czech Republic	4 908	–0.3	1.3	2.0	1.2	0.5	5 184	0.1	0.4	0.0	0.4	0.3
Denmark	2 858	0.5	1.6	1.8	0.4	–0.7	2 968	0.3	0.7	1.6	0.0	–0.3
Finland	2 482	1.5	1.8	2.0	1.4	0.5	2 666	0.6	1.0	1.0	0.8	0.2
France	25 640	0.8	0.6	1.9	1.1	0.3	27 854	0.7	0.6	0.9	0.6	0.5
Germany	39 736	0.3	0.6	1.7	1.1	0.2	43 334	0.6	–0.2	0.1	0.1	0.2
Greece	4 705	0.9	2.5	1.2	1.1	1.1	5 116	1.1	1.4	0.7	0.8	0.9
Hungary	3 890	0.8	0.8	0.1	–0.2	0.5	4 202	0.4	1.0	0.0	0.0	0.5
Iceland	177	1.3	5.1	4.5	–1.1	–2.3	181	1.1	5.4	3.9	0.0	0.1
Ireland	2 113	4.1	4.4	3.7	1.3	0.8	2 213	3.2	4.5	3.8	2.6	1.6
Italy	22 973	1.2	1.9	1.0	0.7	0.4	24 466	0.8	0.9	0.2	0.8	0.7
Luxembourg	211	1.9	2.1	2.2	1.4	1.4	220	2.1	1.9	2.1	1.6	1.8
Netherlands	8 543	1.4	1.8	2.1	1.4	0.5	8 836	1.1	0.9	1.3	0.7	0.6
Norway	2 444	1.0	3.2	3.4	1.9	0.5	2 506	0.9	2.0	2.5	1.9	0.9
Poland	15 240	–0.5	3.4	4.4	2.5	1.5	16 859	0.1	–1.3	–0.5	0.4	0.5
Portugal	5 135	1.1	0.7	0.1	0.6	0.5	5 583	1.1	0.7	0.5	0.4	0.6
Slovak Republic	2 357	0.3	3.8	2.4	1.6	1.3	2 649	0.7	0.4	–0.2	0.8	0.5
Spain	20 356	4.2	4.1	3.1	0.7	0.3	22 190	3.0	3.3	2.8	2.3	1.5
Sweden	4 446	0.6	2.0	2.4	0.8	0.2	4 661	0.4	1.5	1.7	0.5	0.3
Switzerland	4 210	0.6	2.3	2.3	1.6	0.6	4 368	0.7	1.8	1.9	1.6	0.8
Turkey	23 306	0.7	1.2	2.0	0.7	1.3	25 757	1.0	0.8	1.9	1.5	1.6
United Kingdom	29 207	1.1	0.9	0.7	0.8	0.1	30 867	0.7	1.5	0.6	0.9	0.4
Oceania												
Australia	10 507	1.9	2.1	2.9	2.2	1.3	10 986	1.5	1.8	2.5	2.0	1.8
New Zealand	2 156	2.0	2.1	1.8	–0.6	0.7	2 236	1.8	2.2	1.6	–0.4	0.7
OECD Europe[b]	210 308	**1.0**	**1.6**	**1.8**	**1.1**	**0.4**	226 180	**0.9**	**0.9**	**0.8**	**0.8**	**0.6**
EU15[b]	177 081	**1.2**	**1.5**	**1.6**	**0.9**	**0.3**	190 229	**1.0**	**1.0**	**0.9**	**0.8**	**0.6**
EU19[b]	203 477	**1.0**	**1.6**	**1.8**	**1.0**	**0.4**	219 123	**0.9**	**0.8**	**0.7**	**0.7**	**0.6**
Total OECD[b]	539 295	**1.1**	**1.7**	**1.5**	**0.7**	**0.5**	571 184	**1.0**	**1.1**	**1.0**	**0.8**	**0.8**

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a) See note *a)* to Table 0.1.
b) Aggregates are computed using employment and labour force weights respectively.
Source: OECD (2008), *OECD Economic Outlook*, No. 83, Paris, May.

market will cause the excess of the European unemployment rate over the average for all of the OECD area to continue to fall, declining from 1.3 percentage points in 2007 to 1.0 percentage point in 2009. Within OECD Europe, unemployment rates are projected to register the largest increases in 2008 in Iceland, Ireland, Spain and Turkey, while

Table 0.3. **Unemployment in OECD countries**[a]

	Percentage of labour force					Millions				
	Average 1995-2005	2006	2007	Projections		Average 1995-2005	2006	2007	Projections	
				2008	2009				2008	2009
North America										
Canada	7.9	6.3	6.0	6.1	6.3	1.3	1.1	1.1	1.1	1.2
Mexico	3.6	3.2	3.4	3.7	3.6	1.4	1.4	1.5	1.7	1.7
United States	5.1	4.6	4.6	5.4	6.1	7.2	7.0	7.1	8.3	9.5
Asia										
Japan	4.4	4.1	3.9	3.8	3.8	2.9	2.8	2.6	2.5	2.5
Korea	3.9	3.5	3.2	3.1	3.1	0.9	0.8	0.8	0.7	0.8
Europe										
Austria	5.4	5.4	5.0	4.8	4.8	0.2	0.2	0.2	0.2	0.2
Belgium	8.4	8.2	7.5	7.0	7.2	0.4	0.4	0.4	0.3	0.3
Czech Republic	7.0	7.2	5.3	4.6	4.4	0.4	0.4	0.3	0.2	0.2
Denmark	5.2	3.9	3.7	3.3	3.7	0.1	0.1	0.1	0.1	0.1
Finland	11.0	7.7	6.9	6.3	6.0	0.3	0.2	0.2	0.2	0.2
France	9.3	8.8	7.9	7.5	7.6	2.5	2.4	2.2	2.1	2.1
Germany	8.7	9.7	8.3	7.4	7.4	3.7	4.2	3.6	3.2	3.2
Greece	9.9	8.6	8.0	7.7	7.7	0.5	0.4	0.4	0.4	0.4
Hungary	7.4	7.5	7.4	7.7	7.6	0.3	0.3	0.3	0.3	0.3
Iceland	3.1	2.9	2.3	3.4	5.7	0.0	0.0	0.0	0.0	0.0
Ireland	6.5	4.4	4.5	5.7	6.5	0.1	0.1	0.1	0.1	0.2
Italy	9.9	6.8	6.1	6.2	6.5	2.3	1.7	1.5	1.5	1.6
Luxembourg	3.3	4.4	4.4	4.5	4.9	0.0	0.0	0.0	0.0	0.0
Netherlands	4.5	4.1	3.3	2.6	2.7	0.4	0.4	0.3	0.2	0.2
Norway	4.0	3.4	2.5	2.5	2.8	0.1	0.1	0.1	0.1	0.1
Poland	15.6	13.8	9.6	7.8	6.9	2.7	2.3	1.6	1.3	1.2
Portugal	5.8	7.7	8.0	7.9	7.9	0.3	0.4	0.4	0.4	0.4
Slovak Republic	15.9	13.3	11.0	10.3	9.6	0.4	0.4	0.3	0.3	0.3
Spain	12.6	8.5	8.3	9.7	10.7	2.3	1.8	1.8	2.2	2.5
Sweden	5.9	5.3	4.6	4.3	4.4	0.3	0.2	0.2	0.2	0.2
Switzerland	3.6	4.0	3.6	3.6	3.8	0.1	0.2	0.2	0.2	0.2
Turkey	8.2	9.7	9.5	10.2	10.5	2.0	2.4	2.5	2.7	2.8
United Kingdom	6.0	5.5	5.4	5.5	5.8	1.7	1.7	1.7	1.7	1.8
Oceania										
Australia	6.8	4.8	4.4	4.2	4.7	0.7	0.5	0.5	0.5	0.5
New Zealand	5.6	3.8	3.6	3.8	3.8	0.1	0.1	0.1	0.1	0.1
OECD Europe[b]	**8.9**	**8.0**	**7.0**	**6.8**	**6.9**	**19.0**	**18.0**	**15.9**	**15.4**	**15.8**
EU15[b]	**8.4**	**7.6**	**6.9**	**6.8**	**7.0**	**15.0**	**14.3**	**13.1**	**13.0**	**13.5**
EU19[b]	**9.1**	**8.1**	**7.1**	**6.9**	**7.0**	**18.7**	**17.7**	**15.6**	**15.2**	**15.5**
Total OECD[b]	**6.6**	**6.0**	**5.6**	**5.7**	**6.0**	**35.3**	**34.1**	**31.9**	**32.9**	**34.8**

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a) See note *a)* to Table 0.1.
b) Unemployment rates aggregates are computed using labour force weights.
Source: OECD (2008), *OECD Economic Outlook*, No. 83, May, Paris.

unemployment rates will fall in the Czech Republic, Poland and the Slovak Republic. The unemployment rate is projected to increase slightly during 2008-2009 in Australia and Canada, while remaining essentially unchanged in Japan and Korea.

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1.4. Real compensation

The average growth rate of real compensation per employee in the business sector (henceforth real compensation) rose from 0.9% in 2006 to 1.2% in 2007 for the OECD area as a whole (Table 0.4). Despite this increase, the 2007 growth rate for real compensation was comparable with overall labour productivity growth (1.3%), as well as with average real compensation growth during 1995-2005.

OECD projections indicate that average real compensation growth in the OECD area will ease to 0.5% in 2008, before rising to 1.3% in 2009. In the United States, average real compensation is set to slow sharply in 2008, after having accelerated somewhat in 2007. The 0.3% rate projected for 2008 is expected to be well below labour productivity gains, but compensation growth is projected to quicken to match labour productivity growth in 2009. In OECD Europe, real compensation growth is projected to decelerate in 2008 to 0.6%, before rising to 1.3% in 2009 – remaining consistently below labour productivity growth. However, the situation is quite varied across European countries. Real compensation growth is projected to grow at a slower pace in 2008 than in 2007 in all but four European countries, and to turn strongly negative in Iceland and more moderately negative in Belgium, France and Spain. Growth in real compensation is projected to accelerate in 2009 in most European countries, but to slow in Finland, Poland and Sweden.

After falling in 2007, real compensation in Japan will begin to grow slowly during 2008-2009. There are some recent signs that Japan's deflationary trap has come to an end, with wages for full-time workers increasing in early 2008, but real compensation growth is projected to remain well below labour productivity growth through 2009. Real compensation growth accelerated in 2007 in Korea, but is projected to slow somewhat in 2008 before growing more vigorously in 2009. Real compensation growth was above 2.5% in 2007 in Australia, Canada and New Zealand and is projected to remain strong during 2008 and 2009. Real compensation fell 0.3% in Mexico in 2007 and is projected to remain unchanged in 2008 before rising modestly in 2009.

2. Overview of the publication

This section provides a brief overview of the content of Chapters 1-5 of this publication:

Chapter 1. Off to a good start? Youth labour market transitions in OECD countries. This chapter first provides an overview of youth labour market performance over the past decade. It then presents evidence on the sensitivity of teen and young adult unemployment to the business cycle and the increased prominence of temporary and part-time jobs as modes of entry into work. Several indicators of the pace and modality of the school-to-work transition following completion of initial education are then presented and the quality of youth jobs is analysed, including the extent to which temporary and low-paid jobs serve as stepping stones to better jobs. Lastly, this chapter underlines the difficulty of moving out of non-employment for some school leavers – especially those who did not successfully complete secondary schooling – despite the overall fluidity of the youth labour market.

Chapter 2. Declaring work or staying underground: informal employment in seven OECD countries. This chapter shows that informal employment and undeclared work is a significant labour market problem for some lower- and middle-income OECD countries, prompting concerns about worker protection, while at the same time making it difficult for

Table 0.4. **Real compensation per employee in the business sector in OECD countries**[a, b]

Percentage change from previous period

	Average 1995-2005	2006	2007	Projections	
				2008	2009
North America					
Canada	1.7	2.2	3.0	2.5	2.5
Mexico	–0.8	0.9	–0.3	0.0	0.4
United States	2.0	1.2	1.9	0.3	1.3
Asia					
Japan	–0.2	0.4	–0.3	0.2	0.7
Korea	0.8	0.5	1.1	0.6	2.4
Europe					
Austria	0.6	0.6	0.9	0.2	0.8
Belgium	0.5	0.8	0.7	–0.7	1.4
Czech Republic	4.3	3.9	4.4	1.4	2.9
Denmark	1.9	1.7	2.7	1.7	2.1
Finland	1.5	1.5	1.1	2.6	1.6
France	1.1	1.2	1.0	–0.1	1.1
Germany	–0.2	–0.1	–0.6	0.1	1.1
Greece	3.0	4.3	3.6	2.8	3.8
Hungary	2.2	0.8	1.2	0.5	2.7
Iceland	4.1	1.6	0.1	–1.8	0.0
Ireland	1.4	1.1	1.7	0.3	1.5
Italy	–0.4	–0.5	0.2	0.5	0.7
Luxembourg	0.9	2.0	1.0	0.1	0.9
Netherlands	0.8	0.0	0.9	0.3	1.5
Norway	2.6	5.5	4.5	3.0	2.9
Poland	2.3	–0.3	5.1	6.4	5.3
Portugal	1.0	0.0	0.5	0.3	1.1
Slovak Republic	4.5	2.3	6.7	3.7	3.5
Spain	–0.1	–2.2	–0.1	–0.5	0.6
Sweden	2.7	1.1	2.7	1.9	1.6
Switzerland	0.8	2.4	1.3	0.6	0.9
Turkey	. .	. .	. .	. .	. .
United Kingdom	2.3	2.0	1.3	0.6	0.6
Oceania					
Australia	2.2	2.6	3.1	1.8	2.6
New Zealand	1.7	1.9	2.6	2.3	2.5
OECD Europe[c]	**1.0**	**0.6**	**0.9**	**0.6**	**1.3**
EU15	**0.7**	**0.3**	**0.5**	**0.3**	**0.9**
EU19[c]	**0.9**	**0.5**	**0.9**	**0.6**	**1.3**
Total OECD less high-inflation countries[c, d]	**1.2**	**0.9**	**1.3**	**0.6**	**1.3**
Total OECD[c]	**1.2**	**0.9**	**1.2**	**0.5**	**1.3**

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. . Data not available.

a) See note *a)* to Table 0.1

b) Compensation per employee in the business sector is deflated by a price deflator for private final consumption expenditures and aggregates are computed on the basis of 2000 GDP weights expressed in 2000 purchasing power parities.

c) Countries shown.

d) High-inflation countries are defined as countries which had 10% or more inflation in terms of GDP deflator on average between 1995 and 2005 on the basis of historical data. Consequently, Hungary and Mexico are excluded from the aggregate.

Source: OECD (2008), *OECD Economic Outlook*, No. 83, May, Paris.

governments to deliver high quality public services and hindering productivity and growth. Strong economic growth does not, *per se*, appear to guarantee a reduction in informal employment. What policies can countries adopt to address informal employment? This chapter emphasises that the answer differs from country to country. Depending on the situation in each of them, incentives for employing workers formally may be improved by a combination of reducing labour costs when they are excessive, increasing flexibility in countries with stringent employment protection legislation and improving the design of social protection schemes to increase the benefits of affiliation to workers. Better incentives should be complemented by enhanced tax, social security and labour enforcement efforts. Improved governance standards would also encourage voluntary compliance.

Chapter 3. The price of prejudice: labour market discrimination on the grounds of gender and ethnicity. Despite some progress, this chapter shows that there is still evidence of discrimination on the grounds of gender and ethnic or racial origins in OECD labour markets. Field experiments show pervasive ethnic discrimination in many countries. Indirect evidence shows that on average at least 8% of the gender employment gap and a larger proportion of the gender wage gap can be attributed to discrimination. Virtually all OECD countries have enacted anti-discrimination laws in recent decades, and evaluations as well as cross-country analysis suggest that, if well-designed, these laws can be effective in reducing disparities in labour market outcomes. However, enforcement of anti-discrimination legislation is essentially based on victims' willingness to claim their rights. Thus, public awareness of legal rules and their expected consequences (notably, victims' costs and benefits of lodging complaints) is a crucial element of an effective policy strategy to establish a culture of equal treatment. However, this chapter argues that legal rules are likely to have more impact if the enforcement is not exclusively dependent on individuals. In this respect, specific agencies may play a key role.

Chapter 4. Are all jobs good for your health? The impact of work status and working conditions on mental health. This chapter presents new evidence on the evolution of work-related mental illness in OECD countries and on the role that new work patterns have played in affecting it. Despite the steep rise in disability benefit receipt for mental illness in many countries, available indicators do not suggest an overall increase in mental health problems among the working-age population across the OECD area. However, mental health appears to have worsened in certain countries and for certain workforce groups, while the reported incidence of certain potentially stressful working conditions has increased in Europe. Longitudinal analysis for individual workers in five countries shows that non-employment generally is worse for mental health than working and that the mental-health payoff to employment varies depending on the type of job contract and working conditions, and pre-existing mental health problems. However, this chapter shows that the mental health benefits for inactive individuals who obtain a "non-standard" job appear to be smaller than for those moving into standard employment arrangements, particularly for persons with pre-existing mental health problems.

Chapter 5. Do multinationals promote better pay and working conditions? Foreign direct investment (FDI) by OECD-based multinational enterprises (MNEs) in developing and emerging economies has increased dramatically over the past two decades. While generally perceived as beneficial for local development, it has also raised concerns about unfair competition and the protection of workers' rights in host countries. This chapter assesses the effects of FDI on wages and working conditions for workers of foreign affiliates of MNEs and those of their independent supplier firms. The evidence suggests

that MNEs tend to provide better pay than their domestic counterparts, especially when they operate in developing and emerging economies, but not necessarily better non-wage working conditions. The effects on wages may also spread to the foreign suppliers of MNEs, but those spillover effects are small. This chapter also discusses policies to strengthen the contribution of FDI to improving wages and working conditions.

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Chapter 1

Off to a Good Start? Youth Labour Market Transitions in OECD Countries

The chapter first provides an overview of youth labour market performance over the past decade. It then presents evidence on the sensitivity of teen and young adult unemployment to the business cycle and the increased prominence of temporary and part-time jobs as modes of entry into work. Several indicators of the pace and modality of the school-to-work transition following completion of initial education are then presented and the quality of youth jobs is analysed, including the extent to which temporary and low-paid jobs serve as stepping stones to better jobs. Lastly, the chapter underlines the difficulty of moving out of non-employment for some school leavers – especially those who did not successfully complete secondary schooling – despite the overall fluidity of the youth labour market.

Introduction

This chapter provides a descriptive review of how youth are faring in OECD labour markets. It updates the analyses conducted in previous issues of the *OECD Employment Outlook* (OECD, 1996a, 1998) and in recent OECD work (Quintini and Martin, 2006). The chapter also addresses a number of new issues. In particular, it provides an internationally comparative analysis of the pace and modality of the school-to-work transition and how they have evolved during the past decade, making use of cross-sectional and longitudinal data for many countries.[1]

There are two broad reasons why it is timely to assess the school-to-work transition process and how this process influences youth labour market outcomes. First, despite improvements in youth labour market conditions in many OECD countries over the past decade, there remain concerns about the ability of many youth to gain a secure foothold in the labour market and move up career ladders (OECD, 2006). The currently uncertain macroeconomic environment reinforces these concerns, because the historical pattern has been for the labour market prospects of youth to be particularly sensitive to business-cycle conditions. A second reason it is timely to assess school-to-work transitions is that youth may be disproportionately affected – either for better or the worse – by a number of demographic, economic and social trends which are reshaping OECD labour markets.

The chapter is organised as follows. Section 1 presents an overview of youth labour market performance over the past decade. The changing relative size and educational attainment of new cohorts reaching working age is examined, as well as the cyclical sensitivity of employment and unemployment rates for different age groups. The rest of the chapter examines the patterns of transition from school to work and the medium-term impact on labour market outcomes for youth of the initial transition. These transitions can be quick or protracted and they take very different forms across different youth groups and across OECD countries. Accordingly, the analyses focus on employment status and job quality according to *time passed since leaving school* (*i.e.* potential labour market experience), rather than age. Along with descriptive tabulations of labour market outcomes by experience, alternative estimates of the average duration of the school-to-work transition are presented in Section 2, emphasising both the multi-faceted nature of this concept and the statistical difficulties that must be confronted to make international comparisons. Finally, Section 3 analyses employment stability and the evolution of job quality for recent school leavers, as they settle into their working lives.[2]

Main findings

- The labour supply profile of school leavers has evolved during the past decade. In almost all OECD countries, the share of 15-24-year-olds in the total population has fallen, often quite sharply. If workers of different ages are imperfect substitutes in production, the relatively small size of the most recent cohorts of youth should be an advantage to them in the labour market. Another potential advantage to youth in the labour market today

is that they are better educated on average than preceding cohorts. Moreover, despite the rising educational attainment for youth, the education wage premia increased in the past decade in the majority of the OECD countries for which these data are available.

- The youth employment rate (15-24 years) fell in the majority of OECD countries during the past decade, but this reflects rising school enrolment rates rather than worsening labour market opportunities. Indeed, the unemployment rate for youth fell in the majority of countries, as did the more comprehensive NEET rate (*i.e.* the share of youth not in education, employment or training), suggesting that it became somewhat easier for young job seekers to find work over the past decade. This is also confirmed by the fact that fewer youth experience a protracted spell of unemployment in most OECD countries, both absolutely and relative to adults.
- In most OECD countries, the share of employed youth who are working part-time or in temporary jobs grew during the past decade. The expansion in temporary employment was similar to that observed for adult workers, but youth part-time work increased disproportionally. When working full time, the share of youth earning less than two-thirds of median earnings tended to fall during the past decade, both absolutely and relative to adults. However, this improvement should be placed in the context of rising part-time employment for youth.
- Youth unemployment rates are more sensitive to business-cycle conditions than the adult unemployment rate and this high-sensitivity tends to decline progressively with age. The relative sensitivity of youth employment rates to the cycle is less clear cut, probably reflecting difference in the way labour market conditions affect the decision to stay in education or enter the labour market across OECD countries.
- There is much variation, both across youth groups and across countries, in the pace of convergence of youth employment rates towards those of prime working age people (proxied here by ages 30-49 years). Employment opportunities are much lower for early school leavers, who have not finished upper secondary education, than for their better educated counterparts, and it takes longer for the employment rates of early school leavers to converge towards those of prime-age workers. This suggests that the absence of qualifications represents a barrier to obtaining job offers, especially in combination with little or no work experience. However, an age effect also depresses initial employment rates for early school leavers, many of whom are teenagers living with their parents who may delay entering the labour market for several years. Male and female school leavers have very similar employment rates in the first year out of school, but the male employment rate subsequently climbs more steeply and steadily than does the female rate. Indeed, female employment rates first climb for several years and then dip in a considerable number of OECD countries, as many young women exit the labour force when they become mothers.
- The average length of the school-to-work transition is an intuitively appealing measure of how easily youth integrate into employment, but raises difficult measurement issues in practice, especially when making international comparisons:
  - The most commonly used estimates are based on activity status by single year of age and can be calculated using standard labour force statistics. Typically, the duration of the school-to-work transition is calculated as the difference between the median job entry and school leaving ages (*i.e.* between the age at which the employment-population ratio reaches 50% and the age at which 50% of the cohort have finished

their initial schooling). This measure ranges from under one year in Austria and Switzerland to five years or more in Denmark, Finland and Sweden.

- While cohort-based measures provide a useful indication of the length of time during which many youth are making the transition from studying to working, they do *not* provide a reliable estimate of the average duration of the school-to-work transition at the individual level (*i.e.* the average time lapse between leaving school and starting the first job).
- Ideally, longitudinal data should be used to calculate individual transitions. Despite some upward bias, due to the difficulty of detecting jobs of short duration in the panel data analysed here, these individual-based estimates of average duration tend to be substantially lower than the cohort-level estimates and also imply a very different country ranking. For example, the estimated average duration in Finland is now less than one year, much lower than the cohort-based estimate and well below the EU15 average value. Panel data are not available for many countries, but (somewhat less accurate) individual-level estimates of the average duration of the school-to-work transition can also be made using more widely available, cross sectional data.

- Finding the first job is an important stepping-stone toward obtaining a permanent job for many youth, but there are significant differences across groups and countries. For those with low education in selected EU countries and Korea, finding permanent jobs takes longer than for better-educated youth, while transition patterns are similar for all educational levels in Australia. Young Korean women have greater difficulty than young men in accessing permanent jobs, while young women have as good a chance as young men to find a permanent job within five years of finding their first job in Australia and selected EU countries.
- Temporary employment has become a major mode of entry to the labour market for youth in many European countries, as well as in Canada and Japan, while part-time employment is more common among young workers in the Netherlands, the Nordic and English-speaking countries. In most cases, low-paid and temporary jobs serve as stepping stones to better paying and more stable jobs for young job starters. However, a minority of youth become trapped in low-paid and/or temporary jobs.
- Youth neither in school nor in employment may find it difficult to move into stable employment. Following them over time suggests that they spend more than three of the five years after education in non-employment in ten of the 13 countries for which such individuals could be followed using longitudinal data. Of the young NEETs followed over five years, 20% of those moving into employment in the second year experienced one or more repeat non-employment spells in the remaining four years in eight of the 13 countries analysed. Another indication of the importance of repeat spells of non-employment is that 60% of the young school leavers, who experienced an early spell as a NEET, experienced two or more such spells during the following four years.

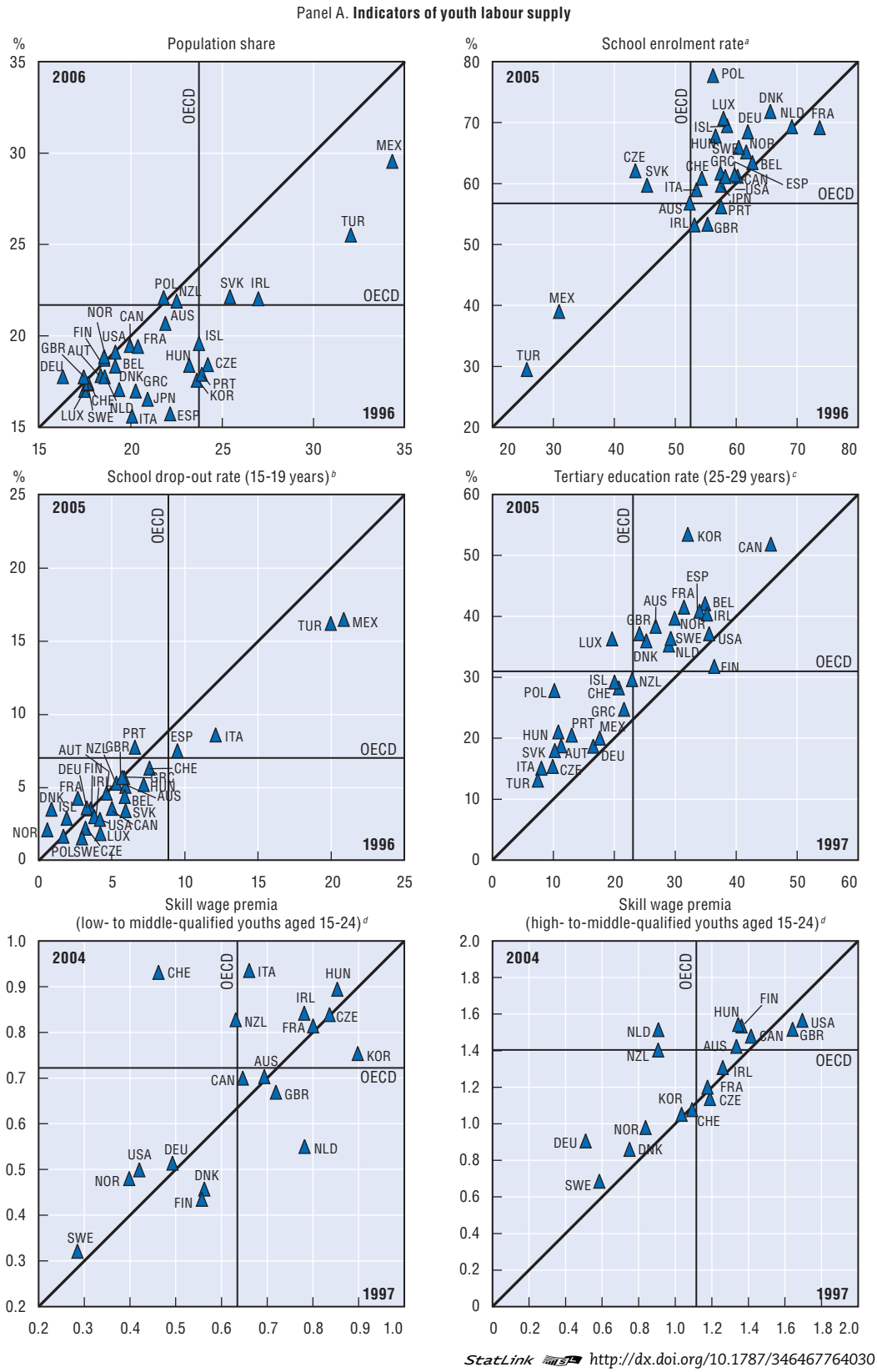
1. Employment outcomes by age

1.1. *Changes in the situation of youth in the labour market during the past decade*

Labour supply profile of youth

Figure 1.1, Panel A provides an overview of changes in the labour supply characteristics of youth during the past decade.[3] In almost all OECD countries, the population share of the 15-24 years old group has fallen, often quite sharply. It is notable

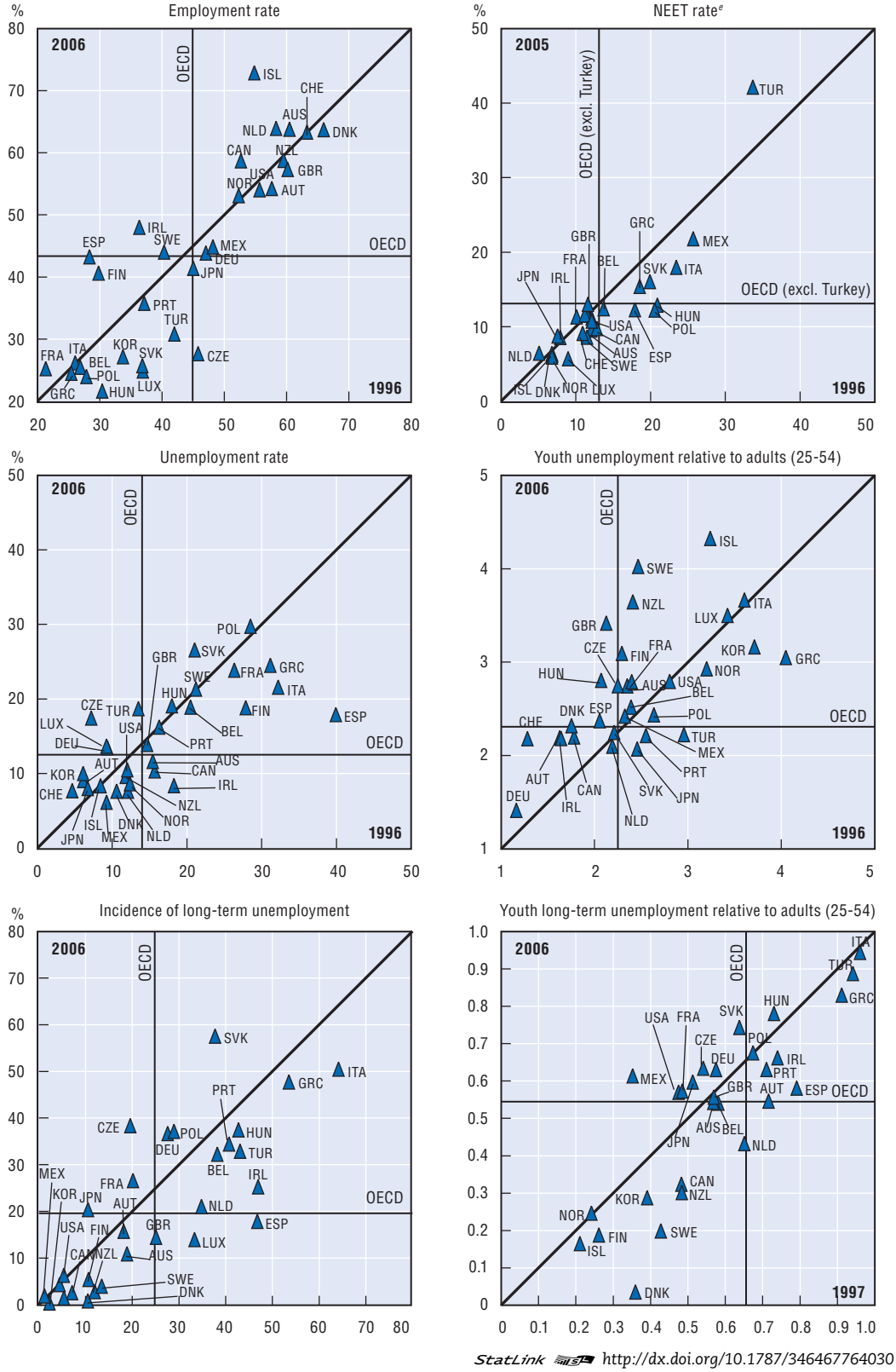
Figure 1.1. **The situation of youth (15-24 years) in the labour market, 1996 and 2006**



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Figure 1.1. **The situation of youth (15-24 years) in the labour market, 1996 and 2006** *(cont.)*

Panel B. **Indicators of youth activity status**

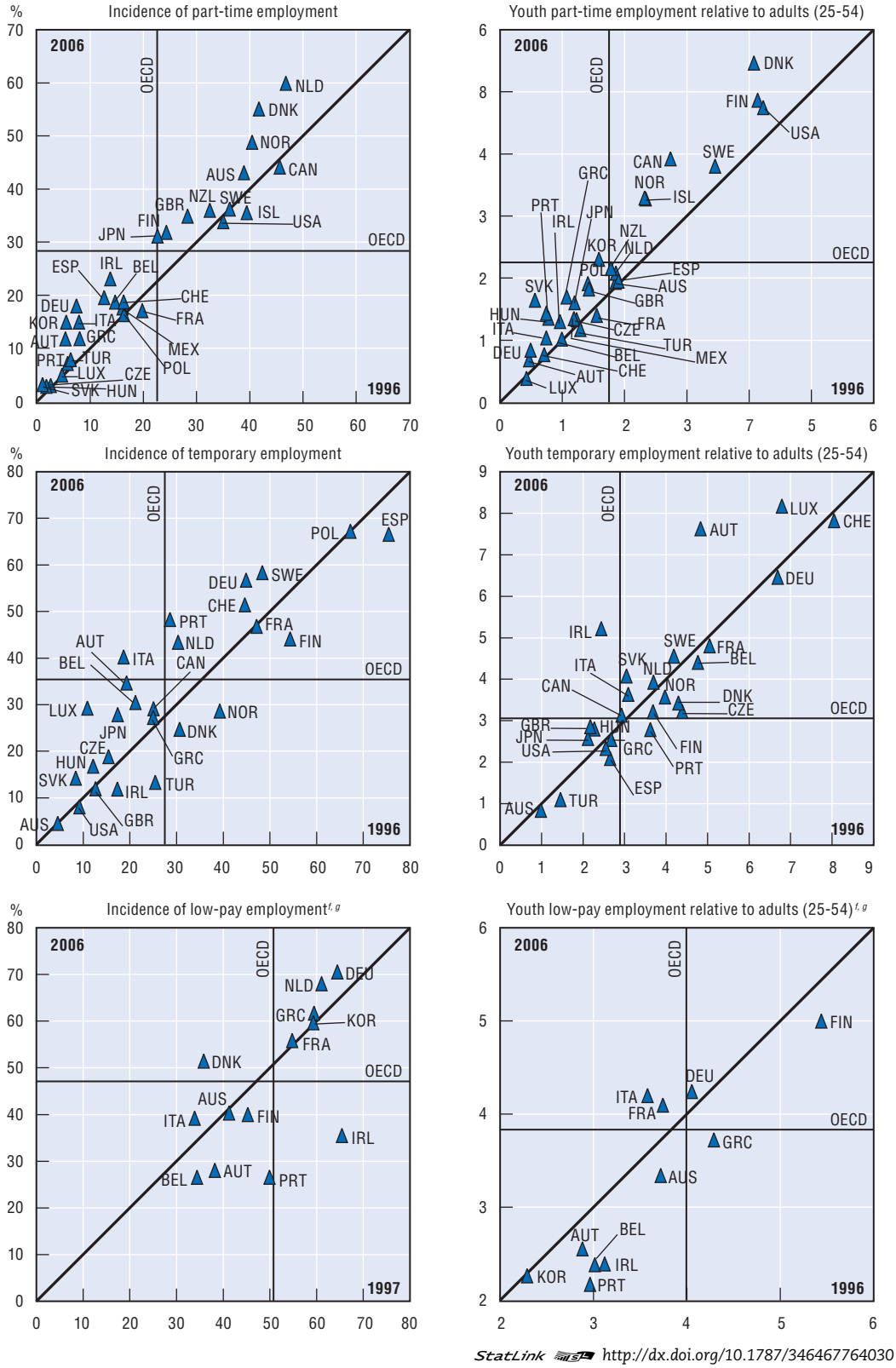


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Figure 1.1. **The situation of youth (15-24 years) in the labour market, 1996 and 2006** *(cont.)*

Panel C. **Indicators of youth job quality**



StatLink http://dx.doi.org/10.1787/346467764030

Figure 1.1. **The situation of youth (15-24 years) in the labour market, 1996 and 2006** *(cont.)*

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a) 1997 for Germany and the Netherlands; 1998 for Italy; 1999 for Ireland; 2000 for the United Kingdom; and 2004 for Mexico, instead of 1996.
b) 1997 for Australia; 1998 for Italy; 1999 for Germany and Ireland; and 2004 for Mexico, instead of 1996.
c) 1998-2005 for Denmark, Italy, the Netherlands and Portugal; and 1999-2005 for Luxembourg.
d) Data on earnings by educational attainment refer to: 1996 in Finland and the Netherlands and 1998 in Italy and Korea, instead of 1997; and 2001 in Australia, 2002 in Ireland, Italy, Luxembourg and the Netherlands and 2003 in Belgium, Canada, Denmark, Finland, Norway and Sweden, instead of 2004.
e) 1997 for the Netherlands; 1998 for Italy; 1999 for Germany and Ireland; and 2004 for Mexico, instead of 1996.
f) Full-time workers only. Workers are considered to be in low-paid employment if they receive an hourly wage of less than two-thirds the median value of employees aged 25-54 in that country and year.
g) 1995-2001 for Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain; 1996-2001 for Finland; 1998-2004 for Korea; and 2001-2005 for Australia.

Source: OECD Labour Force Statistics and OECD Education database. For low-pay employment (last two figures in Panel C), OECD estimates based on the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS), waves 3 to 7 (2000-2004) for Korea. For further details on country see Annex Tables 1.A1.1 and 1.A1.2.

that this decline also occurred in countries with relatively young age structures, such as Mexico and Turkey. If workers of different ages are imperfect substitutes in production, the relatively small size of the most recent cohorts of youth should be an advantage to them in the labour market.

Another potential advantage for youth entering the labour market today is that they are better educated than the cohort that preceded them. This is reflected in both increased enrolment rates for 15-24 year-olds and decreased drop-out rates for 15-19 year-olds, but also more strongly in the rising share of young adults with a tertiary education in most OECD countries (Figure 1.1, Panel A). The economic returns to schooling remained high, indeed, the wage premia for education increased between 1996 and 2006 in many OECD countries for which data are available. This is true whether the return to education is evaluated in terms of the payoff to completing upper secondary schooling or to completing a tertiary degree.

Employment and non-employment status of youth

Figure 1.1, Panel B shows that the youth employment rate fell in the majority of OECD countries during the past decade. This decline appears to reflect rising school enrolment rates rather than worsening labour market opportunities. Indeed, the youth unemployment rate fell in the majority of countries over the same period. The decline in youth unemployment was especially large in Spain, but also sizeable in Finland, Ireland and Italy.[4] The more comprehensive NEET rate (*i.e.* the share of youth not in education, employment or training) also fell for this age group in most OECD countries during 1996-2006. One notable exception is Turkey, where the increased NEET rate for youth reflects a strong decrease in female participation rates at all ages.[5]

Although the reduction during the past decade in the overall unemployment rate for youth was modest on average in the OECD area, the incidence of long-term unemployment fell more sharply, both absolutely and relative to adults (aged 25-54 years). By contrast, the decline in overall youth unemployment tended to be similar to the decline registered for adults. On average for the OECD area, unemployed adults are now nearly twice as likely as unemployed youth to have been jobless for at least one year, even as the overall unemployment rate for youth continues to be more than double that for adults. Put

differently, the past decade has reinforced the historical pattern that unemployment is more common among young than prime-age workers, but also more transitory (Freeman and Wise, 1982; and Martin *et al.*, 1984).

Job quality for youth

During the past decade, the shares of employed youth who have part-time or temporary jobs grew in the majority of OECD countries (Figure 1.1, Panel C). On average in the OECD area, close to three out of ten young workers work part-time and more than one third have temporary jobs, increases of 6 and 8 percentage points, respectively, since 1996. The expansion in temporary employment was about equally strong for youth and adult workers, but many more youth than adults work part time. Part-time employment is particularly widespread among young workers in the Netherlands, the Nordic and English-speaking countries. By contrast, the part-time rate for youth is below 5% in the Czech Republic, Hungary, Luxembourg and the Slovak Republic. Temporary employment has become a major mode of entry to the labour market in many European countries and it now accounts for more than one quarter of youth employment in Canada and Japan.[6] Two-thirds of all employed youth have temporary jobs in Poland and Spain (in the latter, dropping from even higher levels since the late 1990s), whereas few youth hold temporary jobs in Australia and the United States. There is however, much cross-country variation in the legal definition of temporary jobs (OECD, 2002b).

When working full-time, the share of youth earning less than two-thirds of median earnings tended to fall during the past decade in the smaller number of countries for which data on low-paid employment by age are available. The low-pay risk for young full-time workers also tended to fall relative to that for adults, but this improvement should be viewed in the context of rising part-time employment for youth.

1.2. Sensitivity of youth unemployment and employment rates to the business cycle

Figure 1.2 compares the cyclical sensitivity of unemployment and employment rates for youth (grouped into three five-year age bands, starting at age 15) with those for prime-age adult workers (aged 30 to 49 years).[7] The results in Panel A confirm that youth unemployment rates continue to be more sensitive to business-cycle conditions than the adult unemployment rate, as many previous studies have shown (OECD, 1996a). Furthermore, sensitivity of youth unemployment to the cycle tends to decline progressively with age, being greater for teenagers (15 to 19 years) than young adults (20 to 24 years) in most countries.

The evidence concerning the relative sensitivity of youth employment rates to the cycle in Panel B of Figure 1.2 is more mixed. This probably reflects cross-country heterogeneity in the many ways school enrolment decisions and other choices related to labour force participation are affected by labour market conditions.[8]

1.3. Activity status by single year of age

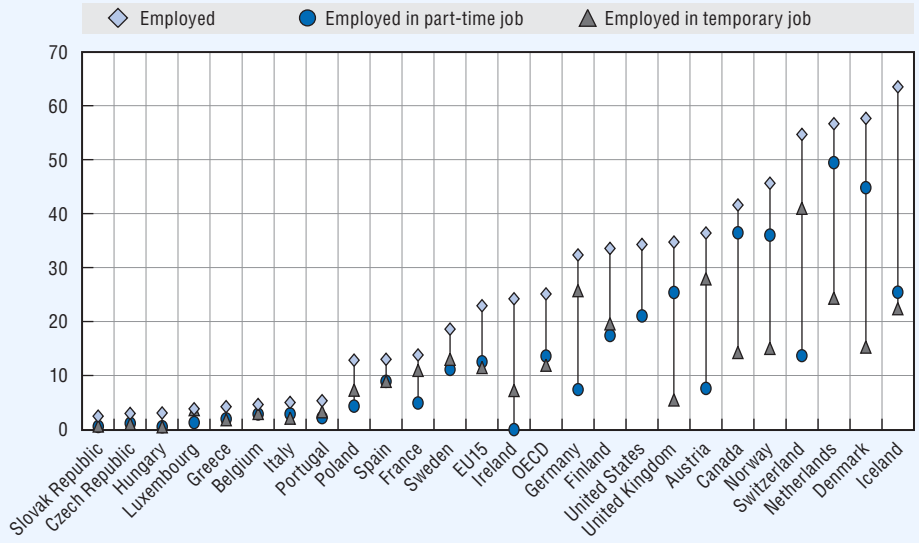
Figure 1.3 displays youth activity patterns by single year of age in 2006 in 20 European countries, Canada and the United States. In all countries, there is a cumulative shift away from schooling and toward employment as age rises from 15 to 29 years. However, there is also considerable cross-country heterogeneity in the distribution of school leaving ages – including how many youth opt to enrol in tertiary education and how long these studies tend to last – and whether the entry into work subsequent to school exit is more or less

Box 1.1. **Student employment**

This text box provides an overview of student employment patterns in OECD countries. As is shown in the figure below, student employment rates differ sharply across the 24 OECD countries for which data are available.* More than half of students, aged 15 to 24 years, work in Denmark, Iceland, the Netherlands and Switzerland, and more than one third in Austria, Canada, Finland, Germany, Norway, the United Kingdom and the United States. By contrast, student employment rates are very low in some central and mediterranean European countries. When analysing the post-schooling experience of youth in the labour market, it is important to bear in mind that this group begins with almost no employment experience in some countries, but with considerable experience in others.

Employment rates for students, 2006

Percentage of youth aged 15-24 in education



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Countries ranked in ascending order by the share of youth (15-24 years) in education with jobs.

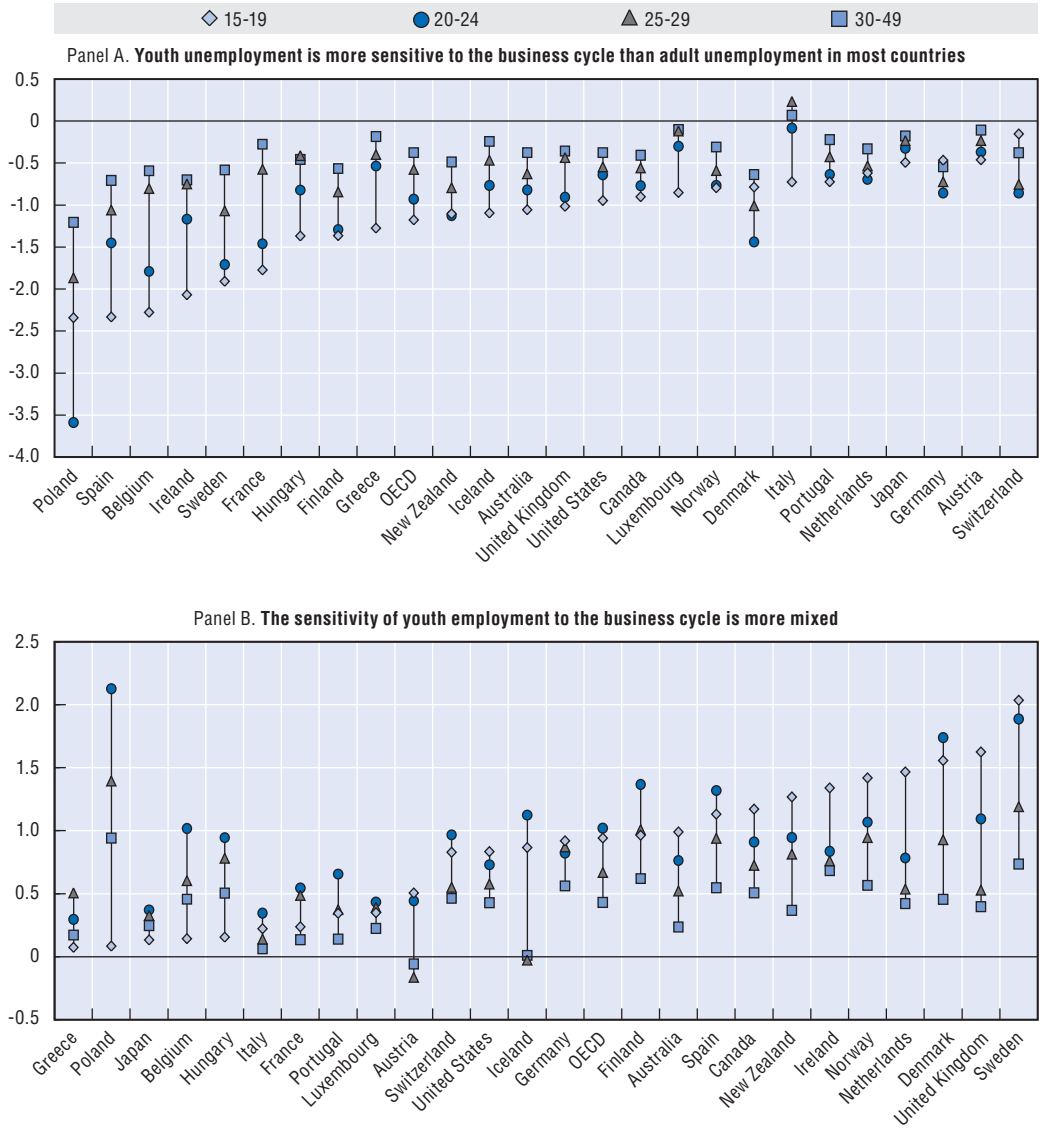
Source: OECD estimates based on the European Labour Force Survey (EULFS) and national labour force surveys for Canada and the United States.

When employed, students frequently hold part-time or temporary jobs. Focussing on countries where at least one-third of students work, it is clear that there is a close association between high incidences of these two types of jobs and students' motivations for working. In countries with a dual education system, such as Austria, Germany and Switzerland, student jobs are typically apprenticeships that are incorporated into the vocational track of upper secondary schooling. In these countries, most student jobs are thus temporary but full-time. By contrast, student jobs in other countries are primarily part-time jobs outside of school hours, which serve as a source of extra income, rather than being linked to a curriculum of study. This pattern is common in the Netherlands and Nordic and English-speaking countries.

Prior research suggests that student employment may be either a labour market advantage (*e.g.* by leading to an easier transition from school to work or more rapid career progression) or a handicap (*e.g.* by interfering with learning and school advancement). This important question lies outside of the scope of the chapter.

* This is also true for student unemployment rates. In 2006, student unemployment rates were particularly high in Finland (15%) and Sweden (8%) and also above 4% in Denmark, Iceland, the Netherlands, Poland, Spain and the United Kingdom. However, unemployment data for students are potentially misleading due to the difficulty of ascertaining their availability to start work immediately and the fact that many full-time students are probably seeking low hours jobs (OECD, 2002a).

Figure 1.2. **Sensitivity of youth labour market performance to the business cycle,[a] 1980-2006**



StatLink http://dx.doi.org/10.1787/346484320341

Ranking of countries based on the sensitivity of teenagers' employment and unemployment rates.

a) Each of the indicated variables was regressed on the output gap and linear and quadratic time trends in separate annual time-series regressions for each country. The OECD values are from a pooled regression model containing country dummies. The data charted are the OLS coefficients for the output gap.

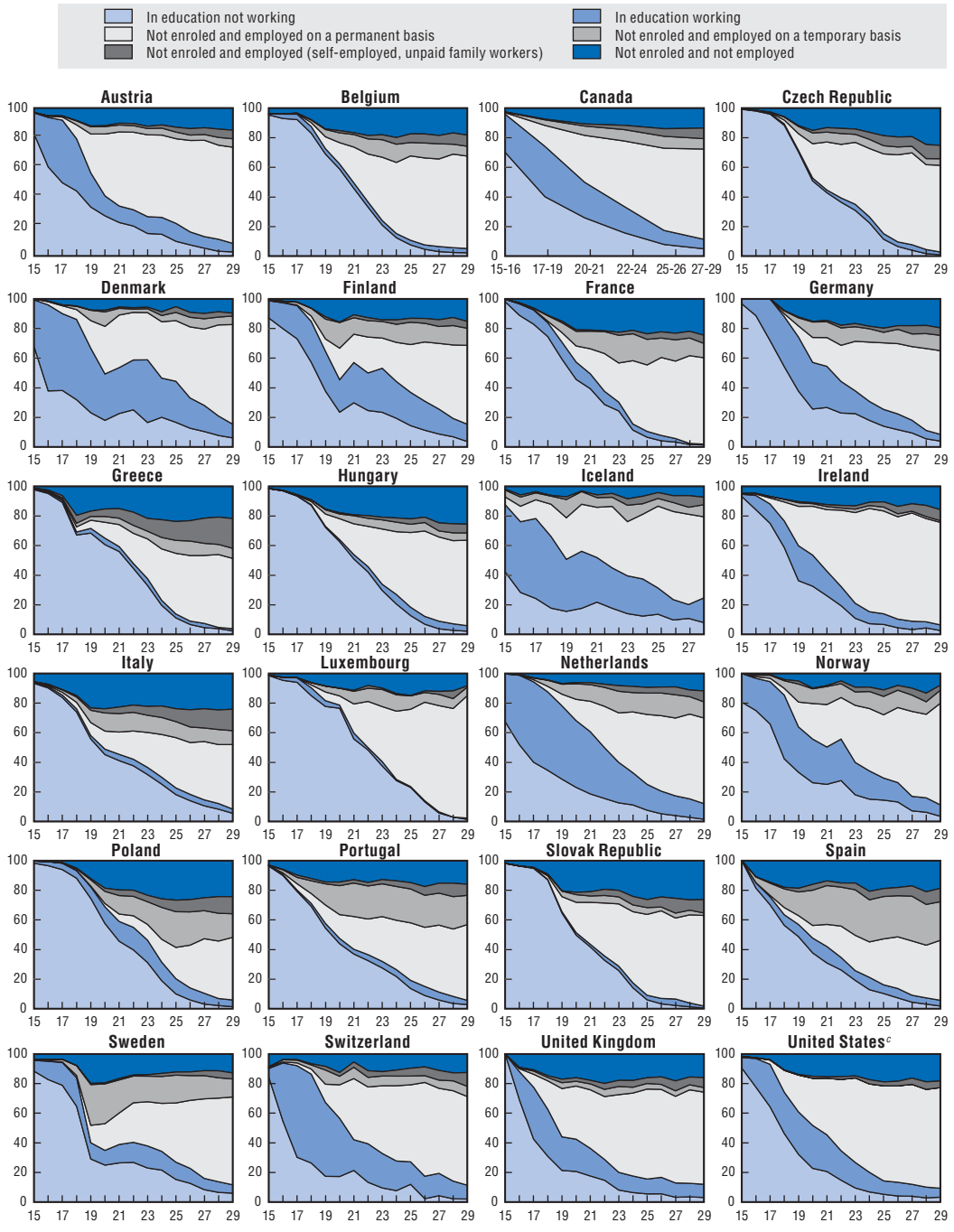
Source: OECD Labour Force Statistics Database and *OECD Economic Outlook Database* for the output gap.

immediate or delayed. For example, enrolment rates remain quite high in the late 20s in the Nordic countries, while relatively high shares of school leavers move into non-employment (becoming "NEETs") in Greece and central European countries.

These data confirm that a substantial share of students work in some countries (*cf.* Box 1.1) and also that a substantial share of the school leavers who find jobs move into temporary employment in some European countries. In a few countries, notably Greece

Figure 1.3. **Activity status by single year of age[a] in OECD countries, 2006[b]**

Percentage



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a) Age in two and three year groups for Canada.

b) 2005 for the United States.

c) Category "Not enroled and employed on a permanent basis" corresponds to all youths not enroled and employed as employees without distinction between permanent or temporary contract.

Source: OECD Secretariat calculations based on the European Labour Force Survey (EULFS) for the European countries; Canadian Labour Force Survey for Canada; and, the Current Population Survey October Supplement (School Enrollment Supplement) for the United States.

and Italy, a considerable share of young adults move into self-employment (or become unpaid workers in a family business). Perhaps not surprisingly, few school leavers appear to move directly into self-employment. There is also considerable cross-country heterogeneity in the share of school leavers moving into NEET status, as in whether the initial increase in the NEET rate persists (*e.g.* Belgium, France, Greece, Italy and the central European countries) or partially reverses as initially non-employed school leavers gradually find jobs (*e.g.* Sweden).

2. The transition from school to work

2.1. Descriptive analysis of the school-to-work transition

Individual transitions from school to working life are complex. These transitions begin at different ages depending on how much initial schooling is acquired. Labour market entry may occur immediately after completing compulsory education or some time later, and it may proceed smoothly or only with considerable difficulty or delay. Moreover, completing initial education may not mark the definitive end of educational activities, as some young people may decide to pursue further education some years later, after gaining work experience, whether combining this additional education with work activities or not. Finally, the early years of work experience are often associated with significant changes in the types of jobs held and the wages received, as new entrants settle into the labour market: gaining new skills and discovering which jobs and employers best correspond to their interests and competencies.

In many respects, time since leaving school measured at the individual level (*i.e.* potential labour market experience) provides a more natural way to assess the school-to-work transition than do measures of activity status at different ages (*cf.* Figure 1.3, above). Accordingly, the rest of this chapter analyses a variety of labour market outcomes according to the time which has elapsed since leaving initial education.[9] Doing so helps to focus attention on the nature of individual transitions between schooling and working life, but also raises difficult measurement and data availability issues:

- The ideal way to analyse such transitions is by using longitudinal survey data which make it possible to follow the same youth over time. This sub-section presents results based on longitudinal household surveys for a group of OECD countries: Ten European countries, Australia, Korea and the United States.[10]
- In practice, most longitudinal surveys have not been designed specifically to analyse the school-to-work transition and are often subject to important limitations when used for this purpose. For example, it is often the case that only a small number of new school leavers are available in the sample, implying high sampling variance.[11] Another difficulty is that many panel data sets do a relatively poor job of detecting brief job spells occurring between the annual survey interviews and such jobs can be an important component of the early stages of working life. A final limitation for the purpose of making international comparisons is that it is more difficult to assemble comparable panel data for multiple countries than to assemble comparable cross-sectional data, such as that from (partially) harmonised national labour force surveys.
- Labour force surveys (LFS) sometimes contain sufficient retrospective information to analyse employment outcomes according to time since leaving school.[12] For example, retrospective questions about the "highest completed level of education" and when it was obtained can be used to estimate potential labour market experience. Accordingly,

this sub-section also makes use of these LFS data to analyse labour market outcomes according to time since leaving school. It must be emphasized, however, that a number of approximations are required to piece together transitional histories from the typically very limited retrospective information that is available from this data source.[13] Although typically not as severe as in the case of longitudinal data, the available samples of recent school leavers are often relatively small.[14] Finally, it should be noted that LFS data organised by potential labour market experience do not refer to a single age cohort, followed through time, but rather to experience cohorts at a point in time, which contain a mix of persons of different ages.

- To the extent feasible, both the longitudinal and cross-sectional analysis of the school-to-work transition of youth aged 15 to 29 years are subdivided by gender and by broad educational attainment categories.[15]

Youth employment rates by time since leaving school

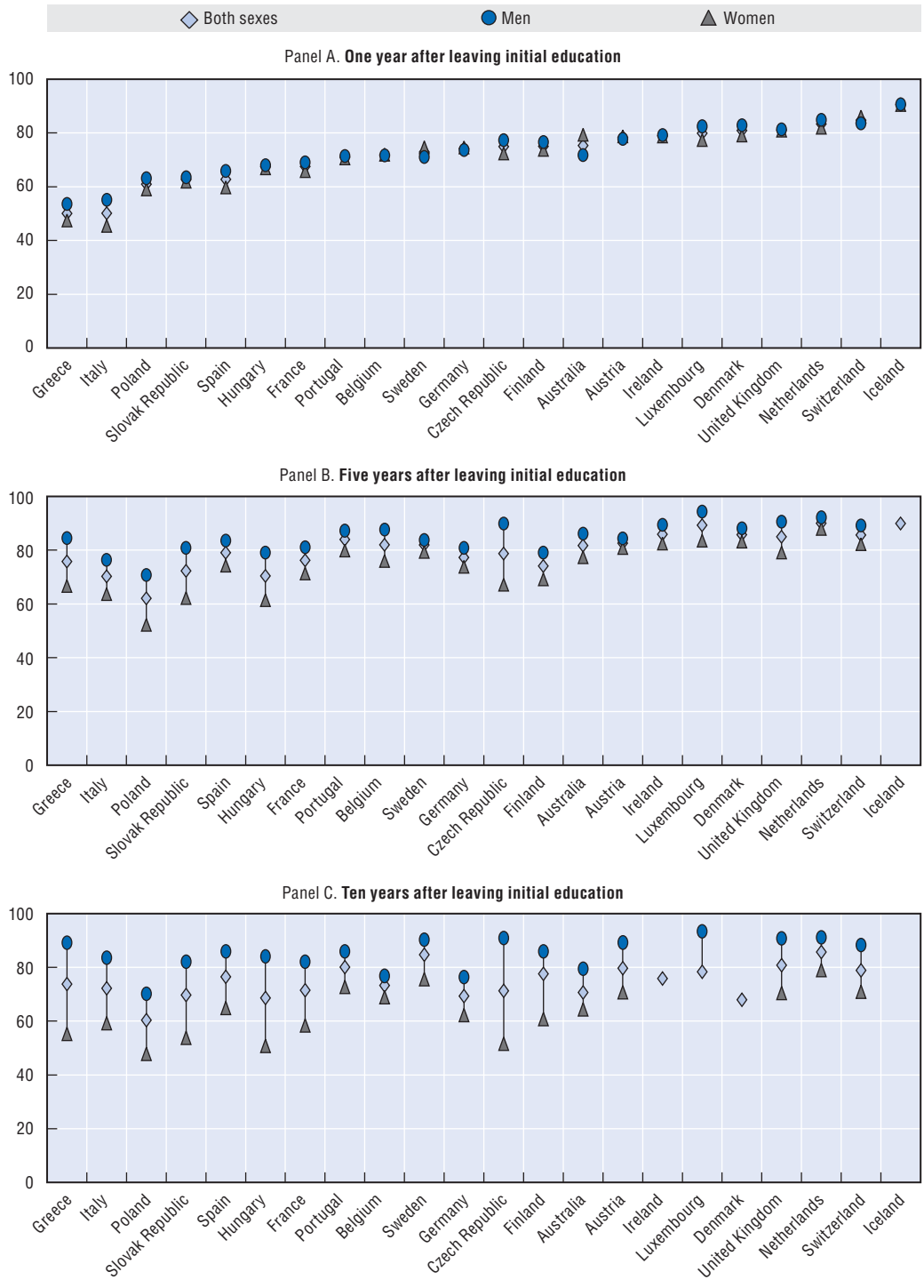
In general, young job starters may face difficult access to employment: they account for a large share of new entrants in the labour market and thus have to compete among themselves and with others who typically have already acquired some work experience (Martin *et al.*, 1984; Ryan, 2001a). It is therefore normal that many youth take some time to find their way into the labour market after leaving school, as they learn more about labour market opportunities, their work interests and motivations and potential employers become better able to gauge their productive potential.

One year after completing initial education, a significant share of youth are unemployed or inactive, rather than working, in Australia and 21 European countries for which data are available (Figure 1.4). Nonetheless, employment rates exceed 75% in nearly half of the countries covered (Australia, Austria, Denmark, Iceland, Ireland, Luxembourg, the Netherlands, Switzerland and the United Kingdom).[16] Five years after leaving school, employment rates are markedly higher, particularly in the countries where employment was low in the first year. Employment rates are still below 70% only in Poland, while they exceed 85% in the seven best performing countries (Denmark, Iceland, Ireland, Luxembourg, the Netherlands, Switzerland and the United Kingdom).[17] After five years, the overall youth employment performance nearly matches that of prime-age adult workers.

It is noticeable that employment performances of men and women are similar one year after school completion, but a gender employment gap emerges after that, as marriage and motherhood begin to depress relative participation rates for young women.[18] However, there are large cross-country differences in the size of the gender employment gap and how rapidly it develops as time out of school increases.[19]

Youth with low qualifications have significantly lower employment rates one year after finishing initial education than do better qualified school leavers (Figure 1.5). In one-half of the 18 countries for which data are available, less than 50% of all youth leaving school without finishing upper secondary education were employed 12 months later, whereas this is never the case for school leavers with a tertiary degree. Better educated youth experienced a quicker transition to employment in all countries, but the importance of this advantage differs significantly across the countries analysed. Relatively strong educational effects on the speed of the school to work transition are found among the countries with the lowest overall employment rates for youth one year out of school (*e.g.* Poland), but also among countries with intermediate employment rates one year out

Figure 1.4. **Employment rates by gender of youth and young adults one, five and ten years after leaving initial education,[a] 2004-2006[b]**



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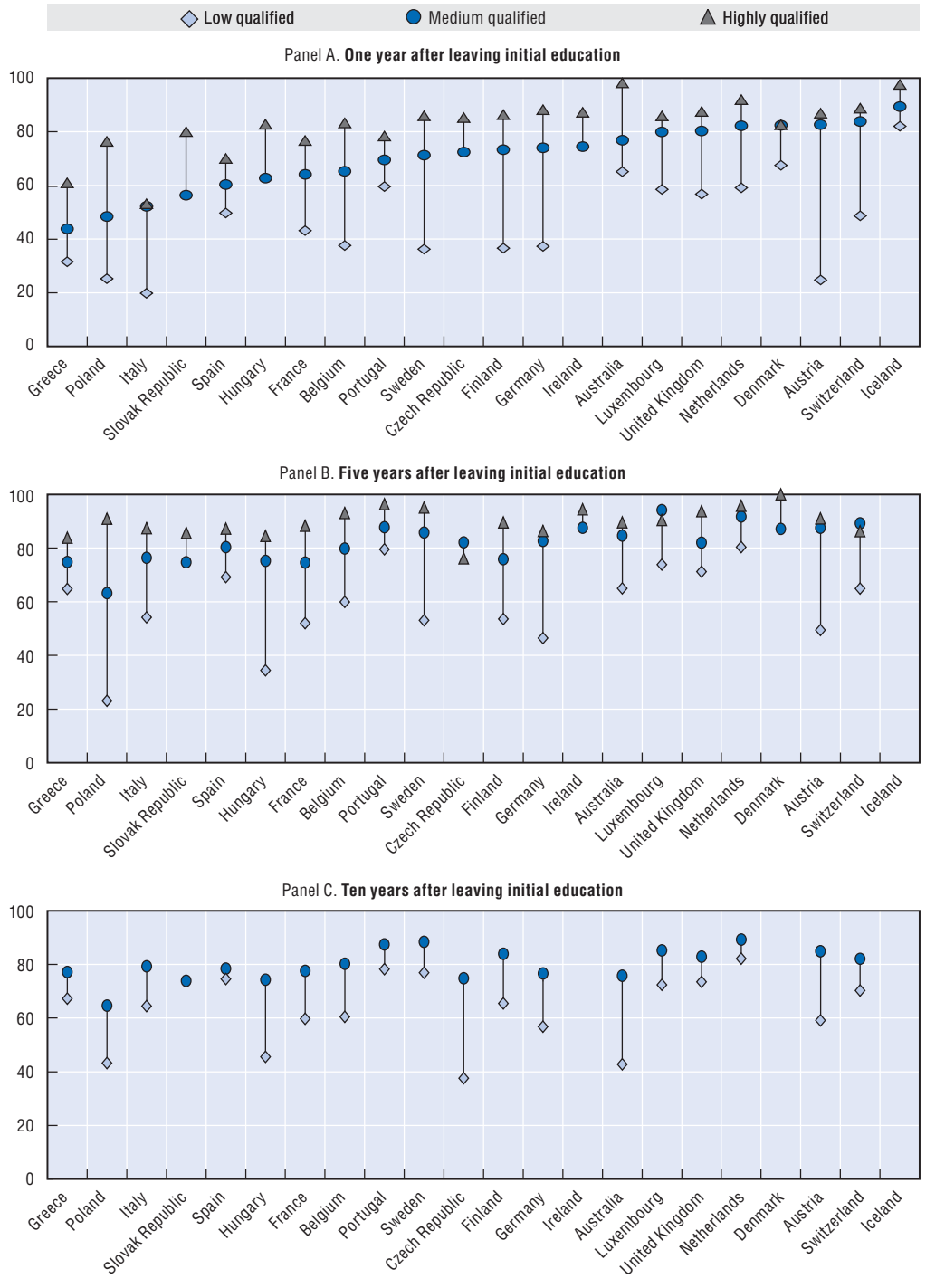
Ranking of countries based on ascending order of employment rates one year after leaving initial education.

a) Sample restricted to recent school leavers aged 15 to 29. Values not shown when insufficient observations are available.

b) Employment rates calculated on the basis of pooled data for the years 2004 to 2006.

Source: OECD Secretariat calculations based on the European Labour Force Survey (EULFS) for the European countries and the Household Income and Labour Dynamics (HILDA) for Australia.

Figure 1.5. **Employment rates by qualification of youth and young adults one, five and ten years after leaving initial education,[a] 2004-2006[b]**



StatLink http://dx.doi.org/10.1787/346522384103

Ranking of countries based on ascending order of employment rates of medium qualified young workers one year after leaving initial education.

a) Sample restricted to recent school leavers aged 15 to 29. Values not shown when insufficient observations are available.

b) Employment rates calculated on the basis of pooled data for the years 2004 to 2006.

Source: OECD Secretariat calculations based on the European Labour Force Survey (EULFS) for the European countries and the Household Income and Labour Dynamics (HILDA) for Australia.

of school (*e.g.* Sweden, Finland and Germany). Most countries with a high overall employment rate for recent school leavers achieve relatively high employment rates for youth of all levels of qualifications.[20]

Employment gaps by qualification level are somewhat lower five years after leaving school, but still large in many countries, especially in Austria, Germany, Hungary, Poland and Sweden.[21] There is also considerable cross-country variation concerning whether the qualification gaps closed more rapidly between low and medium-skill youth (*i.e.* the employment advantage from completing upper secondary schooling) or between medium and high-skill youth (*i.e.* the employment advantage from completing tertiary education). The former gap closes further by ten years after leaving school, but a substantial gap remains for a majority of these 22 countries, suggesting that it could persist throughout the working lives of these cohorts.[22] This is consistent with the historic pattern that labour force participation is higher for more educated persons.

These patterns confirm that low educational attainment represents an enduring barrier to employment, while showing it also appears to impede initial insertion into the labour market. However, an age effect probably also depresses initial employment rates for low-skill youth and is not controlled for in Figure 1.5: many early school leavers are still teenagers living with their parents and may delay entering the labour market for several years. A similar, but weaker effect is present for medium-skill youth. Box 1.2 uses simple multivariate methods to examine how time since leaving school and other factors influence employment status.

Box 1.2. **A multivariate perspective on the factors influencing employment, unemployment and inactivity for out-of-school youth**

The table below provides odds-ratio estimates from binomial logit models of the probability for young school leavers of being employed, unemployed, inactive or non-employed. These logit-models, albeit limited to European countries, help summarise and strengthen the findings in the descriptive overview of school-to-work transitions in the main body of the chapter, while also testing their robustness in a multivariate context.

In the logit models, current labour force status is assumed to be influenced by prior labour force status, time elapsed since leaving school (potential labour market experience) and educational attainment. The sample excludes youth in initial education and apprenticeship. The results refer to 2006 and are reported separately by gender, as men and women do not share the same patterns of work transitions with the passage of time (*cf.* Figures 1.4 and 1.6). The estimated odds-ratios were obtained from a pooled regression with fixed-country effects across 21 European countries for which data are available from the European Labour Force Survey. Values above (below) 1.0 indicate that the associated regressor increases (reduces) the probability of having the indicated work status, relative to the reference person.

Both for men and women, having been employed one year earlier, rather than having been inactive, increases markedly the probability of being currently employed. Unemployed women have a greater chance of getting into work one year later than inactive women, but no such difference emerges for men. Employment prospects for male school leavers increase with the passage of time, in the sense that transitions from inactivity to employment become more common. However, the opposite is true for young women, for whom inactivity becomes progressively more persistent. As reported in the main text, qualifications matter. The probability of moving from inactivity to employment rises steadily with the level of educational attainment for both men and women.

Box 1.2. **A multivariate perspective on the factors influencing employment, unemployment and inactivity for out-of-school youth** *(cont.)*

Factors influencing the work status of youth after leaving initial education in Europe, 2006

Odds-ratios from binomial logit regressions of the probability of being in a given work status by gender[a, b]

	Relative probability of being:[c]							
	Employed		Unemployed		Inactive		Non-employed	
	Men	Women	Men	Women	Men	Women	Men	Women
Intercept	0.5**	0.5***	0.3***	0.2***	0.9	0.9	1.9**	2.2***
Reference person: inactive one year ago								
Employed one year ago	14.3***	20.0***	0.2***	0.4***	0.0***	0.0***	0.1***	0.0***
Unemployed one year ago	0.9	1.5***	3.0***	4.1***	0.3***	0.2***	1.2	0.7***
Reference person: one to three years since leaving initial education								
Four to five years	1.2	0.8**	0.8**	0.7***	1.1	1.8***	0.9	1.2**
Six to eight years	1.3***	0.8***	0.7***	0.6***	1.1	2.2***	0.8***	1.3***
Nine years or more	1.3***	0.7***	0.7***	0.5***	1.1	2.4***	0.7***	1.4***
Reference person: low qualified								
Medium qualified	2.0***	2.0***	0.6***	0.8***	0.6***	0.6***	0.5***	0.5***
Highly qualified	3.5***	4.1***	0.4***	0.5***	0.3***	0.3***	0.3***	0.2***
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Likelihood ratio[d]	2 433***	3 294***	1 217***	884***	1 261***	2 643***	2 433***	3 295***
Number of observations	5 594	6 234	5 594	6 234	5 594	6 234	5 594	6 234

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively (two-tailed test).

a) The binomial logit models were estimated using maximum likelihood for a pooled sample of 21 European countries: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

b) The sample includes out-off-school youth aged 15 to 29 years.

c) For better readability, odds-ratios are reported taking the exponential of individual regression coefficients. A coefficient above one implies a higher probability than for the reference person to have the indicated work status. Thus, for example, the probability for an employed man of remaining employed one year later is more than 14 times higher than the probability for an inactive man of becoming employed. Conversely, a coefficient below one implies a lower probability than for the reference person to have the indicated work status. The reference person is a young job starter, having left initial education one to three years ago, who was inactive one year ago, and is low qualified.

d) Indicators of statistical significance of the full model referring to the Chi-square test for the joint significance of all the predictors.

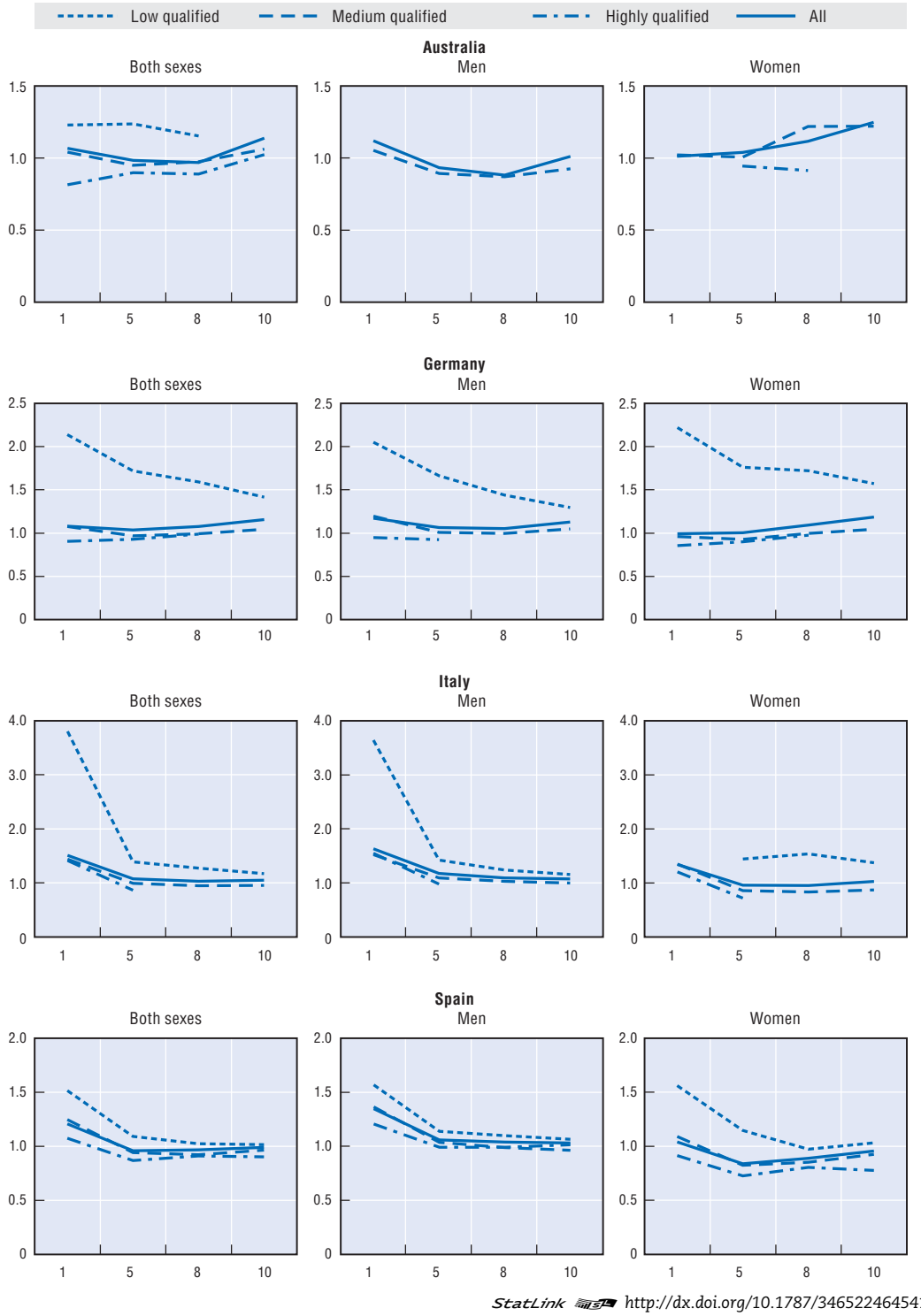
Source: OECD estimates based on the European Labour Force Survey (EULFS).

Convergence of youth to adult employment rates after leaving school

Figure 1.6 provides further insights into the speed of the convergence of youth employment rates to those of prime-age adults (aged 30 to 49 years), as potential experience increases. The 2004-2006 data shown in the figure trace out the time-path of the ratio of adult to youth employment rates, calculated one, five, eight and ten years after leaving initial education. Adult employment rates are substantially higher than those of the most recent school leavers (those who left school during the previous year), but this ratio declines toward 1.0 as youth employment rates approach those of adults. However, the speed of convergence – and whether it is fully achieved after ten years – varies considerably across the four countries included in Figure 1.6, as well as between men and

Figure 1.6. **Speed of transition to work of youth by educational attainment and gender: four country examples**[a]

2004-2006[b] ratios of adult (30-49 years) to youth (15-29 years) employment rates, one, five, eight and ten years after leaving initial education



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a) See Figure 1.A1.1 for additional countries. Values not shown when insufficient observations are available.
b) Ratios calculated on the basis of pooled data for the years 2004 to 2006.

Source: OECD calculations based on the European Labour Force Survey (EULFS) for the European countries and the Household Income and Labour Dynamics (HILDA) for Australia.

women and the three levels of educational attainment. Annex Figure 1.A1.1 extends this analysis to all 18 countries for which data are available, documenting even greater heterogeneity in the speed of transition.

The 2004-2006 cross-section data suggest that most school leavers have integrated into the labour market within five years after leaving school, although the transition is slower in certain countries and for some sub-groups of youth. As has often been noted, young labour market entrants achieve a relatively smooth school-to-work transition in countries where the school-to-work transition is shaped by a dual educational system combining work and study for non-university bound youth, allowing them to gain work experience in apprenticeship while finishing their upper secondary schooling (*e.g.* Austria, Germany and Switzerland). In such systems, it is important that a significant share of employers demonstrate a strong commitment to taking on apprentices and retaining some of them as employees after they have completed their apprenticeships.[23] The school-to-work transition is also relatively quick and smooth in other countries with very different institutional settings. For example, employment rates of young labour market entrants converge to those of adult workers within five years of finishing initial schooling in the Netherlands, Portugal, Spain and the United Kingdom. Youth employment rates remain more than 10% lower than adult employment rates for recent labour market entrants in two out of 18 countries for which the data are reported.

In most OECD countries, recent cohorts of female school leavers have reduced the gaps with their male counterparts in terms of educational attainment and labour force participation. Nonetheless, important gender differences emerge in the speed of transition to work. Whereas convergence for men tends to be steady, this is not the case for women in some countries: employment rates of young women, in particular those with low educational attainment, diverge from those of adult women near the end of the ten-year time window for potential labour market experience analysed. This might be due to the fact that, by that time, a number of women withdraw from the labour market for family reasons (*i.e.* for child bearing and rearing). This divergence in employment rates occurs in the early years of labour market entry for young female school leavers in Australia.

Figure 1.6 and Annex Figure 1.A1.1 reveal that low-qualified youth are experiencing the greatest difficulties achieving convergence to adult employment rates. Their relative employment ratios remain above one after ten years from school completion, even in countries where overall youth employment rates converged to adult rates within five years (*e.g.* Austria, France, Germany and the United Kingdom). When they do converge, it takes longer on average for low-skilled youth, than for their better educated counterparts. However, the size of the low-qualified group ranges from as low as 3% in Switzerland and several central European countries to nearly 30% in Portugal and Spain.

The slow convergence of youth to employment rates for the least educated school leavers suggests that recent cohorts of dropouts may never attain the employment rate of earlier cohorts in some countries, perhaps due to the impact of rising job skill requirements in restricting employment opportunities for workers lacking a good basic education. Thus the importance of policies to further reduce drop-out rates (*cf.* Figure 1.1, Panel A). The pattern of relative youth employment rates by years of potential experience was quite stable between 2000 and 2006 in most of a sample of 18 European countries (data

not shown). However, this is probably too short a period to capture the cross-cohort effects affecting low-skilled workers.

2.2. The average duration of the school-to-work transition

The average length of the school-to-work transition is an intuitively appealing measure of how easily youth integrate into employment, but raises difficult measurement issues in practice, especially when making international comparisons. The most commonly-used estimates are based on main activity status by single year of age and can be calculated using cross-sectional data from labour force surveys (*cf.* Figure 1.3 above). Typically, the duration of the school-to-work transition is calculated as the difference between the median job entry and school-leaving ages (which is proxied as the gap between the age at which the employment-population ratio reaches 50% and the age at which 50% of the cohort have finished their initial schooling, see OECD 2007a), but other thresholds can be used to define the ages of job entry and school leaving (OECD, 1996b). While this type of cohort-based measure provides a useful indication of the length of time (*i.e.* range of ages) during which many youth are making the transition from studying to working, it does *not* provide a reliable estimate of the average duration of the school-to-work transition at the *individual* level (*i.e.* the average length of time between when a youth finishes initial schooling and when he/she starts their first job). For example, cohort-based estimates of average durations are strongly affected by the distribution of school leaving ages, while individual-based estimates need not be.[24] This sub-section compares the two types of measures for a substantial number of OECD countries.

Ideally, longitudinal data should be used to calculate individual durations, although it sometimes is possible to estimate individual-level estimates of the duration of the school-to-work transition using more widely available, cross-sectional data which contain retrospective information on schooling. This sub-section compares the results obtained using various combinations of either cohort or person-based duration measures calculated using either cross-sectional or longitudinal data.

Table 1.1 presents four alternative measures of the average duration of school-to-work transitions. The first two measures (denoted A and B for convenience) are cohort-level measures representing the difference between the age at which 50% of youth are employed and the age at which 50% have left school.[25] The third and fourth measures (denoted C and D) are individual-level measures that estimate the median duration between leaving school and starting the first (post-school) job for all recent school leavers. The first three measures were calculated using cross-sectional data from labour force surveys, while the fourth is calculated using longitudinal data for a smaller number of countries.[26] Measures A and D represent the purest implementations of cohort and individual-level measures, respectively, whereas Measures B and C are hybrids.[27]

Measure A gives quite high values for the average duration of the school-to-work transition, ranging from under one year in Austria and Switzerland to five years or more in Denmark, Finland and Sweden. It must be emphasised, however, that this cohort-based duration measure captures other factors in addition to how long school leavers spend finding their first job. In particular, high durations can reflect the pattern of school enrolment by age, in particular, whether a substantial proportion of the 50% of youth still in school at the median school leaving age then stay in school for an extended period of time (*e.g.* follow a lengthy tertiary course), thereby retarding the age at which the employment rate reaches 50%.[28] Figure 1.7 confirms the link between school leaving

Table 1.1. **Alternative estimates of the average duration of the school-to-work transition, 2006**[a]

Years

	Estimates based on cross-sectional data			Estimates based on panel data
	Cohort-based estimates		Individual-based estimates	Individual-based estimates
	A	B	C	D
Australia	. .	. .	. .	0.9
Austria	0.9	2.0	1.2	2.3
Belgium	1.4	2.9	1.7	1.4
Canada	1.8	. .	. .	. .
Czech Republic	2.5	3.0	2.9	. .
Denmark	5.0	2.8	1.3	1.8
Finland	5.2	4.3	2.6	0.9
France	2.3	2.8	1.5	. .
Germany	2.4	1.5	0.1	0.4
Greece	1.9	4.4	3.2	3.1
Hungary	2.3	4.7	3.9	. .
Iceland	1.3	4.0	2.4	. .
Ireland	. .	2.3	1.3	0.9
Italy	4.5	3.4	3.0	3.0
Korea	1.9	. .	. .	1.1
Luxembourg	1.0	2.6	1.1	. .
Netherlands	0.8	2.0	1.0	. .
New Zealand	3.6	. .	. .	. .
Norway	2.0	. .	. .	. .
Poland	2.1	3.4	2.0	. .
Portugal	2.5	3.8	2.7	1.4
Slovak Republic	2.6	2.8	2.7	. .
Spain	2.2	4.4	2.7	2.3
Sweden	5.2	2.8	2.0	. .
Switzerland	0.5	2.0	0.7	. .
United Kingdom	3.1	2.6	1.8	1.4
United States	1.7	. .	. .	0.9
EU15 (unweighted)	2.7	3.0	1.8	1.7

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. . Data not available.

A: Difference between the age at which 50% of youth are employed and the age at which 50% of youth are no longer enroled in school, based on activity status by year of age.

B: Difference between the median age of young school leavers (15 to 29 years) who found a job and their median age when they left school, based on comparisons of retrospective information about school leavers and contemporaneous information about employment status and job tenure.

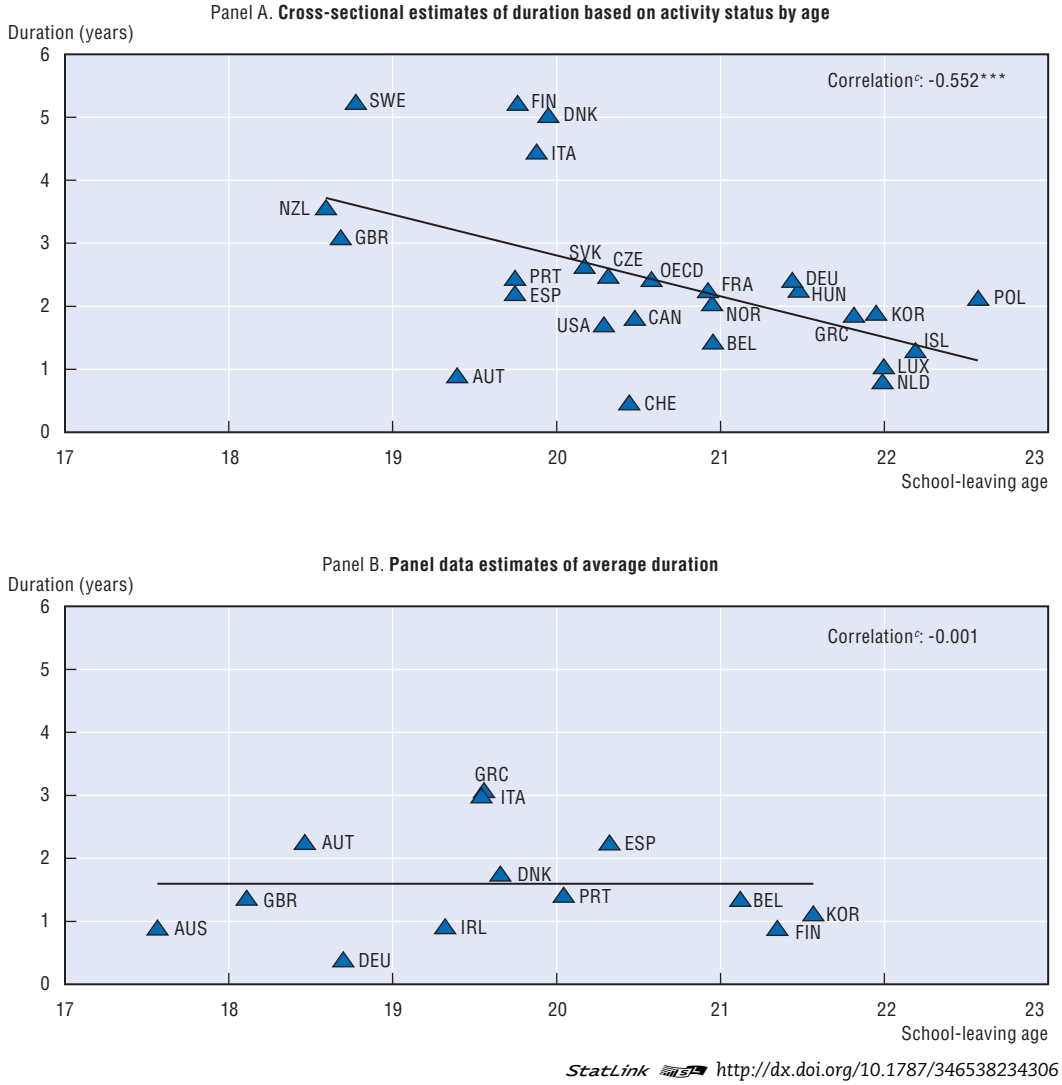
C: Median time between leaving school and starting work for young workers based on comparisons of retrospective information about when left school and contemporaneous information about employment status and job tenure.

D: Mean time between leaving school and starting work for young workers estimated from contemporaneous information on when left school and when first employed taken from different waves of the panel.

a) 2005 for the United States for the estimate A.

Source: OECD estimates based on national labour force surveys and the CPS School Enrollment October Supplement for the United States (Column A) and the European Labour Force Survey (EULFS) for the European countries (Columns A, B and C). Column D reports OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS), waves 3 to 7 (2000-2004), for Korea; except Yates (2005) for the United States.

Figure 1.7. **Average school-leaving age[a] and two estimates of the duration of the school-to-work transition,[b] 2006**



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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.
EU15: Unweighted average; OECD: Unweighted average.

a) In Panel A, the school leaving age is defined as the age at which 50% of youth have finished their initial education. In Panel B, this corresponds to the median age when full-time education was completed.

b) These average duration measures correspond to measures A and D, respectively, in Table 1.1. See the notes to that table for definitions of these measures.

c) The correlation coefficients are –0.336 for Panel A and –0.197 for Panel B when the sample is restricted to the same countries.

Source: OECD calculations based on national labour force surveys for Panel A and various panel surveys for Panel B (see Table 1.1 for further details).

patterns and cohort-based estimates of the duration of the school-to-work transition: there is a strong negative association between the median age of school leaving and the Measure A duration (see Panel A), but no such association for Measure D (see Panel B). Since the individual-based estimates of average transition duration (*i.e.* Measures C and D) are designed to reflect only the job-finding time of school leavers, they tend to be substantially lower than the cohort-level estimates (*i.e.* Measures A or B). This difference

would probably be even larger if the individual-level measures were not biased upward, due to limitations in the available data analysed here, which mean that some short-lasting jobs are missed and hence the average time to find the first job can be overstated. The individual-level measures also imply a very different country ranking than the cohort-level measures. For example, the estimates of individual-level durations for Denmark, Finland and Sweden are considerably lower than estimates according to Measure A and are approximately equal to or slightly above the average for all of the countries analysed.

Pearson correlation coefficients between the four duration measures indicate increasingly strong and statistically significant associations between Measure D, the benchmark estimate for the time required by school leavers to find their first job, and Measures A to C. It is not surprising that Measure A is the least correlated with Measure D (a statistically insignificant and negative correlation of –0.12), differing as it does in terms of both concept and the type of data used. By contrast, Measure C has a moderately strong, positive correlation with benchmark Measure D (0.63). This suggests that individual duration measures based on retrospective questions in cross-sectional data sources, such as labour force surveys, can be reasonable proxies for measures based on longitudinal data.[29, 30] Furthermore, the larger samples in labour force surveys mean that the Measure C estimates of the length of the school-to-work transition can be disaggregated by individual characteristics, such as gender and level of qualifications (see Annex Table 1.A1.3). At least in the European countries considered, young male workers take more time to find first jobs than young female workers and more qualified youth find employment more quickly than less qualified school leavers.

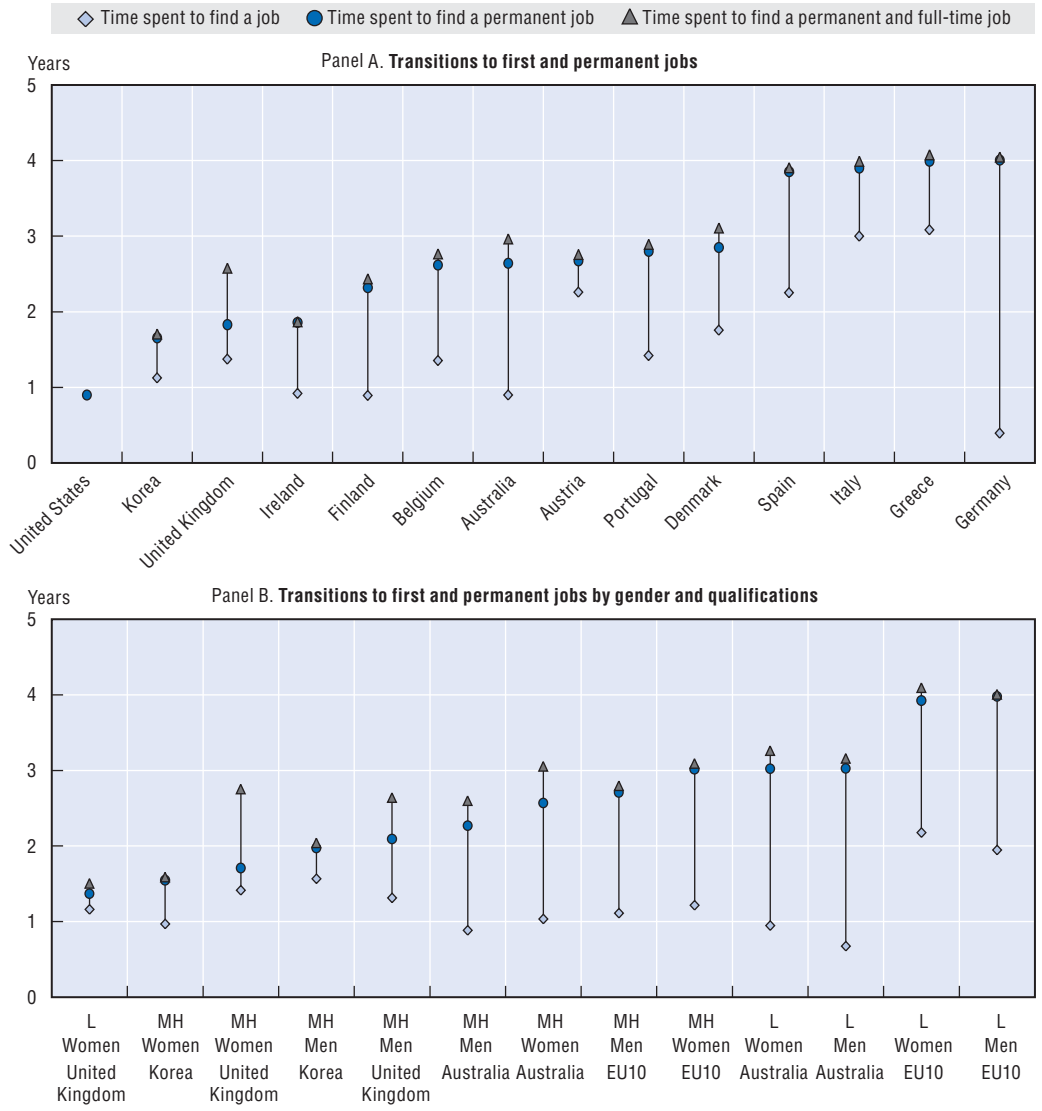
3. Job quality issues related to the school-to-work transition

3.1. How long does it take to find a stable job?

The techniques used above can also be used to estimate the time required to find *stable* jobs defined as jobs with a permanent contract. Panel A of Figure 1.8 juxtaposes the Measure D estimates from Table 1.1 of the average time to find the first job with estimates of the additional time to obtain a stable job and stable, full-time jobs (for some countries). The total time out of school which is typically required to obtain a stable job is lowest in the United States, Korea, the United Kingdom and Ireland, where it takes less than two years.[31] By contrast, it requires approximately four years in Germany, Greece, Italy and Spain. Interestingly, Germany combines a short duration for finding a first job with very slow mobility into a permanent job. Indeed, there does not appear to be any strong association between how quickly a first job can be found and how quickly it is then possible to move into a stable job.

Japan experienced a marked increase in non-regular jobs during the economic recession of the 1990s, which has continued at a slower pace into the expansion that began in 2002 (OECD, 2008c). This trend has particularly affected youth. According to Labour Force Survey data, nearly half of young employees are now employed in non-regular jobs, including more than one third in part-time and temporary ("arbeit") non-regular work contracts. Furthermore, it appears to be difficult for some Japanese youth in non-regular jobs to move into regular jobs, as is reflected in widespread concerns about so-called "freeters", that is, youth stuck in temporary or part-time jobs. Box 1.3 discusses some of the evidence on these developments, including recent reforms intended to help school leavers integrate more smoothly into the labour market.

Figure 1.8. **Average duration of transitions to first and permanent[a] jobs: panel data estimates[b, c]**



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Ranking of countries based on ascending order of time spent to find permanent job. For the United States, the time spent to find permanent jobs refers to jobs lasting at least one year.

L: Low-qualified (ISCED 0/1/2); MH: Medium-High qualified (ISCED 3/4 and 5/6).

EU10: Population-weighted average of the following countries: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Portugal, and Spain.

a) Permanent jobs correspond to persons employed in jobs lasting at least one year in the United States, while they correspond to specific types of employment contracts in the remaining countries. In Australia, the EU10 and the United Kingdom, permanent workers are persons employed on an on-going basis, as opposed to those employed on a fixed-term contract or in some other work arrangement (*e.g.* casual jobs), while in Korea permanent workers are those working in regular jobs.

b) Sample restricted to the last five years of the survey and to persons aged 15-29 leaving initial education one year before this five-year period or during the first year. The analysis is conducted on an annual basis considering only the employment status at the time of interview. Since short employment spells between interviews are not considered, the estimated durations are potentially biased upward.

c) Average time between leaving school and starting work for young workers estimated from contemporaneous information on when left school and when first employed from different waves of the panel.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea; and Yates (2005) only in Panel A for the United States.

Box 1.3. **The school-to-work transition in Japan**

The prolonged recession that characterised the 1990s in Japan led to a marked deterioration in aggregate labour market conditions which placed the traditional "orderly system of school-to-work transition" under severe strain. Under this system, schools and employers cooperated closely in placing new graduates directly into "life-time" jobs offering employment stability and continuous on-the-job vocational training. This form of recruitment declined during the 1990s recession, even as alternative pathways from school to working life expanded. These alternative pathways into employment often involved non-standard forms of employment and raise concerns that they may compromise the prospects of youths in these jobs eventually to move into stable jobs and climb career ladders.

Kosugi (2001) shows that Japanese companies have reduced direct recruitment of high school graduates and, to a lesser extent, university graduates into stable jobs offering structured pathways of career advancement since the economic recession of the 1990s. Consequently, the number of youth in casual, fixed-term and part-time work jobs – so-called, "freeters" – has increased markedly, as have NEET rates. Using Labour Force Survey data, the study estimates that 4.2 million youth aged 15 to 34 years were facing difficult transitions to work in 2002. Although changes in labour demand and recruitment practices appear to have been the primary driver of these changes in youth employment patterns, some observers believe that Japanese youth are less committed to developing their careers than were earlier cohorts of labour market entrants. Indeed, the term "freeters" also refers to purported changes in the attitude of youth towards work.

Genda and Kurosawa (2001) analyse the access of Japanese youth (aged 15-29 years) to full-time regular jobs after finishing their initial education and whether initial difficulties in obtaining standard employment compromise labour market prospects in the long run. Data from the 1997 Survey on Young Employees (*Jyaunenshya Shugyo Jittai Chosa*), including retrospective questions, are used to construct work histories for youth and young adults who left initial education and entered the labour market between 1982 and 1997. Experiencing unemployment immediately after leaving school is shown to have a long-lasting harmful effect on future employment prospects for Japanese youth. High aggregate unemployment rates at labour market entry reduce the probability of obtaining full-time regular jobs, the quality of job matches and job tenure. The impact of initial labour market conditions lasts even longer for female workers than for males. Highly educated female workers have no better chance of getting full-time regular jobs than do less-educated females.

Both Kosugi (2001) and Genda and Kurosawa (2001) provide somewhat dated evidence on the youth labour market in Japan, leaving open the possibility that the "orderly system" of recruitment of school leavers is reviving in response to improving economic conditions. Recent Labour Force Survey data indicate that the share of youth in temporary ("arbeit") non-regular work has ceased to increase since the economic recovery began in 2002, fluctuating around 32%, but that other forms of non-standard employment have continued to rise. It also appears that older "freeters" are still encountering significant labour market difficulties. A 2004 employer survey, the Survey on Employment Management, suggests that the employment opportunities of "freeters" become more limited as they get older, because employers tend to stigmatise older "freeters" as having poor career potential. In this context, the Ministry of Health, Labour and Welfare has recently introduced a number of measures to promote an easier school-to-work transition. These include measures: *i)* to cultivate early awareness of the situation in the job market among youth, while they are still in school, including through "junior" internships; *ii)* to prevent youth from becoming "freeters" and facilitate the transition of older "freeters" (*i.e.* those aged 25 to 34 years) into regular jobs; *iii)* to provide additional support, including labour market counseling to youth in NEET status; and *iv)* to encourage enterprises to provide expanded job opportunities for youth. It will be important to monitor carefully the impacts of these measures – in combination with the improvement in overall labour market conditions – in addressing the problems that emerged in the Japanese youth labour market during the 1990s.

There is some tendency for the duration of transitions to stable jobs to be lower for more qualified workers, although this pattern does not apply to the United Kingdom (Figure 1.8, Panel B).[32] No systematic pattern by gender emerges. Box 1.4 provides a multivariate perspective on factors influencing the access of youth to permanent and full-time jobs.

3.2. Mobility of youth in temporary and low paid-jobs

Non-standard forms of employment and low relative wages can help to increase labour market access for youth, especially those with lesser qualifications and little or no labour market experience. However, it is also important that these youth be able to build upon their early labour market experience to enhance their skills and career prospects. This section therefore analyses the extent to which out-of-school youth are able to move out of temporary, non-regular, and low-paid jobs, that is, the extent to which such jobs act as stepping stones to better jobs and career ladders.

Flows into and out of temporary jobs[33]

In Australia, over 60% of recent school leavers who work initially find temporary jobs, whatever their level of education (Table 1.2). However, this share falls to just under 40% five

Box 1.4. **A multivariate perspective on the type of job held by youth**

The table below reports results from multivariate logit models – similar to the binary logit models discussed in Box 1.2 – analysing the determinants of job quality for employed youth, aged 15 to 29 years. Data for 2006 are used to estimate the probabilities for employed youth to be in permanent, temporary, full-time and part-time jobs. As in Box 1.2, separate models are estimate for men and women, but the estimation sample is different: excluding youth who are not employed, but including students who have a job or in apprenticeship and out-of-school youth in other forms of job-related training.

The estimation results for being in a temporary job are the most illuminating. The chances of being in a temporary job are lower for youth who were employed one year earlier, than for youth who were previously inactive. This pattern holds for both men and women. Temporary jobs are the main pathway from unemployment into work, whereas inactive youth more often move into permanent jobs. The likelihood of being a temporary worker diminishes with the time elapsed since completing the highest level of education and the level of qualifications. It is interesting to note that youth combining work and initial education (including those in apprenticeships) are very likely to hold temporary jobs. Symmetrically, the probability of finding a permanent job increases markedly with potential labour market experience and the level of qualifications. Similarly, the probability of finding permanent jobs improves markedly for those employed one year earlier.

The logit estimation results for finding a full-time job are comparable to those for finding a permanent job for men, but not for women. Being unemployed one year earlier increases the probability for women of getting a full-time job, compared with having been inactive, while, as mentioned above, these jobs are likely to be temporary in nature. However, the probability of finding a full-time job does not increase with the passage of time for women. Moreover, low and medium-qualified youth have greater probabilities of holding part-time jobs, than highly qualified youth. Those combining schooling and working are especially likely to work part-time (*cf*. Box 1.1).

Box 1.4. **A multivariate perspective on the type of job held by youth** *(cont.)*

Factors influencing the type of job held by employed youth in Europe, 2006

Odds-ratios from a binomial logit regression of the probability of being in a given job type by gender[a, b]

	Relative probability of being in a:[c]							
	Full-time job		Part-time job		Permanent job		Temporary job	
	Men	Women	Men	Women	Men	Women	Men	Women
Intercept	13.2***	2.3**	0.1***	0.4**	1.1	1.2	0.6**	0.6**
Reference person: temporary job								
Permanent job	1.0	0.9	1.0	1.1*				
Reference person: part-time job								
Full-time job					0.9	0.9	1.5***	1.4***
Reference person: Inactive								
Employed one year ago	3.4***	2.4***	0.3***	0.4***	2.2***	2.4***	0.4***	0.4***
Unemployed one year ago	0.9	1.2	1.1	0.8	0.7***	0.6***	1.8***	2.0***
Reference person: one to three years since completing highest level of education								
Four to five years	1.1	1.1	0.9	1.0	1.6***	1.7***	0.6***	0.6***
Six to eight years	1.3**	0.9	0.8*	1.1	1.7***	2.0***	0.4***	0.4***
Nine years or more	1.4***	0.7***	0.7***	1.4***	1.9***	2.3***	0.3***	0.3***
Reference person: low qualified								
Medium qualified	0.7***	0.9	1.4***	1.1	1.6***	1.8***	0.5***	0.5***
Highly qualified	1.2	1.8***	0.9	0.6***	2.3***	2.0***	0.4***	0.4***
Reference person not in inital education or apprenticeship								
Initial education or apprenticeship	0.1***	0.4***	7.2***	2.8***	0.3***	0.4***	3.6***	2.7***
Reference person not in initial education or apprenticeship nor in job-related training								
Job-related training after initial education or apprenticeship	0.9	1.1	1.0	0.9	0.9	0.9	1.1	1.1
Country-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Likelihood ratio[d]	1 604***	1 175***	1 480***	1 102***	1 595***	1 480***	1 946***	1 488***
Number of observations	5 860	6 369	7 018	7 464	5 860	6 369	7 018	7 464

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively (two-tailed test).

a) The binomial logit models were estimated using maximum likelihood for a pooled sample of 21 European countries: Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Spain, Sweden and the United Kingdom.

b) The sample is restricted to employed youths aged 15 to 29 years in 2006.

c) For better readability, odds-ratios are reported taking the exponential of individual regression coefficients. A coefficient above one implies a higher probability than for the reference person to have the indicated work status. Thus, for example, the probability for an employed man of remaining or moving into full-time employment one year later is more than three times higher than the probability for an inactive man of becoming employed in a full-time job. Conversely, a coefficient below one implies a lower probability than for the reference person to have the indicated work status. The reference person is a youth in a part-time or temporary job, having left initial education one to three years earlier, who was inactive one year earlier and is low qualified and not in initial education or apprenticeship nor in job-related training.

d) Indicators of statistical significance of the full model referring to the Chi-square test for the joint significance of all the predictors.

Source: OECD estimates based on the European Labour Force Survey (EULFS).

Table 1.2. **Share of workers in temporary and permanent jobs by gender, qualification and years since leaving school**[a]

Percentages of employed persons

	Gender	Educational attainment	Share of permanent			Share of temporary		
			One year	Three years	Five years	One year	Three years	Five years
Australia	Both sexes	Low-skilled	37.8	50.6	60.6	62.2	49.4	39.4
		Medium-high-skilled	37.3	49.4	62.3	62.7	50.6	37.7
		Total education	37.5	49.6	62.0	62.5	50.4	38.0
	Men	Low-skilled	40.5	53.2	60.3	59.5	46.8	39.7
		Medium-high-skilled	41.6	53.1	62.2	58.4	46.9	37.8
		Total education	41.2	53.1	61.9	58.8	46.9	38.1
	Women	Low-skilled	34.1	46.1	61.2	65.9	53.9	38.8
		Medium-high-skilled	33.4	45.8	62.3	66.6	54.2	37.7
		Total education	33.6	45.8	62.2	66.4	54.2	37.8
EU10[b]	Both sexes	Low-skilled	38.9	56.9	67.2	61.1	43.1	32.8
		Medium-high-skilled	53.0	69.9	75.5	47.0	30.1	24.5
		Total education	50.2	67.0	73.0	49.8	33.0	27.0
	Men	Low-skilled	41.3	62.1	66.7	58.7	37.9	33.3
		Medium-high-skilled	57.0	72.7	75.3	43.0	27.3	24.7
		Total education	53.5	69.7	72.3	46.5	30.3	27.7
	Women	Low-skilled	38.3	50.3	69.0	61.7	49.7	31.0
		Medium-high-skilled	49.0	67.1	74.6	51.0	32.9	25.4
		Total education	47.0	64.3	73.2	53.0	35.7	26.8
Korea	Both sexes	Low-skilled	–	–	–	–	–	–
		Medium-high-skilled	86.1	88.2	90.5	13.9	11.8	9.5
		Total education	86.1	87.8	90.2	13.9	12.2	9.8
	Men	Low-skilled	–	–	–	–	–	–
		Medium-high-skilled	85.5	86.4	91.7	14.5	13.6	8.3
		Total education	85.6	86.1	91.9	14.4	13.9	8.1
	Women	Low-skilled	–	–	–	–	–	–
		Medium-high-skilled	86.5	89.2	89.7	13.5	10.8	10.3
		Total education	86.5	88.8	89.0	13.5	11.2	11.0
United Kingdom	Both sexes	Low-skilled	71.4	91.8	89.2	28.6	8.2	10.8
		Medium-high-skilled	83.7	92.9	92.9	16.3	7.1	7.1
		Total education	80.6	92.6	92.1	19.4	7.4	7.9
	Men	Low-skilled	67.6	90.0	91.2	32.4	10.0	8.8
		Medium-high-skilled	80.3	91.9	94.2	19.7	8.1	5.8
		Total education	77.9	91.4	93.6	22.1	8.6	6.4
	Women	Low-skilled	73.7	93.3	87.8	26.3	6.7	12.2
		Medium-high-skilled	87.6	94.0	91.4	12.4	6.0	8.6
		Total education	83.3	93.7	90.4	16.7	6.3	9.6

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– Estimates not reported due to fewer than ten observations.

EU10: Population-weighted average of the following countries: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Portugal, and Spain.

a) Sample restricted to youths aged 15 to 29 years leaving initial education in the years immediately preceding the five year window of panel survey data used to analyse job type.

b) Employment corresponds to persons working at least 15 hours per week.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

years after leaving school. A similar pattern holds for the ten continental European countries (the EU10), where the temporary share falls from one-half one year out of school to slightly more than one-quarter five years later. By contrast, fewer school leavers pass

through temporary jobs in Korea and the United Kingdom (14% and 19%, respectively, in the first year out of school). Low-skilled youth are considerably more likely than their better educated counterparts to begin their working lives in temporary jobs in the EU10 and the United Kingdom, but this does not appear to be the case in Australia and there are too few low-skilled youth in Korea to assess how they fare in this regard. The temporary share begins moderately higher for employed female school leavers than their male counterparts in Australia (66% *versus* 59%) and the EU10 (53% *versus* 47%), but these differences tend to decrease with labour market experience. By contrast, employed male school leavers are somewhat more prone to hold temporary jobs than females the first year out of school in the United Kingdom and gender differences are very small in Korea.

The data reported in Table 1.2 are broadly consistent with temporary jobs serving as stepping-stones to permanent jobs for many youth, since the share of employed school leavers in temporary jobs declines quite strongly during the first five years out of school, particularly in the countries where this share is initially very high. Nonetheless, a considerable share of working youth are still in temporary jobs five years after finishing initial education in some countries, suggesting that these youth may have become trapped in temporary jobs. 2006 data from the European Labour Force Survey, which provides larger sample sizes for analysing differences across skill groups, suggest that early school leavers are particularly at risk of such traps: five years after leaving school, more than 40% of unqualified young workers are in temporary jobs in Germany, Poland, Portugal, Slovak Republic and Sweden, and more than half in Spain (data not shown).

The issue of traps is best assessed by following the same individual over time in panel data. Table 1.3 exploits the panel nature of the data analysed in Table 1.2 to provide information on movements into and out of temporary jobs for school leavers who work in each of the five years following the end of their studies. Of the school leavers ever holding a temporary job, a strong majority hold two or more such jobs in Australia and Korea, as do one-half in the EU10. Only in the United Kingdom, is it the case that more school leavers have one spell of temporary employment than have two or more spells. Repeat spells are most common in Australia, where more than one third of employed youth experience two or more spells in temporary jobs during the five-year period analysed. Even though one-third of school leavers never have a temporary job, average cumulative time in temporary jobs exceeds one year due in part to repeat spells. Repeat spells are significantly more common for low- then better skilled youth in the EU10, but not in the other countries analysed.

Mobility of low-paid youth

Relatively few youth in low-paid jobs at any particularly date remain continuously low-paid for an extended period of time, but many experience more than one low-paid job. Analysing the same household panel surveys as for temporary workers, Figure 1.9 shows three measures of low-pay incidence over the five-year period following the end of initial education: the average low pay rate, the ever low pay rate and the always low pay rate. Low-pay incidence varies widely across the 13 countries covered in this analysis. The average point-in-time rate varies between 5% and 50% of young labour market entrants who occupied low-paid jobs over the five-year period analysed (Panel A). Even more dramatically, between 16% and 79% of youth occupied low-paid jobs at some time during the five-year period, meaning that a significant number of youth alternate low-pay spells with spells in better paying jobs. Fewer than 20% of young workers remained continuously low-paid

Table 1.3. **Five-year experience of temporary jobs by out-of-school youth with some employment: average cumulative duration and number of spells**[a]

	Gender	Educational attainment	Number of observations	Average number of temporay jobs	Average duration of temporary jobs (months)	No temporary job (%)	One temporary job (%)	Two or more temporary jobs (%)
Australia	Both sexes	Low-skilled	*(58)*	1.45	12.7	31.6	32.0	36.4
		Medium-high-skilled	*(371)*	1.56	12.7	33.1	25.3	41.6
		Total education	*(429)*	1.55	12.7	32.9	26.3	40.9
	Men	Low-skilled	*(39)*	1.40	13.9	39.5	26.1	34.4
		Medium-high-skilled	*(185)*	1.42	10.5	35.5	27.6	36.9
		Total education	*(224)*	1.41	11.0	36.2	27.3	36.5
	Women	Low-skilled	*(19)*	*1.55*	*10.3*	*15.8*	*43.7*	*40.5*
		Medium-high-skilled	*(186)*	1.75	15.6	30.0	22.5	47.5
		Total education	*(205)*	1.73	15.0	28.5	24.8	46.7
EU10	Both sexes	Low-skilled	*(730)*	0.98	6.3	51.5	23.7	24.9
		Medium-high-skilled	*(854)*	0.75	5.1	60.0	22.1	17.9
		Total education	*(1 728)*	0.91	6.0	54.3	23.2	22.6
	Men	Low-skilled	*(431)*	0.96	5.6	51.6	25.4	23.0
		Medium-high-skilled	*(447)*	0.78	5.0	60.2	22.2	17.6
		Total education	*(950)*	0.92	5.7	55.1	22.7	22.1
	Women	Low-skilled	*(299)*	0.99	7.1	50.7	21.2	28.1
		Medium-high-skilled	*(407)*	0.68	5.1	61.1	22.4	16.5
		Total education	*(778)*	0.85	6.1	53.6	24.2	22.1
Korea	Both sexes	Low-skilled	*(4)*	–	–	–	–	–
		Medium-high-skilled	*(88)*	0.48	5.9	79.3	8.4	12.3
		Total education	*(92)*	0.55	6.8	77.9	8.1	14.0
	Men	Low-skilled	*(3)*	–	–	–	–	–
		Medium-high-skilled	*(27)*	*0.71*	*9.2*	*64.7*	*12.3*	*22.9*
		Total education	*(30)*	0.78	10.0	64.7	11.5	23.7
	Women	Low-skilled	*(1)*	–	–	–	–	–
		Medium-high-skilled	*(61)*	0.36	4.3	86.2	6.6	7.2
		Total education	*(62)*	0.44	5.2	84.4	6.4	9.1
United Kingdom	Both sexes	Low-skilled	*(51)*	0.18	0.4	85.9	10.3	3.9
		Medium-high-skilled	*(194)*	0.17	0.5	86.5	10.7	2.8
		Total education	*(245)*	0.17	0.5	86.4	10.6	3.0
	Men	Low-skilled	*(21)*	*0.09*	*0.0*	*90.6*	*9.4*	*0.0*
		Medium-high-skilled	*(113)*	0.19	0.5	86.0	10.9	3.2
		Total education	*(134)*	0.17	0.4	86.8	10.6	2.6
	Women	Low-skilled	*(30)*	0.25	0.7	82.1	11.0	6.9
		Medium-high-skilled	*(81)*	0.15	0.5	87.3	10.5	2.2
		Total education	*(111)*	0.18	0.5	85.8	10.6	3.6

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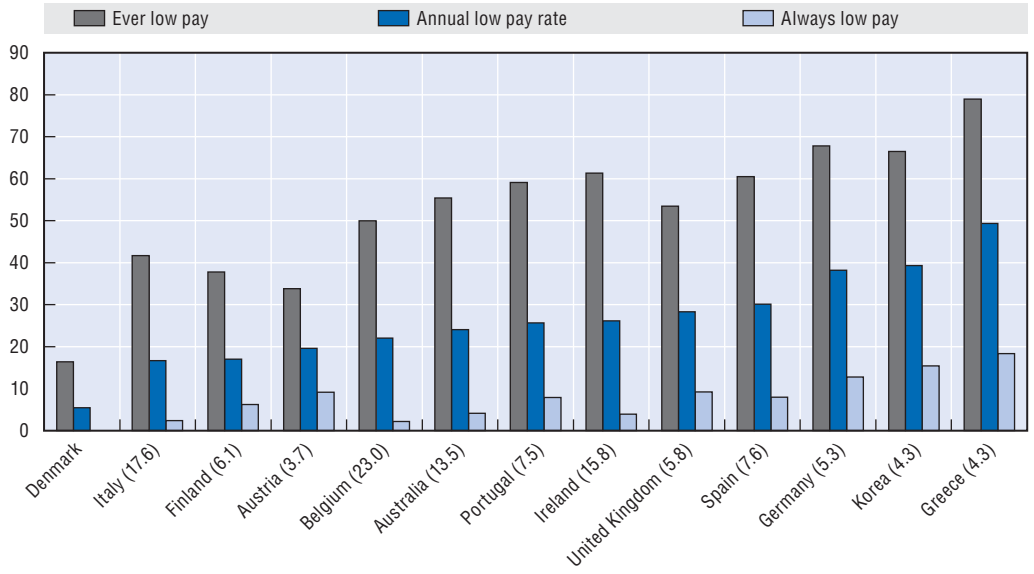
– Estimates not reported due to fewer than ten observations. Estimates in italic font based on ten to 29 observations.
EU10: Population-weighted average of the following countries: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Portugal, and Spain.

a) Sample restricted to the last five years of the survey and to persons continuously employed (working at least 15 hours per week for EU10) aged 15-29 leaving initial education one year before this five-year period or during the first year. The analysis is conducted on an annual basis considering only the employment contract at the time of interview. Since all short temporary jobs between interviews are not considered, the estimations are potentially biased downward.

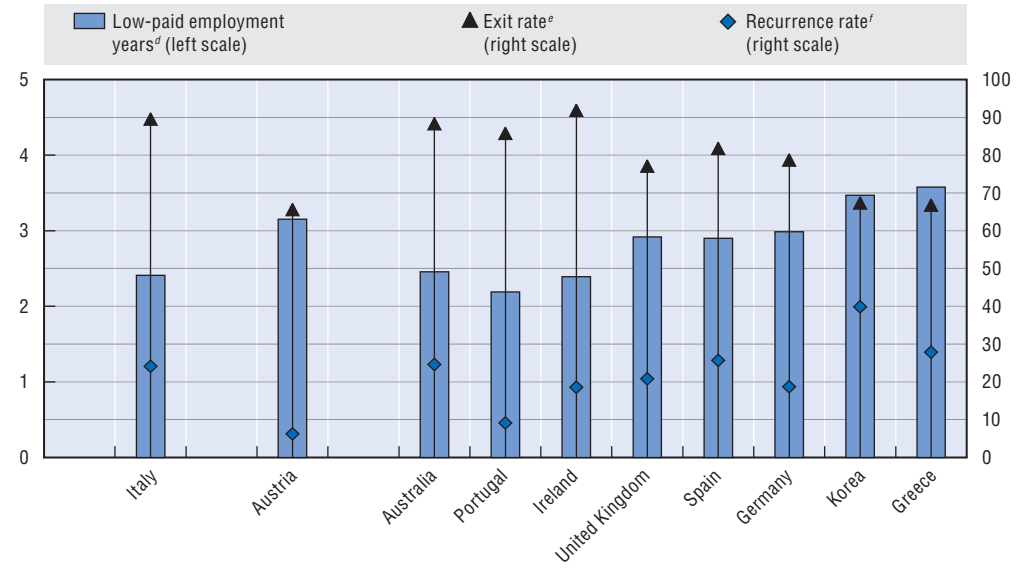
Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

Figure 1.9. **Alternative measures of low-paid employment[a] of youth, over five years[b]**

Panel A. **Percentage of dependent employees with low pay[c]**



Panel B. **Five-year experience of workers who were low paid in the first year and worked continuously during the five-year period**



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a) Workers are considered to be in low-paid employment if they receive an hourly wage of less than two-thirds the median value of employees aged 25-54 in that country and year.

b) Sample for calculations restricted to persons aged 15 to 29 years not in education who were continuously employed as dependent employees (working at least 15 hours per week for the European countries) during all five years analysed. Countries ranked by annual low pay rate.

c) Values within parenthesis below the country labels in Panel A are the ratio of the ever to the always low paid (an index of turnover).

d) Average years.

e) Share low-paid persons in the first year who were high-paid in the following year.

f) Share of low-paid persons in the first year exiting low pay in the following year but experiencing a repeat spell of low pay during the next three years.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

Table 1.4. **Five-year experience of low-paid employment by out-of-school youth: average cumulative duration and number of spells**[a, b]

	Gender	Educational attainment	Number of observations	Average number of low pay spells	Average duration of low pay spell (months)	No spell (%)	One spell (%)	Two or more spells (%)
Australia	Both sexes	Low-skilled	*(54)*	1.54	16.2	34.5	22.5	43.1
		Medium-high-skilled	*(342)*	1.15	11.5	46.1	21.8	32.1
		Total education	*(396)*	1.20	12.1	44.5	21.9	33.6
	Men	Low-skilled	*(37)*	1.77	19.7	26.8	25.3	47.8
		Medium-high-skilled	*(171)*	1.33	13.6	38.5	25.3	36.2
		Total education	*(208)*	1.40	14.5	36.6	25.3	38.1
	Women	Low-skilled	*(17)*	*1.03*	*8.7*	*51.2*	*16.2*	*32.7*
		Medium-high-skilled	*(171)*	0.91	8.7	56.2	17.2	26.6
		Total education	*(188)*	0.92	8.7	55.7	17.1	27.2
EU10	Both sexes	Low-skilled	*(648)*	1.61	16.1	39.2	18.3	42.5
		Medium-high-skilled	*(780)*	1.10	11.4	51.4	18.6	30.0
		Total education	*(1 552)*	1.41	14.2	44.0	18.1	37.8
	Men	Low-skilled	*(397)*	1.42	12.3	43.3	20.0	36.6
		Medium-high-skilled	*(414)*	0.85	7.4	60.9	15.1	24.0
		Total education	*(871)*	1.17	10.3	51.3	17.0	31.7
	Women	Low-skilled	*(251)*	2.17	23.3	29.8	13.6	56.6
		Medium-high-skilled	*(366)*	1.44	17.0	39.8	21.9	38.4
		Total education	*(681)*	1.80	19.8	34.7	17.4	47.9
Korea	Both sexes	Low-skilled	*(4)*	–	–	–	–	–
		Medium-high-skilled	*(87)*	1.88	25.0	34.7	16.4	48.9
		Total education	*(91)*	1.97	26.1	33.5	15.8	50.7
	Men	Low-skilled	*(3)*	–	–	–	–	–
		Medium-high-skilled	*(27)*	1.34	18.5	37.9	26.8	35.4
		Total education	*(30)*	1.50	20.3	35.4	25.0	39.5
	Women	Low-skilled	*(1)*	–	–	–	–	–
		Medium-high-skilled	*(60)*	2.14	28.2	33.2	11.4	55.4
		Total education	*(61)*	2.20	29.1	32.5	11.2	56.3
United Kingdom	Both sexes	Low-skilled	*(47)*	0.48	2.2	71.0	14.5	14.5
		Medium-high-skilled	*(188)*	1.68	10.9	39.6	12.8	47.7
		Total education	*(235)*	1.41	9.0	46.5	13.1	40.3
	Men	Low-skilled	*(21)*	*0.70*	*2.8*	*59.6*	*19.5*	*20.9*
		Medium-high-skilled	*(109)*	1.54	9.9	43.0	9.3	47.7
		Total education	*(130)*	1.39	8.6	46.0	11.2	42.7
	Women	Low-skilled	*(26)*	*0.28*	*1.7*	*80.8*	*10.2*	*9.1*
		Medium-high-skilled	*(79)*	1.88	12.4	34.8	17.6	47.6
		Total education	*(105)*	1.45	9.5	47.2	15.6	37.3

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– Estimates not reported due to fewer than ten observations. Estimates in italic font based on ten to 29 observations. EU10: Population-weighted average of the following countries: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Portugal, and Spain.

a) Workers are considered to be in low-paid employment if they receive an hourly wage of less than two-thirds the median value of employees aged 25-54 in that country and year.

b) Sample restricted to the last five years of the survey and to persons continuously employed (working at least 15 hours per week for EU10) aged 15-29 leaving initial education one year before this five-year period or during the first year. The analysis is conducted on an annual basis considering only the employment at the time of interview. Since short employment spells between interviews are not considered, the estimations are potentially biased downward.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

during the entire five-year period in all of the countries analysed and in several countries essentially no youth did so. Figure 1.9, Panel B indicates that 60% or more of all school leavers who are low-paid in their first year in the labour market find better paid jobs one year later. However, 20-40% of the group escaping low-paid employment in their second year out of school experience one or more additional low-pay spells during the following three years in six of the ten countries for which data are available. These repeat low-pay spells help to explain why school leavers moving into a low-paid job accumulate between 2 and 3.5 years in low-paid employment, despite there being considerable mobility between low and better paying jobs.

In the EU10, 38% of young workers had two or more spells in low-paid jobs within the five-year period (Table 1.4). There were more repeaters among low-qualified and female school leavers (43% and 48% experienced two or more spells in low-paid jobs, respectively), than for their better qualified and male counterparts (30% and 32%, respectively). Similar patterns hold with the other countries, with the recurrence rates in low pay being highest in Korea (51%) and lowest in Australia (34%). One surprise is that low-skilled youth in the United Kingdom were less likely to experience two or more spells of low-paid employment than their better educated counterparts. In Korea, the share with two or more spells in low-paid jobs was significantly higher for women than for men (56% *versus* 40%). At the other extreme, between 34% and 47% of continuously employed school leavers were never low paid in the countries analysed.

3.3. Mobility of youth not in education, employment or training (NEETs)

NEET rates usually fall with years out-of-school, but there are exceptions

For out-of-school youth, NEET status corresponds to non-employment and thus provides a mirror image of the employment patterns of young labour market entrants discussed in Section 2. In countries where employment rates are low one year after school completion and only converge slowly to adult rates (*cf.* Figures 1.4 to 1.6), NEET rates will start high and only gradually decline with experience. Evidence for the late 1990s, based on the same household panel survey data analysed above, indicate that NEET rates one year after leaving school range from a low of 16% in Australia up to 70% in Greece (Table 1.5). NEET rates fall sharply over the next four years in many of these countries, including by 50% or more in Austria, Belgium, Germany, Greece and Portugal. In other countries, the decline is less marked and it is completely absent in Korea, because the strong decline for men is completely offset by a steep rise for women. Even five years after leaving school, NEET rates remain above 30% in Greece, Italy and Korea, with inactive women – probably related to family formation and motherhood – accounting for the bulk of the persistence of high rates of non-employment.

NEET status can be a trap for certain youth

There is concern that repeated NEET spells and longer duration in NEET status can be damaging to future career prospects (Quintini *et al.*, 2007; Genda and Kurosawa, 2001). Panel A of Figure 1.10 displays three measures of NEET incidence defined over the five-year period following the end of initial education – the always, ever and average NEET rates – which are calculated for 11 European countries, Australia and Korea using panel data to follow individual school leavers over a five-year period. The ever NEET rate ranges from 30% in Australia to 67% in Greece, indicating that a large share of school leavers spend some time non-employed, but also that this share differs substantially across these

Table 1.5. **NEET status of youth one, three and five years after leaving school by gender**

Percentage[a]

	Time since end of initial education	Both sexes				Men				Women			
		Number of observations	NEET			Number of observations	NEET			Number of observations	NEET		
			All	Unemployed	Inactives		All	Unemployed	Inactives		All	Unemployed	Inactives
Australia	One year	*(1 227)*	16.2	12.6	3.6	*(610)*	16.4	13.7	2.7	*(617)*	16.1	11.5	4.5
	Three years	*(1 008)*	15.5	10.0	5.5	*(502)*	15.7	12.6	3.0	*(506)*	15.3	7.2	8.1
	Five or more years	*(7 121)*	19.1	5.9	13.2	*(3 401)*	10.5	6.8	3.7	*(3 720)*	27.7	5.1	22.7
Austria	One year	*(611)*	54.0	6.7	47.3	*(296)*	52.2	5.6	46.6	*(315)*	55.8	7.7	48.0
	Three years	*(582)*	37.9	4.8	33.1	*(300)*	32.0	4.1	27.9	*(282)*	44.0	5.5	38.5
	Five or more years	*(3 008)*	17.9	3.2	14.6	*(1 532)*	14.6	3.3	11.3	*(1 476)*	21.0	3.2	17.8
Belgium	One year	*(355)*	38.3	11.2	27.1	*(169)*	38.8	12.7	26.1	*(186)*	37.7	9.8	28.0
	Three years	*(375)*	15.5	6.6	8.9	*(177)*	12.2	6.4	5.7	*(198)*	18.9	6.8	12.1
	Five or more years	*(1 291)*	18.5	5.8	12.7	*(565)*	12.6	4.8	7.8	*(726)*	23.2	6.5	16.7
Denmark	One year	*(440)*	29.5	7.3	22.2	*(196)*	20.7	3.9	16.9	*(244)*	36.2	9.9	26.3
	Three years	*(326)*	42.6	5.4	37.2	*(142)*	37.5	1.1	36.4	*(184)*	46.9	9.1	37.9
	Five or more years	*(1 480)*	22.4	4.2	18.2	*(825)*	20.2	3.5	16.8	*(655)*	25.1	5.1	20.1
Finland	One year	*(739)*	34.9	7.9	27.0	*(376)*	38.4	7.5	30.9	*(363)*	30.7	8.2	22.5
	Three years	*(495)*	30.6	8.2	22.4	*(267)*	25.0	9.5	15.5	*(228)*	37.8	6.6	31.2
	Five or more years	*(1 418)*	28.8	12.8	16.0	*(808)*	17.9	13.0	4.9	*(610)*	40.9	12.6	28.3
Germany	One year	*(1 558)*	40.7	4.5	36.2	*(784)*	39.9	5.5	34.4	*(774)*	41.5	3.4	38.1
	Three years	*(754)*	8.7	4.0	4.7	*(389)*	9.3	6.3	3.0	*(365)*	8.0	1.6	6.4
	Five or more years	*(4 976)*	19.6	7.1	12.5	*(2 250)*	14.9	8.2	6.7	*(2 726)*	24.0	6.0	17.9
Greece	One year	*(930)*	69.6	12.0	57.6	*(437)*	74.0	8.4	65.6	*(493)*	66.2	14.7	51.5
	Three years	*(958)*	56.3	14.6	41.7	*(494)*	55.1	13.5	41.6	*(464)*	57.6	15.7	41.9
	Five or more years	*(3 930)*	33.6	11.7	21.8	*(2 013)*	19.8	10.4	9.4	*(1 917)*	47.6	13.1	34.5
Ireland	One year	*(625)*	29.5	10.2	19.4	*(334)*	27.8	7.5	20.3	*(291)*	31.5	13.1	18.4
	Three years	*(505)*	31.5	7.8	23.6	*(272)*	33.1	8.4	24.7	*(233)*	29.8	7.3	22.5
	Five or more years	*(2 571)*	25.2	5.8	19.4	*(1 301)*	19.0	7.8	11.2	*(1 270)*	31.4	3.9	27.5
Italy	One year	*(1 084)*	63.7	30.2	33.5	*(531)*	63.6	28.0	35.6	*(553)*	63.8	32.3	31.5
	Three years	*(1 047)*	47.6	23.8	23.7	*(514)*	43.8	22.9	20.9	*(533)*	51.4	24.8	26.6
	Five or more years	*(6 032)*	35.6	17.3	18.2	*(3 146)*	27.1	16.4	10.8	*(2 886)*	45.5	18.5	27.0
Korea	One year	*(846)*	36.8	3.5	33.2	*(370)*	43.0	4.7	38.3	*(476)*	32.0	2.6	29.3
	Three years	*(657)*	28.5	4.5	24.0	*(231)*	25.9	4.6	21.4	*(426)*	29.9	4.5	25.4
	Five or more years	*(3 208)*	36.8	3.3	33.5	*(1 243)*	19.2	6.2	13.0	*(1 965)*	48.7	1.3	47.4
Portugal	One year	*(756)*	30.7	12.3	18.4	*(366)*	28.5	11.0	17.5	*(390)*	32.5	13.4	19.1
	Three years	*(729)*	15.3	4.6	10.7	*(348)*	13.1	5.7	7.4	*(381)*	17.4	3.6	13.8
	Five or more years	*(3 425)*	12.0	4.3	7.7	*(1 890)*	10.9	5.1	5.7	*(1 535)*	13.4	3.4	9.9
Spain	One year	*(1 417)*	51.2	27.0	24.1	*(698)*	47.6	25.3	22.3	*(719)*	54.6	28.7	25.9
	Three years	*(1 152)*	36.3	17.3	19.0	*(568)*	31.4	14.0	17.4	*(584)*	40.9	20.4	20.4
	Five or more years	*(5 002)*	31.0	17.0	14.0	*(2 756)*	22.0	14.4	7.6	*(2 246)*	43.8	20.6	23.2
United Kingdom	One year	*(947)*	30.6	15.0	15.6	*(427)*	27.6	16.5	11.1	*(520)*	33.4	13.7	19.7
	Three years	*(755)*	22.9	7.7	15.2	*(339)*	19.4	10.1	9.3	*(416)*	26.2	5.5	20.7
	Five or more years	*(4 130)*	19.8	6.2	13.6	*(2 000)*	12.1	8.5	3.6	*(2 130)*	28.0	3.7	24.3

StatLink http://dx.doi.org/10.1787/347058038042

NEET: youth not in education, employment or training.

a) Sample restricted to youths aged 15 to 29 years leaving initial education in the years immediately preceding the five year window of panel survey data used to analyse NEET status.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

countries. Country ranking are quite similar for the average and always NEET rates, but these rates are much lower due to considerable movement into and out of employment. Greece and Italy stand out for the fact that nearly one-quarter of school leavers are

continuously non-employed during the five years following the end of schooling, whereas this rate ranges from 4% to 14% in the other 11 countries analysed.

The data presented in Panel B of Figure 1.10 provide further insights into the fluidity of the youth labour market, as reflected in transitions between employment and non-employment. In all of the countries analysed, more than one-half of school leavers who are not employed the first year exit NEET status the following year. But repeat NEET spells are common and, depending on the country, between 22% and 63% of this group experience one or more additional spells of non-employment in the following three years. Youth who were NEET the first year after leaving school accumulate approximately three years of non-employment over the 5-year window in all of the countries analysed. Many NEET spells are short, but a considerable number of youth accumulate multiple years of non-employment, in large part because multiple NEET spells are so common.

Table 1.6 confirms the importance of multiple spells of non-employment in the five years following the end of initial education. The share of job leavers reporting one spell in NEET is quite low and uniform across the countries analysed, ranging from 12% to 17%. Larger shares of school leavers were either never NEET or experienced two or more spells of NEET, suggesting that youth tend to bifurcate into two groups: those who experience steady employment (even if they change jobs) and those alternating multiple times between employment and non-employment. In Australia and the EU10, low skilled youth are especially likely to be in the latter group, but this does not appear to be the case in the United Kingdom.

Conclusion

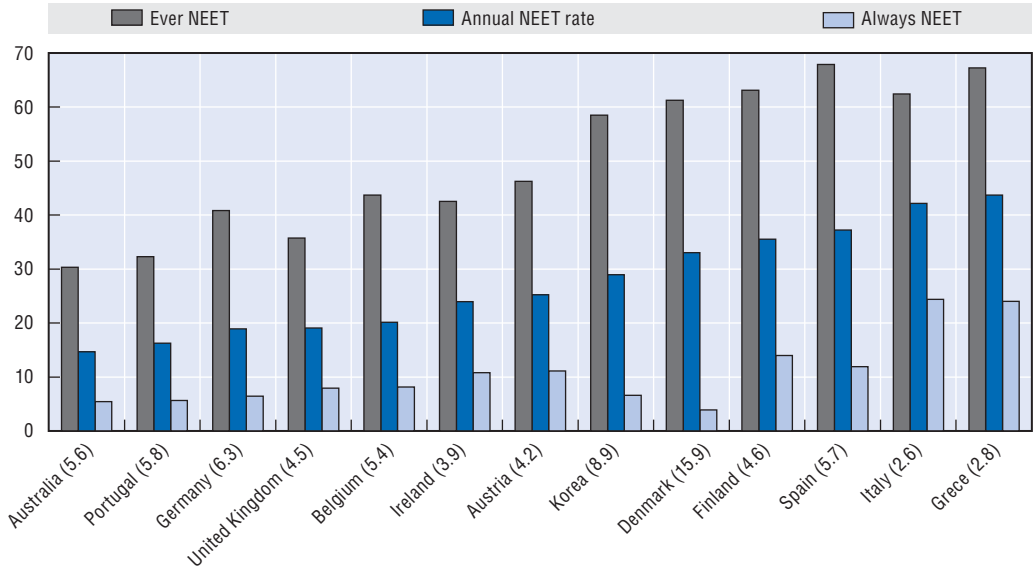
This chapter provides a descriptive analysis of youth labour market conditions and, in particular, the pace and modalities of transitions from school to work. While policy options for helping youth to get off to a good start in the labour market have not been analysed here, some of its empirical findings have interesting policy implications. Three of these findings are discussed here.

A first broad finding is that, while youth have generally shared in the overall improvements in labour market performance observed in a number of OECD countries since the mid-1990s, major differences in employment outcomes persist across groups of youth differentiated by their level of education, early experiences in the labour market and local labour market conditions. On the one hand, this confirms that strong overall growth is an important precondition for improving the labour market opportunities for most young people. On the other hand, other factors also matter. In particular, initial education matters a lot, as do early interventions to prevent school dropouts and youth drifting into inactivity or repeated spells of unemployment and temporary employment that do not allow them to build gradually a pathway to more stable and rewarding jobs.

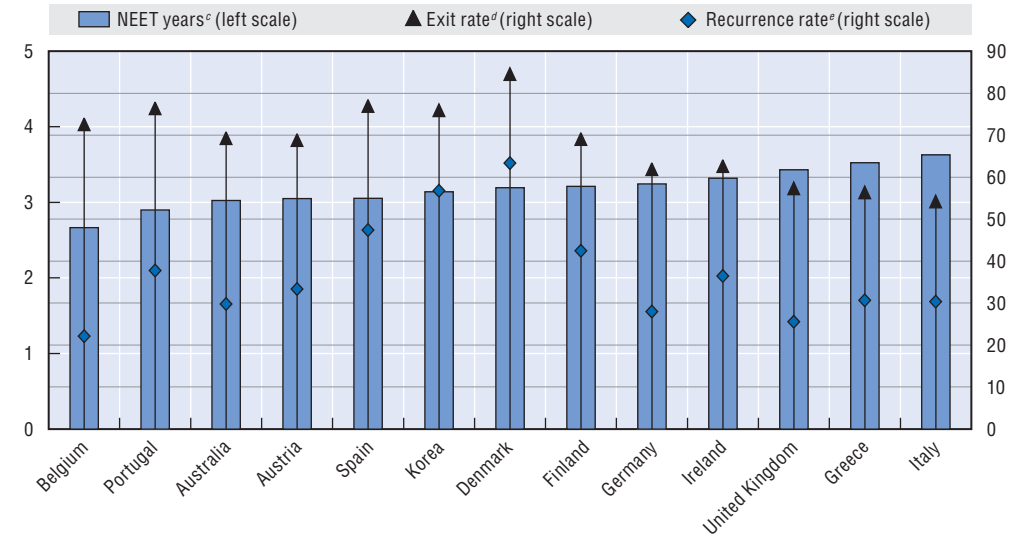
The fluid nature of the youth labour market is a second broad lesson that emerges. The school-to-work transition often involves a series of relatively brief job spells and periods on non-employment, before a more stable position is obtained. Moreover, the demarcation line between school and work has become more blurred in a number of countries, as many youth gain some work experience while still in education, through part-time or seasonal jobs and, in dual system countries, apprenticeships. In the context of high rates of job mobility, the main concern is not necessarily whether many youth are employed in low-paid or non-standard jobs. Instead, the policy focus should be on whether

Figure 1.10. **Alternative incidence measures of NEET status of youth, over five years**[a]

Panel A. **Percentage of youth neither in employment and nor in education**[b, c, d]



Panel B. **Five-year experience of youth neither in employment and nor in education in the first year**



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NEET: youth not in education, employment or training.

a) Sample for calculations restricted to persons aged 15 to 29 years not in education during all five years analysed. Countries ranked by annual NEET rate in Panel A, and by NEET years in Panel B.

b) Values within parenthesis below the country labels in Panel A are the ratio of the ever to always NEET rates (an index of turnover in status).

c) Annual average.

d) Share of NEET persons in the first year who were employed in the following year.

e) Share of NEET persons in the first year who were employed in the following year but experienced a repeat spell of NEET during the next three years.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

Table 1.6. **Five-year experience of NEET status by out of school youth**[a]

	Gender	Educational attainment	Number of observations	Average number of spells in NEET	Average number of spells in inactivity	Average number of spells in unemployment	No spell (%)	One spell (%)	Two or more spells (%)
Australia	Both sexes	Low-skilled	*(161)*	1.7	1.0	0.7	43.4	15.9	40.7
		Medium-high-skilled	*(544)*	0.4	0.3	0.1	77.7	12.7	9.6
		Total education	*(705)*	0.7	0.5	0.3	69.7	13.5	16.8
	Men	Low-skilled	*(78)*	1.0	0.3	0.7	58.2	13.0	28.8
		Medium-high-skilled	*(248)*	0.2	0.1	0.1	86.6	8.5	4.9
		Total education	*(326)*	0.4	0.1	0.3	79.8	9.6	10.7
	Women	Low-skilled	*(83)*	2.5	1.9	0.6	26.4	19.2	54.4
		Medium-high-skilled	*(296)*	0.7	0.5	0.2	68.4	17.1	14.5
		Total education	*(379)*	1.1	0.8	0.3	59.0	17.6	23.4
EU10	Both sexes	Low-skilled	*(2 183)*	1.8	1.0	0.8	39.9	17.4	42.7
		Medium-high-skilled	*(1 908)*	1.2	0.6	0.5	56.8	13.3	29.9
		Total education	*(4 457)*	1.5	0.9	0.7	46.3	16.1	37.6
	Men	Low-skilled	*(1 218)*	1.4	0.7	0.7	43.6	20.7	35.8
		Medium-high-skilled	*(895)*	0.9	0.5	0.4	61.9	13.3	24.8
		Total education	*(2 310)*	1.3	0.7	0.6	49.4	18.4	32.2
	Women	Low-skilled	*(965)*	2.2	1.4	0.8	34.0	13.5	52.5
		Medium-high-skilled	*(1 013)*	1.4	0.8	0.6	51.2	13.5	35.3
		Total education	*(2 147)*	1.8	1.1	0.7	41.8	13.7	44.5
Korea	Both sexes	Low-skilled	*(7)*	–	–	–	–	–	–
		Medium-high-skilled	*(213)*	1.5	1.3	0.2	40.9	17.7	41.4
		Total education	*(221)*	1.4	1.2	0.2	41.5	17.2	41.3
	Men	Low-skilled	*(4)*	–	–	–	–	–	–
		Medium-high-skilled	*(65)*	1.2	0.7	0.5	43.5	17.5	39.0
		Total education	*(69)*	1.2	0.7	0.4	45.6	16.9	37.5
	Women	Low-skilled	*(3)*	–	–	–	–	–	–
		Medium-high-skilled	*(148)*	1.6	1.5	0.1	39.6	17.8	42.6
		Total education	*(152)*	1.6	1.5	0.1	39.4	17.3	43.3
United Kingdom	Both sexes	Low-skilled	*(67)*	0.3	0.2	0.2	83.2	8.6	8.1
		Medium-high-skilled	*(344)*	1.1	0.8	0.3	60.0	13.0	26.9
		Total education	*(411)*	1.0	0.7	0.3	64.2	12.3	23.6
	Men	Low-skilled	*(30)*	0.3	0.1	0.2	81.1	12.1	6.8
		Medium-high-skilled	*(170)*	0.6	0.2	0.4	72.0	14.3	13.7
		Total education	*(200)*	0.6	0.2	0.4	73.5	13.9	12.5
	Women	Low-skilled	*(37)*	0.3	0.2	0.1	85.0	5.6	9.4
		Medium-high-skilled	*(174)*	1.6	1.3	0.3	48.3	11.8	39.9
		Total education	*(211)*	1.3	1.1	0.2	55.2	10.6	34.2

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NEET: youth not in education, employment or training.
– Estimates not reported due to fewer than ten observations.
EU10: Population-weighted average of the following countries: Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Portugal, and Spain.

a) Sample restricted to the last five years of the survey and to youth aged 15-29 leaving initial education one year before this five-year period or during the first year. The analysis is conducted on an annual basis considering only the non-employment status at the time of interview. Since short non-employment spells between interviews are not considered, the estimations are potentially biased downward.

Source: OECD estimates based on the British Household Panel Survey (BHPS), 2001-2005 for the United Kingdom; the European Community Household Panel (ECHP), waves 4 to 8 (1997-2001), for the European countries; the Household, Income and Labour Dynamics in Australia (HILDA), waves 1 to 5 (2001-2005) for Australia; and the Korean Labour and Income Panel Survey (KLIPS) waves 3 to 7 (2000-2004) for Korea.

these jobs are stepping-stones to better ones or not and on removing barriers to upward mobility to better jobs in terms of pay and job stability. In particular, excessive segmentation of the labour market between stable career jobs and non-standard jobs can increase the risk that many youth will become trapped, cycling for years between marginal jobs and non-employment.

A third finding is that the least qualified youth have the greatest difficulties in getting a foothold in the labour market in all countries. The lack of qualifications combined with very young school leaving ages means that this group is poorly equipped to integrate into the labour market. Special measures may be required for at-risk youth, beginning with supports to prevent academic failure and early exits from schooling. However, the chapter's analysis suggests that the transition from school to working life also raises difficulties and is protracted for a minority of more qualified school leavers.

Beyond these general patterns, there are significant cross-country differences in labour market outcomes for youth and the school-to-work transition. This suggests that policy priorities and strategies need to reflect national specificities, including the institutional structure of schooling and vocational training systems and the character of any demand side barriers to youth searching for a first job or attempting to secure access to career ladders. The OECD is conducting a series of country reviews intended to identify policy recommendations for helping youth get a better start on their working lives (see OECD, 2007a-d and 2008a, b).

Notes

1. The OECD is also conducting a multi-year thematic review, *Jobs for Youth*, which involves in-depth assessments of youth labour market outcomes and policy priorities in 16 countries. Six country reports have already been published (Belgium, Korea, Netherlands, New Zealand, Slovak Republic and Spain) (see OECD, 2007a-d and 2008 a, b). These two strands of work are intended to provide the basis for a comprehensive re-assessment of the youth labour market and good practice policies for helping youth to get off to a good start on their working lives.
2. The transition analysis in Sections 2 and 3 focuses on labour market outcomes in the years immediately following the end of initial education and takes no account of student employment. Student employment is discussed in Section 1, as part of the analysis of labour market status by age. However, the analysis of the school-to-work transition in the following two sections makes no attempt to assess how employment experience, while still in school, affects labour market outcomes after leaving school. Nor are the possible effects of overall labour market conditions on the length and modalities of school-to-work transitions analysed, even though these effects could be important. Indeed, young people anticipating labour market difficulties may delay their entry into the labour market by prolonging their initial education. In such instances, the average durations of school-to-work transitions, as measured here, arguably understate the time it takes youth, who are ready to leave school, to integrate into the labour market.
3. Tables 1.A1.1 and 1.A1.2 in the annex provide much of the data underlying the scatter plots displayed in Figure 1.1.
4. The slight increase in youth unemployment rate in Sweden between 1996 and 2006 is due to a break in series between 2004 and 2005 following a change in the operational definition of unemployment. The work availability criteria had been extended to two weeks after the survey reference week, instead of the survey reference week, to be consistent with the definition of unemployment in other EU countries. This change has led to an increase in the number of students classified as being unemployed. The subsequent increase in youth unemployment explains the sharp rise in youth unemployment relative to adult unemployment, while the opposite is true for long-term unemployment (Figure 1.1, Panel B).
5. The very high NEET rate for Turkey may also reflect a tendency for the labour force survey to classify some youth in informal jobs as being non-employed. The rate of informal employment is quite high in Turkey and youth are significantly more likely to work on informal jobs than prime-

age adults (see Chapter 2 of this publication). To the extent that some aspects of informal employment are not adequately captured in the labour force survey, this might have a disproportionate effect on youth.

6. Data reported for Japan in Figure 1.1 and Table 1.A1.2 refer to temporary employment lasting less than one year and part-time employment of less than 35 hours worked per week. These definitions are the closest available in Japanese national sources to the concepts used for other OECD countries. The discussion in Box 1.3 on school-to-work transition in Japan refers to youth in non-regular jobs according to national definitions of part-time and temporary work contracts and other types of non-regular work contracts.

7. The data reported are OLS coefficients obtained by regressing the indicated variables on the output gap and linear and quadratic time trends in separate annual time-series regressions for each country for 1980-2006.

8. Ryan (2001b) identifies a number of reasons why out-of-school youth may not participate in the labour market ranging from family formation, delayed departure from parental residence (*e.g.* the so-called "parasite single" syndrome in Japan), lifestyle choices (*e.g.* leisure and travel), institutional factors (*e.g.* compulsory military service) or the availability of public programmes (*e.g.* entitlements to public benefits may encourage young people to prolong school enrolment).

9. Brunet (2004) and Ryan (2001b) argue for such an approach.

10. OECD estimates based on the European Community Household Panel (ECHP) survey, wages 4-8 (1997-2001); Household income and labour dynamics (HILDA) survey – waves 1-5 (2001-2005) – for Australia and Korean labour and income panel survey (KLIPS) – waves 1-7 (1997-2004) – for Korea. Data shown for the United States are taken from Yates (2005) and are based on the National longitudinal survey of youth 1979 (NLSY79). The sample covers youth aged 14 to 22 years in 1979. Yates (2005) follows them between the inception of the study in 1979 and 2000 when the youngest sample cohort was 35 years old. Work histories are available throughout the study.

11. Beyond reporting a few results from Yates (2005) for the United States, no use is made here of country-specific youth transition surveys. These are a valuable source of information on the school-to-work transition, but are difficult to use for internationally comparative analysis because they are conducted on infrequent basis and the results often do not lend themselves to making cross-country comparisons, due to differences in questionnaire design.

12. An *ad hoc* module to the European labour force survey on the transition from school to working life was conducted in 2000 which mainly relied on retrospective questions pertaining to the labour market experience of young people since leaving initial education. Some of these questions were subsequently integrated into the core questionnaire of the European labour force survey. Kogan and Schubert (2003) use these survey results to describe transition patterns, by relating labour market indicators to "the time individuals have already spent on the labour market." This approach is also used in this chapter.

13. In order to focus on stable changes from one activity state to another, being out of school for at least a full year since having completed the highest level of education is adopted here as the criterion to identify samples of recent school leavers. This restriction might bias upward the estimated average duration of the transition from school-to-work for youth who begin (or continue) working immediately after completing initial education.

14. Due to small sample sizes, time durations since leaving initial education are smoothed using a three-year centred moving average – and limited to eight to ten years (Brunet, 2004; Fondeur and Minni, 2004).

15. Educational attainment is grouped by low, medium and highly qualified, corresponding to youth having achieved respectively less than upper secondary level, upper secondary/some post-secondary levels and tertiary qualifications.

16. There is a high overlap between these countries and the countries where student employment rates are relatively high (see Box 1.1).

17. Yates (2005) reports that close to 90% of youth find jobs within five years of leaving school in the United States. However, the NLSY79 data that she analyses are not strictly comparable with those used here.

18. Yates (2005) shows that this same gender employment pattern characterises the experience of youth in the United States.

19. Chapter 3 in this publication examines gender employment gaps in more detail, including the role of labour market discrimination in accounting for these differences.

20. Austria is an outlier in this regard.

21. During the first three years after leaving school, 85% of low-qualified youth in the United States had held at least one job (Yates, 2005). Nonetheless, the employment-rate gaps between high and low-(medium) qualified youth were more than (less than) 10 percentage points at the end of this period. These gaps nearly vanished five years later.

22. Figure 1.5 does not show data for highly qualified youth ten years after leaving school because many persons in this group would be older than 29 years of age, the upper age limit for youth cohorts retained in this chapter.

23. Youth may also undertake training activities after the end of formal education, regardless of whether a dual educational system is in place. In 2006, in Europe close to 20% of youth participated in training programmes one year after leaving initial education with above average participation, albeit at varying degree, in Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands, Poland, Sweden and Switzerland. Training participation declines overtime to reach 8% five years after leaving school and there is less cross-country variation. There are indications that highly qualified youth participate more in job-related training than medium qualified youth during the first five years after leaving school – *i.e.* 87% *versus* 55% on average in Europe –, while training participation of low qualified youth is more evenly spread since the time they left initial education.

24. Ryan (2001b) recommends using summary measures of transition durations that are unaffected by the distribution of school leaving ages, unlike OECD measures based on activity status by year of age (OECD, 1996b; OECD, 2000). He suggests developing an average duration measure, within a particular age cohort, defined in terms of "the length between leaving full-time schooling (or passing a statutory minimum leaving age), marking the end of formal education, and attaining specified length of service in a regular job" for individual school leavers. Several measures of this type are presented later in this chapter.

25. Indicators A and B measure the time elapsed since the age when leaving school and the age of entry into work (see Table 1.1, footnotes A and B). However, the median age measures in the case of Indicator A are based on two different distributions of youth population – youth enrolled in school, on the one hand, and those working, on the other hand. This may give a distorted picture of youth transitions. In the case of indicator B, the median ages of exit from school and entry into work are based on the same distribution of young workers, but the difference in the median ages does not coincide with indicator C, which reports the median of the distribution of the duration of the school-to-work transition at the individual level.

26. The explanatory notes to the table provide more details concerning data definitions and sources.

27. The comparison between Measures A and B reflects two different methods of identifying the median ages of school leaving and job entry, both calculated with the cross-sectional data from labour force surveys (see Table 1.1, footnotes A and B).

28. Since student employment is not taken into account, substantially more than 50% of an age cohort needs to have left school, in order for an age-cohort to obtain an employment rate of 50%.

29. Higher duration estimates according to Measure C, in Finland, Portugal and Spain, compared to Measure D, may be explained by high churning of young workers in short-term – temporary – jobs in these countries, which is better picked up by D than by C.

30. The underlying Labour Force Survey data used for estimating Measure C indicate that countries where the duration of school-to-work transition is short are also countries where a large number of school leavers were employed immediately after finishing initial education. This is particularly common in countries with a dual schooling system and probably reflects, in part, the fact that some apprentices become regular employees at the firm where they received their training. In 2006, 50% of school leavers in Germany and nearly 40% of them in Switzerland were employed immediately after completing initial schooling or apprenticeship. Across the 21 countries analysed, there is a strong negative correlation between the share of youth employed immediately upon finishing school and the Measure C duration estimates (rank correlation coefficient of -0.83).

31. Definitions of permanent and temporary employment vary between countries (see note 34).

32. Yates (2005) reports that low qualified young women took a longer time to settle into stable jobs than their male counterparts. There is evidence that the least qualified youth experience a sizeable amount of job churning: low-qualified youth hold five jobs on average before getting a job lasting three years or more, as opposed to one-two jobs on average for highly qualified youth.

33. It should be borne in mind that temporary jobs refer to different legal arrangements and/or statistical definitions in the different countries analysed here. In Australia and Korea, temporary

jobs refer to non-regular jobs which are associated with reduced entitlements to holiday and health coverage in Australia and low levels of job protection in Korea, besides the fact that these jobs are generally of limited duration. In Europe, temporary jobs are jobs with a definite date of termination specified in the labour contact. These can be of different types, including fixed-term contracts, contract work, temporary-help-agency work, on-call jobs, and trial/probationary periods on regular jobs and apprenticeships.

ANNEX 1.A1

Supplementary Tables and Figures

Table 1.A1.1. **The situation of youth in the labour market, 1996 and 2006**

	Population share (15-24)		Labour force participation rates		Employment rates		Unemployment rates		Indicidence of long-term unemployment		Relative to adult (25-54) incidence of long-term unemployment		NEET rates		Low-skilled NEET		School drop-out rates of teenagers (15-19)		School enrolment rates (15-24)	
	2006	1996-2006	2006	1996-2006	2006	1996-2006	2006	1996-2006	2006	1996-2006	2006	1996	2005	1996-2005[a]	2005	1996-2005[b]	2005	1996-2005[c]	2005	1995-2005[d]
	%	Percentage change	%	Percentage change	%	Percentage change	%	Percentage change	%	Percentage change			%	Percentage change	%	Percentage change	%	Percentage change	%	Percentage change
Australia	20.7	–1.2	71.2	–0.5	63.8	3.3	10.4	–5.3	10.9	–7.9	0.5	0.6	9.6	–2.5	58.2	–8.9	5.1	–0.8	26.2	–1.2
Austria	17.8	–0.5	59.4	0.1	54.0	–1.6	9.1	2.9	15.8	–2.4	0.5	0.7	9.7	. .	44.7	. .	4.6	. .	38.0	. .
Belgium	18.4	–0.8	32.3	–0.5	26.2	0.1	18.9	–1.6	32.3	–5.9	0.5	0.6	12.4	–1.3	47.4	–4.7	4.4	–1.5	59.5	–0.4
Canada	19.5	–0.5	66.4	4.2	58.7	6.0	11.6	–3.8	2.6	–4.5	0.3	0.4	9.8	–3.1	39.5	–3.4	3.6	–1.4	36.5	–1.7
Czech Republic	18.4	–5.8	33.5	–15.8	27.7	–18.1	17.5	10.3	38.4	18.8	0.6	0.5	11.2	–0.9	27.3	1.6	2.2	–1.0	61.5	. .
Denmark	17.1	–2.3	69.0	–4.8	63.7	–2.2	7.6	–3.0	0.9	–9.6	0.0	0.4	6.2	–0.7	62.0	. .	3.5	2.7	32.0	5.3
Finland	18.7	0.2	50.1	8.8	40.6	10.8	18.8	–9.0	5.5	–5.2	0.2	0.3	9.3	. .	41.4	. .	3.6	. .	56.0	. .
France	19.4	–1.0	33.2	4.2	25.3	3.9	23.9	–2.5	26.6	6.5	0.6	0.5	11.3	1.2	48.7	. .	4.3	1.6	60.5	–6.2
Germany	17.8	1.5	50.7	–1.2	43.9	–3.2	13.5	4.1	36.7	9.1	0.6	0.6	11.6	0.0	52.3	7.7	3.6	0.3	47.4	. .
Greece	17.0	–3.3	32.5	–4.5	24.5	–0.9	24.5	–6.6	47.7	–5.8	0.8	0.9	15.4	–3.1	37.8	–4.1	5.7	–0.1	59.3	2.9
Hungary	18.4	–4.8	26.8	–10.3	21.7	–8.7	19.1	1.1	37.5	–5.3	0.8	0.7	12.9	–8.0	50.9	3.8	5.2	–2.0	64.9	10.5
Iceland	19.6	–4.1	79.5	19.7	72.9	18.1	8.4	–0.1	1.5	–3.9	0.2	0.2	6.4	–0.4	73.5	. .	2.9	1.0	38.0	6.6
Ireland	22.0	–4.9	52.4	7.9	48.0	11.7	8.4	–9.9	25.3	–21.7	0.7	0.7	8.6	0.6	48.1	–11.5	3.0	–0.8	45.1	. .
Italy	15.6	–4.4	32.5	–7.1	25.5	–1.4	21.6	–10.6	50.5	–13.7	0.9	1.0	18.0	–5.5	54.9	–2.8	8.6	–3.5	56.6	5.0
Japan	16.5	–4.4	45.0	–3.3	41.4	–3.6	8.0	1.3	20.4	9.9	0.6	0.5	8.8	1.2	74.6	55.5	. .	. .	46.2	0.9
Korea	17.6	–6.0	30.2	–5.7	27.2	–6.6	10.0	3.9	0.4	–1.9	0.3	0.5	. .	. .	. .	. .	. .	. .	. .	. .
Luxembourg	17.0	–0.4	28.8	–11.8	24.9	–12.0	13.7	4.5	14.0	–19.3	0.5	1.3	5.7	–3.3	56.9	. .	1.9	–2.3	69.4	16.2
Mexico	29.6	–4.7	47.8	–5.3	44.8	–3.3	6.2	–3.1	1.9	0.7	0.6	0.4	21.8	–3.9	91.3	1.5	16.5	–4.3	33.0	–25.4
Netherlands	17.8	–0.8	69.2	2.9	63.9	5.6	7.6	–4.5	21.1	–13.8	0.4	0.7	6.5	1.4	59.2	–5.7	2.8	2.8	31.7	–1.9
New Zealand	21.9	–0.6	65.0	–2.5	58.8	–0.7	9.6	–2.2	2.8	–9.1	0.3	0.5	12.4	. .	55.0	. .	5.3	. .	30.9	. .
Norway	18.9	0.3	58.1	–1.6	53.1	0.8	8.6	–3.7	4.3	–0.1	0.2	0.2	5.9	–0.9	66.5	3.5	2.1	1.5	46.5	–5.4
Poland	22.1	0.3	34.2	–4.8	24.0	–3.9	29.8	1.3	37.2	8.2	0.7	0.7	12.2	–8.3	62.2	4.8	1.7	. .	69.6	14.6
Portugal	17.9	–6.0	42.7	–1.6	35.8	–1.4	16.2	0.0	34.5	–6.3	0.6	0.7	11.6	0.4	78.7	0.9	7.8	1.2	52.5	–0.7
Slovak Republic	22.2	–3.3	35.1	–11.6	25.7	–11.1	26.6	5.6	57.6	19.8	0.7	0.6	16.1	–3.9	28.8	2.8	3.4	–2.5	58.4	23.6
Spain	15.7	–6.4	52.7	5.5	43.3	14.9	17.9	–22.0	17.9	–28.9	0.6	0.8	12.3	–5.6	70.4	1.4	7.5	–2.0	52.5	–4.4
Sweden	17.4	–0.3	56.0	4.8	44.0	3.7	21.3	0.1	4.0	–9.4	0.2	0.4	8.6	–2.9	28.3	2.2	1.6	–1.4	57.1	6.7
Switzerland	17.4	–0.3	68.6	2.3	63.3	0.1	7.7	3.1	. .	. .	. .	. .	9.1	–1.8	57.6	2.1	6.3	–1.2	28.9	3.2
Turkey	25.5	–6.5	37.9	–10.6	30.8	–11.1	18.7	5.2	32.9	–10.2	0.9	0.9	42.2	8.5	53.7	–10.8	16.2	–3.7	26.5	2.7
United Kingdom	17.8	0.3	66.6	–3.9	57.3	–2.9	13.9	–0.7	14.5	–10.6	0.6	0.6	13.0	. .	55.9	–0.7	5.7	. .	35.4	. .

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Table 1.A1.1. **The situation of youth in the labour market, 1996 and 2006** *(cont.)*

	Population share (15-24)		Labour force participation rates		Employment rates		Unemployment rates		Indicidence of long-term unemployment		Relative to adult (25-54) incidence of long-term unemployment		NEET rates		Low-skilled NEET		School drop-out rates of teenagers (15-19)		School enrolment rates (15-24)	
	2006	1996-2006	2006	1996-2006	2006	1996-2006	2006	1996-2006	2006	1996-2006	2006	1996	2005	1996-2005[a]	2005	1996-2005[b]	2005	1996-2005[c]	2005	1995-2005[d]
	%	Percentage change	%	Percentage change	%	Percentage change	%	Percentage change	%	Percentage change			%	Percentage change	%	Percentage change	%	Percentage change	%	Percentage change
United States	19.1	0.0	60.6	–4.9	54.2	–3.4	10.5	–1.5	6.3	1.0	0.6	0.5	10.8	–1.4	35.0	0.4	2.9	–1.3	39.6	4.2
EU15	19.1	–1.5	47.9	0.3	40.2	2.4	16.1	–4.6	27.0	–13.2	0.6	0.8	11.5	–0.6	58.1	1.3	5.3	–0.5	48.9	0.5
OECD	21.7	–2.0	49.5	–2.7	43.3	–1.6	12.5	–1.5	19.6	–5.2	0.5	0.7	15.6	–0.3	57.3	–0.2	7.0	–1.8	42.2	2.6

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. . Data not available.

a) 1997 for the Netherlands; 1998 for Italy; 1999 for Germany and Ireland; and 2004 for Mexico.

b) 1997 for Australia, Japan and the Netherlands; 1998 for Italy; 1999 for Germany, Iceland, Ireland and Luxembourg; 2000 for the United Kingdom; and 2004 for Mexico.

c) 1997 for Australia; 1998 for Italy; 1999 for Germany and Ireland; and 2004 for Mexico.

d) 1997 for the Netherlands; 1998 for Japan; 1999 for Greece and Italy; 2000 for the United Kingdom; and 2004 for Mexico.

Source: OECD Labour Force Statistics and *Education Databases*.

Table 1.A1.2. **Employment and earnings of young workers compared to those of adult workers, 1996 and 2006**

	Indicidence of part-time		Relative to adult (25-54) incidence of part-time		Incidence of temporary employment		Relative to adult (25-54) incidence of temporary employment		Youth (20-24) earnings relative to adult earnings		Youth (15-24) earnings relative to adult earnings		Youth (15-24) earnings relative to adult earnings in 2004			Youth earnings by level of education relative to those with upper secondary education (middle qualified)[a]			
	2006	1996-2006	2006	1996	2006	1996-2006	2006	1996	2006	1996	2006	1996	Low qualified	Middle qualified	Highly qualified	Low qualified		Highly qualified	
	%	Percentage change			%	Percentage change										2004	1997	2004	1997
Australia	43.1	4.2	1.9	1.9	4.5	0.0	0.8	1.0	0.73	0.74	0.66	0.68	0.48	0.53	0.56	0.70	0.69	1.42	1.33
Austria	11.8	6.5	0.7	0.5	34.7	15.4	7.6	4.8	0.67	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Belgium	18.7	4.0	1.0	1.0	30.5	9.3	4.4	4.8	. .	. .	. .	. .	0.80	0.82	0.72	0.87		1.14	. .
Canada	44.1	–1.5	3.8	3.5	29.2	4.1	3.1	2.9	0.64	0.62	0.60	0.59	0.28	0.32	0.34	0.70	0.65	1.48	1.41
Czech Republic	3.0	0.4	1.3	1.2	18.9	3.5	3.2	4.4		0.82	. .	0.79	0.91	0.80	0.50	0.84	0.84	1.14	1.19
Denmark	55.1	13.4	5.5	4.1	24.8	–5.9	3.4	4.3	0.65	0.72	0.64	0.71	0.25	0.45	0.31	0.46	0.56	0.86	0.75
Finland	31.8	7.5	4.9	4.1	44.2	–10.2	3.2	3.7	0.68	0.70	0.68	0.69	0.19	0.42	0.45	0.43	0.56	1.54	1.36
France	17.1	–2.7	1.4	1.6	46.9	–0.3	4.8	5.0		0.64	. .	. .	0.62	0.66	0.55	0.81	0.80	1.20	1.18
Germany	18.0	10.6	0.8	0.5	56.8	11.9	6.5	6.7	0.61	0.62	0.61	0.62	0.30	0.51	0.30	0.51	0.49	0.91	0.51
Greece	11.8	3.8	1.7	1.1	27.3	2.3	2.5	2.7	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Hungary	2.8	1.1	1.4	0.8	16.8	4.7	2.8	2.3	. .	0.69	. .	0.67	0.88	0.73	0.53	0.89	0.85	1.54	1.34
Iceland	35.6	–3.9	3.3	2.3	. .	. .	. .	3.2	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Ireland	23.1	9.3	1.3	1.0	11.9	–5.4	5.2	2.4	0.67	0.61	0.63	0.59	0.50	0.46	0.42	0.84	0.78	1.31	1.26
Italy	14.9	7.1	1.0	0.7	40.3	21.6	3.6	3.1	. .	. .	. .	. .	0.58	0.50	1.65	0.94	0.66	4.92	1.25
Japan	31.1	8.5	1.6	1.2	27.9	10.5	2.6	2.1	0.60	0.62	0.58	0.60	. .	. .	. .	. .	. .	. .	. .
Korea	14.9	9.5	2.3	1.6	. .	. .	. .	. .	0.58	0.63	0.58	0.61	0.55	0.52	0.40	0.75	0.90	1.05	1.03
Luxembourg	4.9	0.3	0.4	0.4	29.3	18.4	8.2	6.8	. .	. .	. .	. .	0.69	0.59	0.54	0.92		1.31	. .
Mexico	17.6	1.5	1.3	1.2	. .	. .	. .	1.5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Netherlands	59.9	13.1	2.1	1.9	43.4	13.1	3.9	3.7	. .	0.56	. .	0.53	0.32	0.50	0.51	0.55	0.78	1.52	0.91
New Zealand	36.0	3.5	2.2	1.8	. .	. .	. .	. .	0.75	0.75	. .	. .	0.57	0.52	0.56	0.83	0.63	1.40	0.91
Norway	48.8	8.4	3.3	2.3	28.7	–10.6	3.6	4.0	. .	. .	0.73	. .	0.21	0.38	0.28	0.48	0.4	0.98	0.84
Poland	16.3	0.0	1.9	1.4	67.3	. .	2.9	. .	0.63	0.71	0.62	0.70	0.76	0.65	0.48	0.92	. .	1.18	. .
Portugal	7.1	1.4	1.4	0.7	48.3	19.7	2.8	3.6	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Slovak Republic	3.2	2.2	1.6	0.6	14.3	5.9	4.1	3.0	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Spain	19.6	7.0	1.9	1.9	66.6	–8.9	2.1	2.7	0.61	. .	. .	. .	0.75	0.64	0.57	1.00		1.16	. .
Sweden	36.2	0.0	3.9	2.7	58.4	10.0	4.6	4.2	0.68	0.73	. .	. .	0.18	0.47	0.26	0.32	0.29	0.69	0.58
Switzerland	18.7	2.5	0.8	0.7	51.5	6.8	7.8	8.0	. .	. .	0.58	0.59	0.66	0.71	0.59	0.71	0.72	1.17	. .
Turkey	7.9	1.6	1.2	1.3	13.4	–12.1	1.1	1.5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .

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Table 1.A1.2. **Employment and earnings of young workers compared to those of adult workers, 1996 and 2006** *(cont.)*

	Indicidence of part-time		Relative to adult (25-54) incidence of part-time		Incidence of temporary employment		Relative to adult (25-54) incidence of temporary employment		Youth (20-24) earnings relative to adult earnings		Youth (15-24) earnings relative to adult earnings		Youth (15-24) earnings relative to adult earnings in 2004			Youth earnings by level of education relative to those with upper secondary education (middle qualified)[a]			
	2006	1996-2006	2006	1996	2006	1996-2006	2006	1996	2006	1996	2006	1996	Low qualified	Middle qualified	Highly qualified	Low qualified		Highly qualified	
	%	Percentage change			%	Percentage change										2004	1997	2004	1997
United Kingdom	34.9	6.6	1.8	1.4	12.0	–0.7	2.9	2.2	0.60	0.68	. .	0.64	0.50	0.52	0.50	0.67	0.72	1.52	1.64
United States	33.8	–1.2	4.7	4.2	8.1	–1.1	2.3	2.5	0.57	0.58	0.55	0.6	0.32	0.41	0.38	0.50	0.42	1.57	1.70
EU15	25.5	7.7	1.6	1.3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
OECD	28.3	5.7	2.3	1.7	35.4	7.9	3.1	2.9	0.64	0.67	0.62	0.64	0.52	0.55	0.52	0.71	0.65	1.41	1.12

StatLink http://dx.doi.org/10.1787/347112764422

. . Data not available.

a) Data on earnings by educational attainment refer to 1996 in Finland and the Netherlands and 1998 in Italy and Korea. Data refer to 2001 in Australia, 2002 in Ireland, Italy, Luxembourg and the Netherlands and 2003 in Belgium, Canada, Denmark, Finland, Norway and Sweden.

Source: OECD Labour Force Statistics Database; OECD Distribution of Gross earnings of Full-time Workers and *OECD Education Databases*.

Table 1.A1.3. **Average duration of school-to-work transition by gender in selected European countries, 2006**

	School leaving age[a]			Age of entry into work[b]			Length of school-to-work transition[c]		
	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes
Austria	18.0	18.0	18.0	19.2	18.8	19.2	1.2	0.8	1.2
Belgium	18.2	20.4	18.7	19.9	21.5	20.4	1.8	1.1	1.7
Czech Republic	18.0	18.0	18.0	20.9	20.1	20.9	2.9	2.1	2.9
Denmark	20.0	21.1	20.1	21.9	21.8	21.4	1.9	0.7	1.3
Finland	18.0	19.7	18.0	21.0	20.5	20.6	3.0	0.8	2.6
France	18.9	20.2	19.4	20.7	21.3	20.9	1.8	1.1	1.5
Germany	19.0	19.2	19.1	19.8	19.3	19.1	0.8	0.0	0.0
Greece	17.1	18.6	17.4	20.4	20.6	20.6	3.3	2.0	3.2
Hungary	17.0	17.5	17.0	20.9	20.5	21.0	3.9	3.0	3.9
Iceland	17.0	19.8	18.5	19.5	20.6	20.9	2.5	0.9	2.4
Ireland	18.6	20.4	20.1	19.9	21.6	21.3	1.3	1.2	1.3
Italy	18.0	18.0	18.0	21.0	21.1	21.0	3.0	3.1	3.0
Luxembourg	19.1	19.8	19.4	20.3	20.7	20.5	1.2	0.9	1.1
Netherlands	18.7	19.7	19.0	20.1	20.3	20.1	1.4	0.6	1.0
Poland	18.0	22.3	18.7	20.8	22.6	20.7	2.7	0.4	2.0
Portugal	16.0	17.5	16.5	19.0	19.6	19.2	3.0	2.1	2.7
Slovak Republic	18.0	18.0	18.0	20.7	20.5	20.7	2.7	2.5	2.7
Spain	17.8	19.5	18.3	20.7	21.5	21.0	2.9	2.0	2.7
Sweden	18.3	18.5	18.3	20.4	19.5	20.3	2.1	1.0	2.0
Switzerland	19.0	18.6	19.0	19.7	19.2	19.7	0.7	0.6	0.7
United Kingdom	18.0	19.6	19.1	19.8	21.0	20.8	1.8	1.4	1.8
EU15 (unweighted)	18.2	19.3	18.6	20.3	20.6	20.4	2.0	1.3	1.8

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a) Median age of young school leavers aged 15 to 29 years calculated as the median of the difference between current age and time since leaving initial education or apprenticeship.

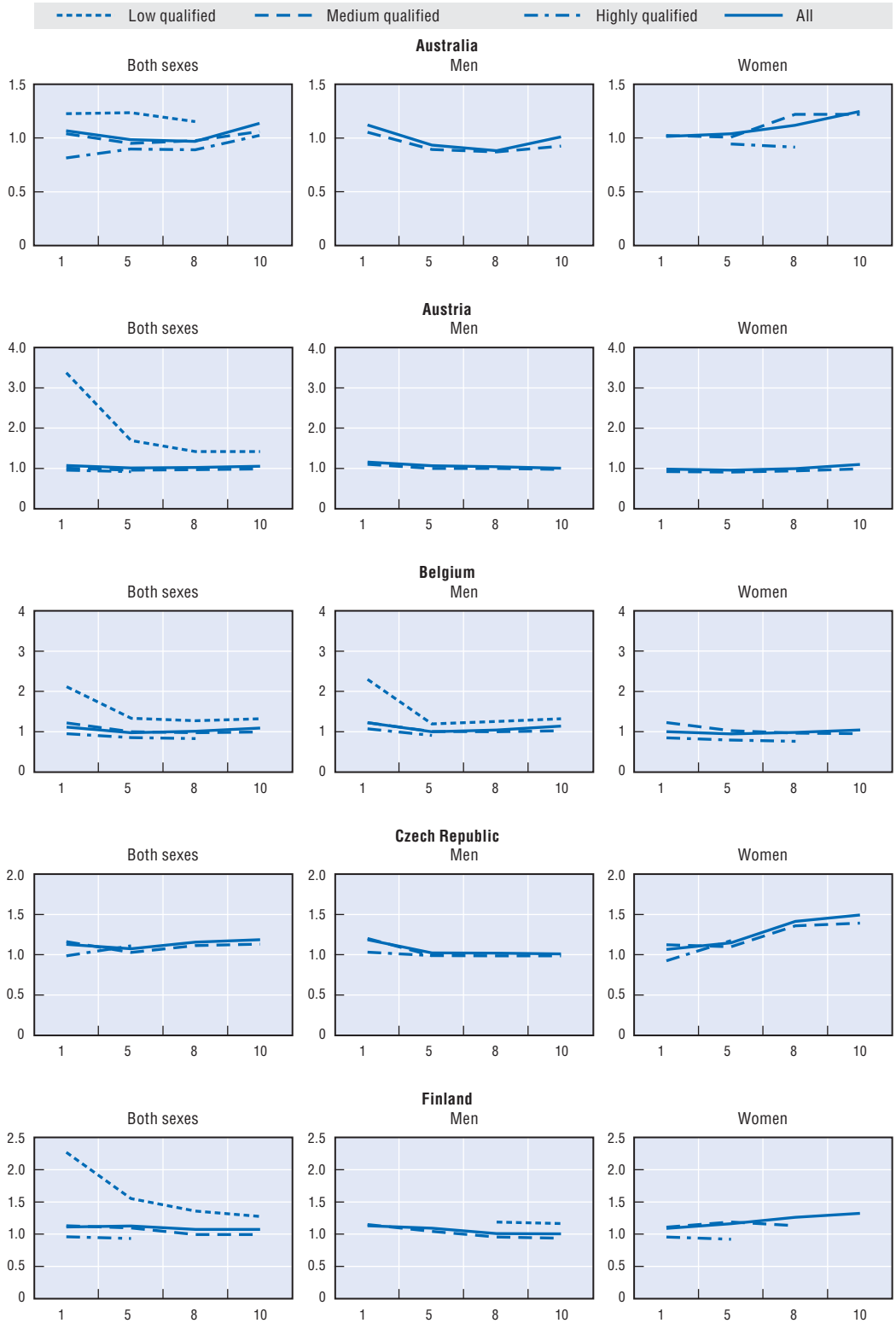
b) Median age of young school leavers aged 15 to 29 years finding a job calculated by adding the median age of young school leavers and the median time taken by youth to engage in current jobs since leaving school as defined in Table 1.1, Measure C.

c) See Table 1.1, Measure C.

Source: OECD calculations based on the European Labour Force Survey (EULFS).

Figure 1.A1.1. **Speed of transition to work of youth[a] by educational attainment and gender**

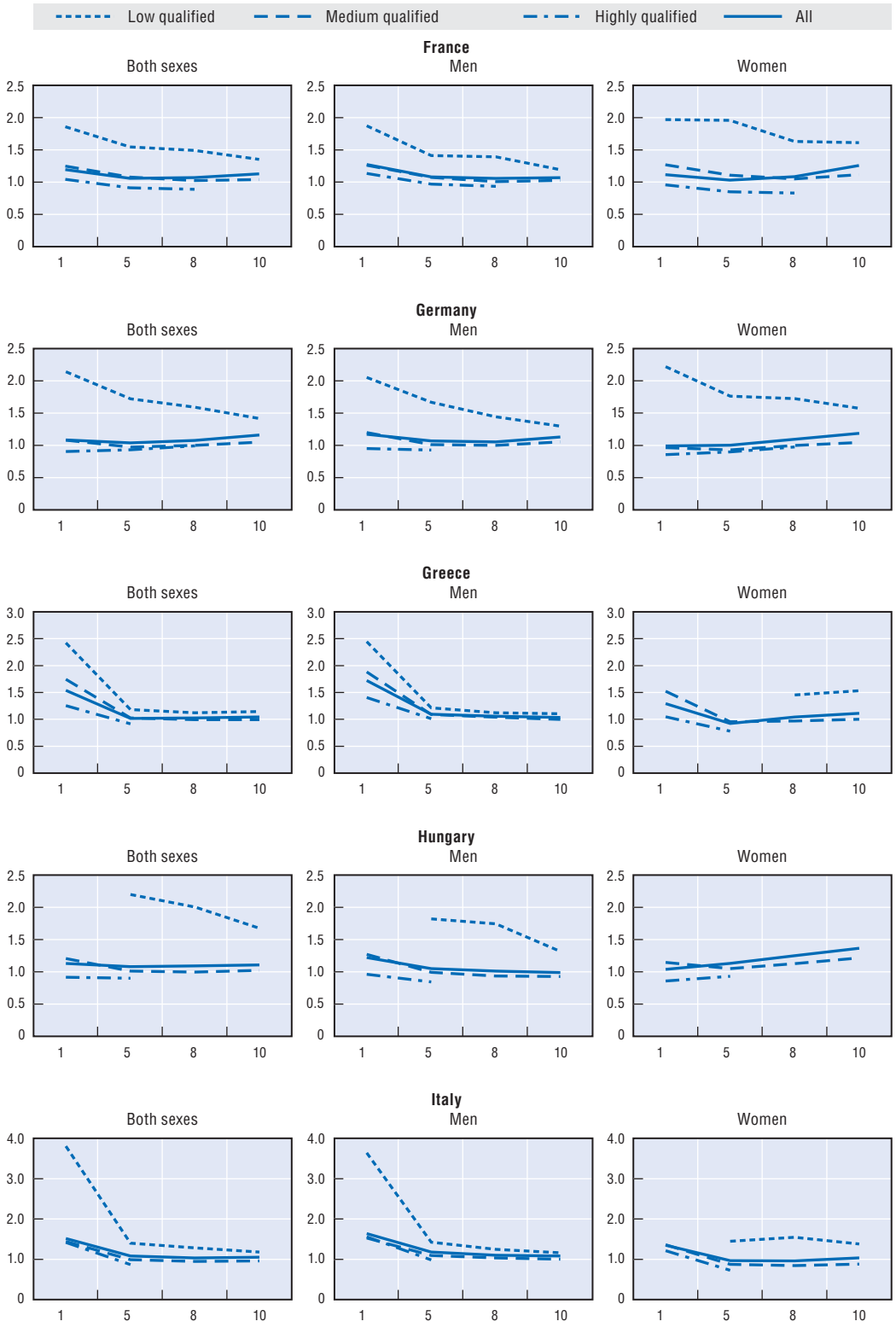
2004-2006[b] ratios of adult (30-49 years) to youth (15-29 years) employment rates, one, five, eight and ten years after leaving initial education



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Figure 1.A1.1. **Speed of transition to work of youth[a] by educational attainment and gender** *(cont.)*

2004-2006[b] ratios of adult (30-49 years) to youth (15-29 years) employment rates, one, five, eight and ten years after leaving initial education

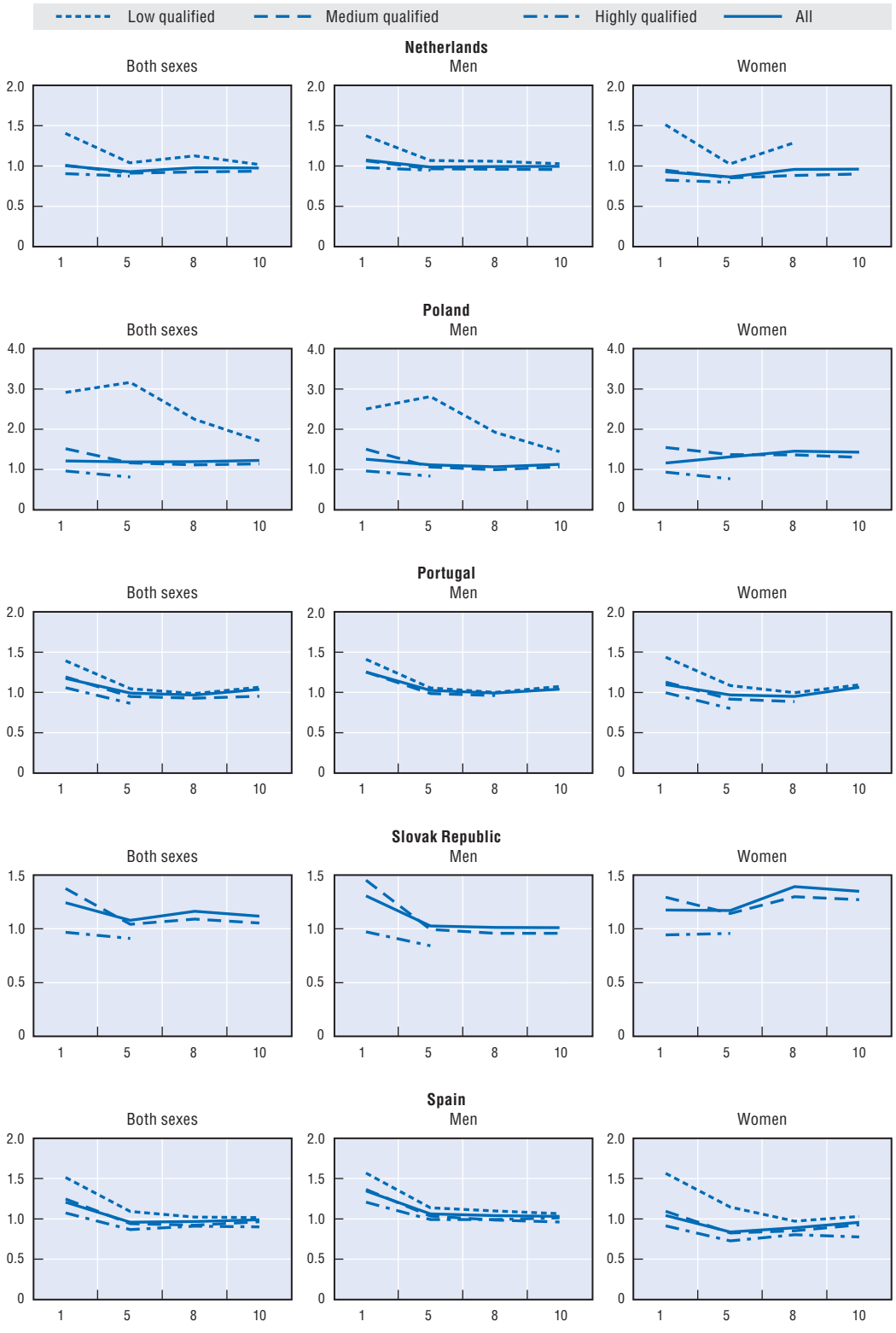


StatLink http://dx.doi.org/10.1787/346867734421

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Figure 1.A1.1. **Speed of transition to work of youth[a] by educational attainment and gender** *(cont.)*

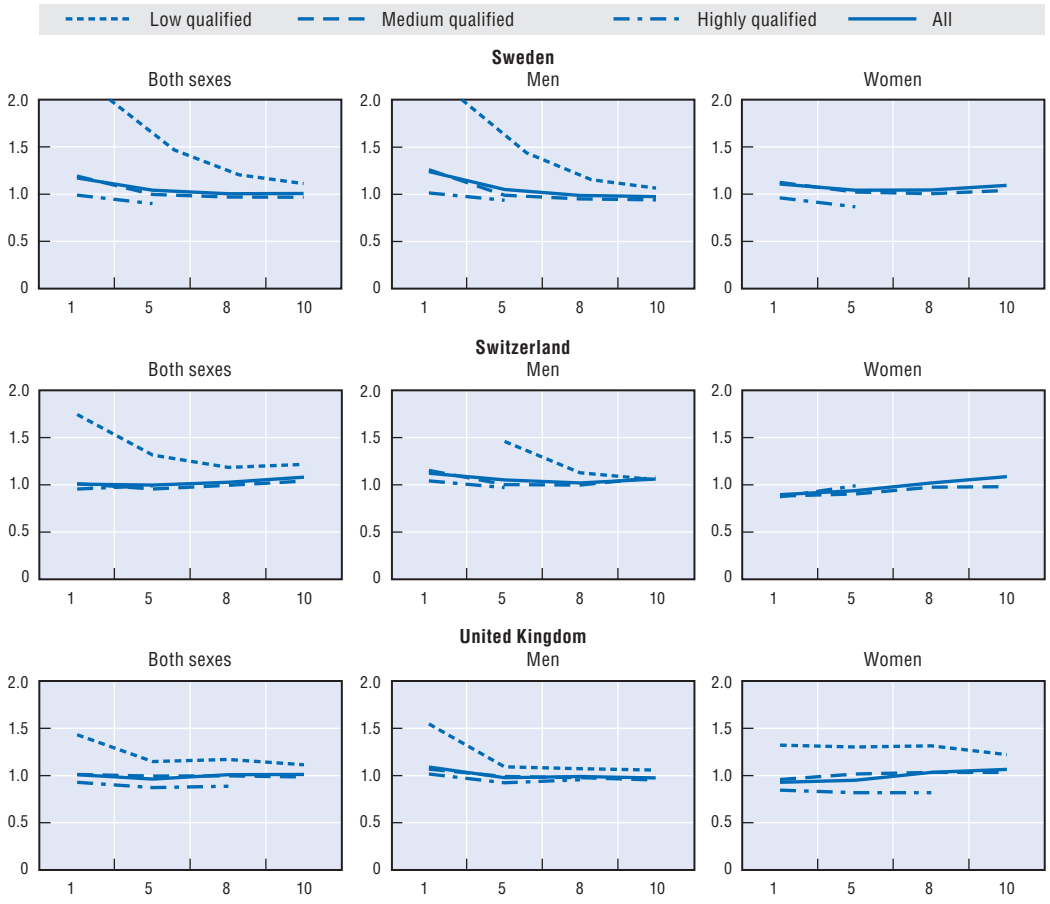
2004-2006[b] ratios of adult (30-49 years) to youth (15-29 years) employment rates, one, five, eight and ten years after leaving initial education



StatLink http://dx.doi.org/10.1787/346867734421

Figure 1.A1.1. **Speed of transition to work of youth[a] by educational attainment and gender** *(cont.)*

2004-2006[b] ratios of adult (30-49 years) to youth (15-29 years) employment rates, one, five, eight and ten years after leaving initial education



StatLink http://dx.doi.org/10.1787/346867734421

a) Values not shown when insufficient observations are available.
b) Ratios calculated on the basis of pooled data for the years 2004 to 2006.

Source: OECD calculations based on the European Labour Force Survey (EULFS) for European countries and the Household Income and Labour Dynamics (HILDA) for Australia.

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Chapter 2

Declaring Work or Staying Underground: Informal Employment in Seven OECD Countries

Informal employment and undeclared work is a significant labour market problem for some lower- and middle-income OECD countries, prompting concerns about worker protection, making it difficult for governments to deliver high quality public services and hindering productivity and growth. Strong economic growth does not, per se, *appear to guarantee a reduction in informal employment. What policies can countries adopt to address informal employment? The answer differs from country to country. Depending on the situation in each of them, incentives for employing workers formally may be improved by a combination of reducing labour costs when they are excessive, increasing flexibility in countries with stringent employment protection legislation and improving the design of social protection schemes to increase the benefits of affiliation to workers. Better incentives should be complemented by enhanced tax, social security and labour enforcement efforts. Improved governance standards would also encourage voluntary compliance.*

Introduction

Informal employment, sometimes known as undeclared, hidden or grey employment, can be broadly described as employment engaged in producing legal goods and services where one or more of the legal requirements associated with employment are not complied with. There are many reasons why policy makers in OECD countries are concerned about informal employment. Fully informal employees lack social security coverage and some or all of the protections provided by labour contracts (*i.e.* minimum wages, employment protection or occupational health and safety standards), are often poorly paid and have less access to training and career advancement than formal workers. Complete or partial non-compliance with tax or social security regulations reduces government revenue and necessitates higher contribution rates for formal workers. This can lead to a vicious circle where informality pushes governments to raise labour taxes or reduce the quality, targeting or coverage of public services and thus reduce even further incentives to formalisation. Informality can also have broader productivity and growth effects: informal firms tend to stay small in order to avoid regulation and scrutiny and this may restrict their access to capital, new technologies and markets while also generating unfair competition for formal firms (OECD, 2004a).

Countries with higher levels of development tend to have less informality (see Perry *et al.*, 2007, for a recent discussion). However, it is less clear that economic growth within an individual country necessarily results in less informal employment. For example, despite strong economic growth in India and China over the past ten years, informality rates remain very high in India, and are increasing in China as more of the workforce moves into urban areas (OECD, 2007a). Thus, policies that promote economic growth alone will not solve the problem of informal employment: a more articulated policy solution is necessary. OECD (2004a) reviewed the impact of various policies on incentives for informal employment and undeclared work in OECD countries and highlighted differences in the approaches needed to combat informality in countries at various levels of development.

This chapter builds on OECD (2004a) by examining informal employment in detail for seven lower- and middle-income OECD countries where it poses particular challenges – the Czech Republic, Hungary, Korea, Mexico, Poland, the Slovak Republic and Turkey. Concentrating on a small number of countries rather than adopting a cross-country approach allows deeper analysis of the complex set of factors that influence informal employment. With the exception of Turkey, all the countries examined became OECD members during the 1990s and, generally due to data limitations, are often excluded from cross-country OECD analysis. The seven countries offer a range of economic and labour market conditions and have experienced difference performance over the past decade. The Czech Republic, Hungary, Poland and the Slovak Republic experienced rapid economic and institutional change during the transition to a market economy and, at least in the early 1990s, saw a rapid growth in informality and self-employment as workers struggled to find formal job opportunities. Turkey and Mexico are the lowest-income OECD countries

and continue to experience high levels of informality, even in the most recent years characterised by a significant pick-up in economic growth. Korea has also undergone a rapid transformation process over the past decades and provides a useful illustration of the process of implementing new institutions, such as social security schemes, in an environment previously characterised by widespread informality. This is not to say that other OECD countries do not experience informal employment. OECD (2004a) found that even high-income OECD countries face problems with tax and social security compliance, and that several southern European countries, in particular, also have relatively high levels of informality. However, the countries chosen provide useful insights on the links between economic transformation, labour market developments and informality, which may become increasingly central issues in labour market and social policy as the OECD considers expansion and enhanced engagement with large developing countries such as Brazil, China and India, Indonesia and South Africa.

The chapter examines several different types of informal employment – ranging from employees who are not registered for social security to those who declare only some of their income for tax purposes. Other groups of workers who may be particularly prone to informality, such as the self-employed or people with more than one job, are also considered. The chapter focuses on policies that affect the incentives for firms to employ workers informally and for workers to fail to declare income to tax and social security authorities. However, firm-level informality is also an important source of informal employment. If a firm is not registered or paying taxes, it is unlikely that its employees will be formally employed or paying taxes themselves. The costs and benefits of formal employment outlined in this chapter influence firms' decisions to operate formally, along with a range of other factors (such as business regulation and registration costs, access to finance and the quality of the legal system). However, a full discussion of firm-level informality is beyond the scope of the chapter.

Section 1 presents various estimates of the extent of informal employment in the seven countries featured in the chapter, along with a discussion of the characteristics of different types of informal workers. Sections 2 to 4 discuss the various policy factors influencing informality. Section 2 examines policies that increase the costs of formal employment. Section 3 examines how the benefits of contributing to social protection programmes or paying taxes can be enhanced. Section 4 discusses the role of enforcement in discouraging informal employment. The conclusion section presents a country-by-country synthesis of the main policy findings of the chapter.

Main findings

- *The nature and extent of informal employment varies substantially across the seven countries:*
  - *Informal employment is most widespread in Mexico and Turkey*, where 40-60% of the workforce is employed without social security coverage or runs its own business, and tax evasion is common, even in medium and large formal firms. In these two countries, having a low level of education and being a woman or outside prime-working age increases the likelihood of informal employment.
  - *In the Czech Republic and the Slovak Republic very few employees are completely informal, but up to 10% of the workforce has under-declared income*. "False" self-employment may also be problematic, although this is difficult to quantify. Middle-aged workers with medium or high levels of education are the most likely to have under-declared income and be

self-employed, suggesting that evading tax and regulation is the primary motive for informality, rather than survival.

- *In Hungary and Poland relatively widespread under-declaration of income is accompanied by other forms of informality*. Those with under-declared income work regularly in this manner and undeclared income accounts for a relatively large share of their total income. Around 20% of employees are not contributing to the pension system in Hungary and a similar proportion of employees in small firms in Poland do not have a written employment contract.
- *Korea has made significant inroads into informal employment, but 25% of the workforce remains unregistered for social security*. Older workers and those with low levels of education are particularly susceptible to informal employment.

- *Combating informal employment requires a comprehensive approach* to reduce the costs and increase the benefits to businesses and workers of operating formally and ensure that regulations are adequately enforced.
- *A high wage floor in Hungary and Turkey and high non-wage labour costs in all countries except Korea create incentives for informal employment or under-declaration of earnings among employees*. Reducing labour costs, particularly for low-wage workers, could encourage greater formalisation:
  - *In Hungary and Turkey, high labour costs result from the combination of binding minimum wages in the formal sector and high labour taxes, partly driven by generous pension systems*. In Hungary, while a small minority of minimum-wage earners probably under-report their income, further minimum-wage hikes designed, in part, to reduce tax evasion may reduce employment prospects for genuine low-productivity workers.
  - *In all countries except Korea (and Mexico for large businesses), labour taxes are relatively high compared with taxes on capital*, providing few incentives for full declaration of wage earnings. Given the limited room for manoeuvre in fiscal policy in these countries, granting labour tax relief would probably involve increasing other taxes. Property taxes could be a good candidate, as they are amongst the least distortive taxes.
- *Granting preferential tax treatment to the self-employed, notably through taxes on turnover instead of net income, tends to encourage false self-employment and under-declaration*. It is easier for the self-employed to evade taxes than for wage earners and it can be difficult for tax authorities to detect their true income accurately. Simplified taxes for small businesses may, however, be appropriate in countries, such as Mexico and Turkey, where many self-employed are not equipped to establish proper book-keeping procedures. However, simplified tax regimes should be designed so as to provide incentives to declare employees' wages.
- *Complex tax systems increase compliance costs for taxpayers and encourage under-declaration*. This is the case in Hungary, Poland, Mexico and Turkey, where a number of tax exemptions and credits remain in place in the personal and/or corporate income tax systems. While the Slovak Republic and Korea have relatively simple tax systems, handling the complex social contribution collection system – involving different funds, income bases/ceilings and payment periods – is costly for firms. Proposed reforms to contribution collection in Korea should go some way to alleviating this problem.
- *Relaxing restrictions on the use of temporary or fixed-term contracts and reducing firing costs for young or inexperienced workers would improve incentives for firms to hire formal workers*.

Informal employment is used by firms to increase internal flexibility for firms in Mexico (and probably Turkey), where regulations limit the use of temporary and fixed-term contracts. Introducing probationary periods for new workers on permanent contracts in Mexico and Korea and reducing requirements to make redundancy payments to workers with short tenure in the Czech Republic, the Slovak Republic and Mexico could reduce informality, especially among young workers. Existing retirement allowance schemes in Korea, Mexico and Turkey can also lead to early or forced retirement among older workers, who then often have little choice but to work informally.

- *Workers' perceptions of the value of the benefits they are likely to receive from social protection schemes may be a factor encouraging formal work or the full declaration of earnings* if workers have some say in whether or not they are employed formally:
  - *The design of the pension system can affect incentives for informality*. Some have argued that the closer the link between contributions and benefits, the less workers will perceive pension contributions as a tax, and thus the lower the negative effect of contributions on formal sector participation. However, cross-country data show no systematic relationship between the degree of redistribution and pension coverage. Very strongly redistributive systems, such as in the Czech Republic, may nevertheless favour under-declaration of earnings. Other characteristics of the pension system may also play a role. For example, systems with little link between contribution records and benefits, such as in Turkey, favour early retirement of workers and continued activity in the informal sector. Minimum contribution periods in countries where workers often move in and out of formal employment, such as for the minimum guaranteed pension in Mexico, also create disincentives to work in the formal sector.
  - *Easing somewhat access conditions for unemployment benefits, increasing the link between benefits and contributions (while being careful to preserve work incentives) and/or reducing contribution rates could improve incentives for formalisation*. In six of the countries studied, unemployment insurance schemes have strict access conditions, low benefit levels and very limited links to contributions, especially in Poland, the Slovak Republic and Turkey.
- *Improving trust in government and the quality of public services can play an important role in reducing informality* by increasing the perceived benefit to taxpayers of paying taxes. All seven countries examined perform below the OECD average on indicators of government effectiveness and corruption control, although progress has been made in recent years.
- *Combined with improving incentives for formalisation, effective enforcement of labour, tax and social security regulations is essential to combat informal employment*. Existing enforcement resources can be used more efficiently in all seven countries by implementing or increasing the use of risk-assessment processes to target inspections and increasing coordination and information-sharing between enforcement agencies. In many cases, detecting informal employment is not currently the primary focus of tax or labour inspectorate activities. Combating informality also requires broadening the focus of enforcement bodies from revenue maximisation (for tax authorities) and occupational health and safety (for labour inspectorates) to include formalisation by targeting new groups, such as small firms or the service sector, where informal employment is prevalent, providing advice and technical assistance to small firms and improving income detection for small firms and the self-employed.

1. Extent and characteristics of informal employment

1.1. *Informal employment is difficult to define and measure*

Despite a substantial literature, there is no universally accepted definition of informal employment (see OECD, 2004a; and Perry *et al.*, 2007, for a summary). For the purposes of this chapter, informal employment is defined as employment engaged in the production of legal goods and services where one or more of the legal requirements usually associated with employment (such as registration for social security, paying taxes or complying with labour regulations) are not complied with. Transforming this "ideal" definition into comparable cross-country statistics on informal employment is complicated by difficulties in measuring various aspects of informality. In practice, the definitions used in empirical work depend both on data availability and the focus of the research. One branch of the literature focuses on measuring the aggregate size of the informal sector, usually as a percentage of GDP (*e.g.* Schneider and Enste, 2000).[1] Other studies focus more on measuring the share of employment involved in informal activities. Unfortunately, no reliable estimates of the overall share of informal employment are available for most OECD countries. However, microdata can be used to examine different forms of informal employment. Existing studies of informality using microdata employ a range of proxies for informal employment, such as lack of social protection coverage, self-employment or work in a microbusiness (*e.g.* Bernabè, 2002; Gasparini and Tornarolli, 2007; Loayza and Rigolini, 2006).

From a labour market policy perspective, quantifying and understanding the many forms of informal employment is more important than simply assessing the overall size of the sector in the total economy, even if this does not allow a cross-country comparison involving many OECD countries. An emerging literature finds considerable variation in the characteristics, experiences and motivations of different types of informal workers (see Box 2.1). The policies shaping the different types of informality also vary considerably. For example, high average tax rates on low-paid workers may encourage both workers and firms to hide their employment from the tax authorities, whereas high marginal tax rates on high-income earners may create incentives to under-declare a proportion of their income. Making well-grounded policy recommendations to encourage formalisation depends on understanding the extent and characteristics of different types of informal employment and the ways policies influence firms' and workers' incentives. In order to best capture the diversity of informal employment, a range of measures of informal employment are examined, encompassing a continuum of informality from workers who are fully unregistered for social security to those who fail to declare only a portion of their income to tax or social security authorities.[2]

Table 2.1 provides estimates of informal employment and undeclared work in the seven countries examined in this chapter.[3] Jobs without social security coverage or written employment contracts are used as a proxy for informality among employees, as is common in the literature. Non-farm own-account workers (*i.e.* self-employed without employees) are not necessarily informal, but previous research has shown that these workers typically have higher rates of tax and social security evasion than employees.[4] In addition, some own-account workers could be considered *false self-employed*, in that they work every day for the same employer but are either forced or choose to be self-employed in order to bypass labour law or tax and social security obligations.[5] Unpaid family workers are included because they provide a significant source of labour for informal family businesses

Box 2.1. **Informal employment: segmentation, choice or somewhere in-between?**

The informal employment literature is moving away from the traditional view of informality as evidence of labour market segmentation. Rather than seeing informal employment as a survival mechanism for low-productivity workers who are queuing until they can find a better-paid, formal job opportunity, recent empirical research argues that some informal workers "choose" informal employment. They do so because informal employment offers them the best financial return on their skills or experience, given other labour market opportunities and prevailing institutional settings, or because of the non-monetary benefits of informal work. Fields (2005) argues that the informal labour market is itself segmented, with some workers choosing to be informal and others, generally with low qualifications and living in rural areas, being trapped in low-paid informal jobs with few opportunities to move to formal jobs even if they wish. This dualism in the informal sector is backed up by evidence on the differences in wage and other outcomes for different types of informal workers.

There is clear evidence that some informal workers receive higher wages, or at least similar wages, than equivalent workers in the formal sector, suggesting that informal work may be a rational economic choice for some. For example, Maloney (1999) finds that movements from self-employment to formal salaried work are accompanied by a reduction in earnings in Mexico. A number of other studies find that the self-employed earn around the same as formal salaried workers in other Latin American countries (*e.g.* Saavedra and Chong, 1999, for Peru; Arias and Khamis, 2007, for Argentina). Köllõ and Vincze (1999) find that the growth of self-employment in Hungary in the early 1990s was the result of relatively good labour market prospects for the self-employed rather than a form of disguised unemployment. Likewise, Earle and Sakova (2000) find, after controlling for personal and job characteristics, a small earnings premium for own-account workers in the Czech Republic and the Slovak Republic in the mid-1990s. However, this literature also highlights the heterogeneity of informal employment. Informal salaried workers, for example, generally earn less than they would in formal jobs (*e.g.* Maloney, 1999, for Mexico; Tansel, 2000, for Turkey). There are also a number of reasons, other than earnings potential, why workers may choose informal employment over a formal job. Informal self-employment, in particular, may offer flexibility and autonomy not available in a formal salaried job. Opportunities for tax or social contribution evasion, and thus higher potential net earnings, may be another motivation.

and derive utility from informal family businesses in much the same way as own-account workers. Multiple job holders, like own-account workers, are not necessarily informal, but have greater opportunities for failing to declare income or register for social security than workers with only one job. Under-declaration of income for tax or social security purposes is also considered in its own right, although the estimates presented probably represent a lower bound on the extent of undeclared income, due to the sensitivities of questions about tax evasion. While the range of informality examined is broad, it cannot be all-encompassing due to the difficulties in measuring a phenomenon which is, by definition, illegal in some senses. Nevertheless, the estimates help in understanding the relative importance of various types of informality and the characteristics of informal workers, informing the policy discussion later in the chapter. There may, of course, be substantial overlap between alternative definitions of informal employment. For example, employees who are not registered for social security are also likely to fail to declare all or part of their income to the tax authorities. Where possible,

estimates exclude the farm sector, which is typically declining in importance over time and makes up only a small proportion of total employment in four of the countries examined (the exceptions being Poland, Mexico and Turkey).

Table 2.1. **Alternative measures of informal employment and undeclared work**

	Employees in informal jobs		Own account workers	Unpaid family workers	Multiple jobs holders	Undeclared income	
	Employees not registered for mandatory social security	Employees without work contract	% of non-farm employment	% of non-farm employment	% of total employment	% of workforce typically not reported for tax purposes[b]	% of employees receiving wages cash-in-hand[c]
	% of non-farm employment[a]						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Czech Republic	. .	1.8	11.4	0.7	2.1	10	3
Hungary	19.4	2.6	6.4	0.3	1.8	9	8
Korea	25.8	. .	17.1	4.7	1.7	7	. .
Mexico	31.5	26.9	20.6	5.1	3.3	31	. .
Poland	. .	4.9	7.0	0.7	7.5	11	11
Slovak Republic	. .	2.2	9.2	0.1	1.2	6	7
Turkey	21.7	. .	16.6	3.3	3.1	25	. .

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. . Data not available.

a) Data for Hungary for social security registration are as a percentage of total employment.

b) Based on answers to the following question: "Recognising the difficulties that many firms face in fully complying with labour regulations: what percentage of total workforce would you estimate the typical firm in your area of business reports for tax purposes?". Item non-response: Czech Republic: 3%; Hungary: 3%; Korea: 2%; Mexico: 12%; Poland: 1%; Slovak Republic: 16%; Turkey: 6%.

c) Based on answers to the following question: "Sometimes employers prefer to pay all or part of the regular salary or the remuneration for extra work or overtime hours cash-in-hand and without declaring it to tax or social security authorities. Did your employers pay you all or part of your income in the last 12 months in this way?".

Source:

(1) Hungary: Hungarian Finance Ministry estimates based on Elek *et al.* (2008); Korea: Korean Labor and Income Panel Study, 2005; Mexico: Encuesta Nacional de Ingresos y Gastos de los Hogares, 2005; Turkey: Household Labour Force Survey, 2006.

(2) Czech Republic: European Social Survey, 2004; Hungary, Poland and Slovak Republic: European Social Survey, 2006/07; Mexico: Encuesta Nacional de Ingresos y Gastos de los Hogares, 2005.

(3) Czech Republic, Hungary, Poland and Slovak Republic: Eurostat Labour Force Survey; Korea: Korean Labor and Income Panel Study; Mexico: Encuesta Nacional de Ingresos y Gastos de los Hogares; Turkey: Household Labour Force Survey. Data are for 2005.

(4) OECD database on Labour Force Statistics, 2005.

(5) Czech Republic, Hungary, Poland, Slovak Republic and Turkey: Eurostat Labour Force Survey, 2006; Mexico: Encuesta Nacional de Ingresos y Gastos de los Hogares, 2005; Korea: Korean Labor and Income Panel Study, 2005.

(6) OECD estimates for private sector firms using World Bank Enterprise Surveys, 2005 (2006 for Mexico).

(7) European Commission (2007).

The characteristics of informal workers differ across countries

The extent and characteristics of informal workers vary substantially, both within countries across different types of informal employment, and across countries. This section summarises the situation in each of the seven countries examined in this chapter:[6]

- *Czech Republic:* few employees in the Czech Republic are completely informal. However, partial informality – either false self-employment or under-declaration of income – affects a sizeable share of the workforce. Own-account workers are typically middle-aged, male and have moderate levels of education. Tax evasion is most common for the

self-employed and higher-educated, higher-income workers, but accounts for only a small proportion of the total income of evaders.

- *Hungary:* while relatively few Hungarian employees work without an employment contract, non-compliance with social security is sizeable, accounting for 19% of all employees. Unregistered employment is most common for prime-aged men and workers in the construction, personal service and transport industries. Under-declaration of income affects around 10% of the workforce. Almost half of all workers who engage in undeclared activities do so regularly. The likelihood of having undeclared income increases with education level and is highest for middle-aged workers and those in relatively skilled occupations.
- *Korea:* around one quarter of Korean employment is made up of employees without pension coverage, and a further 20% comprises own account or unpaid family workers. Informality is particularly high in small firms and in retailing, construction and hotels and restaurants. Almost all daily hire employees are without social security coverage, although informality is also widespread among employees with permanent contracts, so labour market duality explains only a relatively small proportion of informal employment. The likelihood of informal employment decreases with education level. One of the key groups affected by informal employment in Korea is older workers. They are more likely to work in informal jobs or as own-account workers than those of prime working age, even after controlling for their lower average levels of education. The earnings penalty associated with informal employment tends to increase with age, meaning that older workers are the group most disadvantaged financially by informal employment.
- *Mexico:* informal employment is pervasive in Mexico, with almost 60% of the non-farm workforce employed without social security coverage or as an own-account or unpaid family worker. Under-declared income is also common. Those with a higher likelihood of informal employment have characteristics typically associated with labour market disadvantage: they are women, low-skilled and either younger or older workers. The majority of informal wage employees earn less than they would in formal salaried jobs, suggesting that informal employment is, for many, a survival strategy, particularly in the absence of unemployment benefits. However, informality may be a choice for the upper tier of own-account workers.
- *Poland:* around one fifth of Polish employees working in small businesses do not have a written employment contract. Many of these are young, unskilled workers in retailing, construction and hotels and restaurants. Under-declaration of income is also relatively widespread and cash-in-hand payments account for a large proportion of the income of those who under-declare. While the incidence of multiple job holding is double the EU average, there is little evidence that multiple job holding stems from economic necessity or insufficient hours in the main job. Instead, it may be due to favourable contribution conditions for the farm-sector social security system compared to the general system.
- *Slovak Republic:* very few employees in the Slovak Republic are fully informal, but the incidence of own-account work has almost doubled in the past five years, albeit from a low base. Own-account work is common in the retail and construction industries. Around 5% of workers admit undeclared income, and they tend to be men with medium levels of education.

- *Turkey*: informal employment is widespread in Turkey. Over 40% of the workforce is either working in informal salaried jobs or as own-account or unpaid family workers. Informal workers tend to have relatively low levels of labour market bargaining power: they are young and older workers, women and those with relatively low levels of education. The earnings penalty for informal work is much higher for women than men. While fully-informal employment is concentrated mainly in small businesses, partial informality, in the form of under-declaration of earnings, is common even in larger businesses.

Despite continuing economic growth, informal employment has not fallen significantly in Mexico and Turkey. In Turkey, the proportion of employees without social security coverage has been increasing since the 1990s, while the level of own-account and unpaid family work has remained stable over time. In Mexico, the proportion of employees without social security coverage was stable during the 1990s, but rose steadily between 2000 and 2005 and since then has fallen marginally. The incidence of own-account and unpaid family work has remained relatively unchanged in the past decade, but tax compliance, at least among employees, appears to be improving. In Korea, the coverage rules for social security schemes have been gradually extended, accompanied by a steady increase in the proportion of employees registered for social security, although coverage is still far from universal. Own-account work remains relatively stable, although unpaid family work has been declining in importance. Most forms of informality appear to be declining in the central European countries. The incidence of informality among employees has fallen in Hungary and Poland, a trend likely to have been mirrored in the Czech Republic and the Slovak Republic. Own-account work, which grew in the early post-transition years in the central European countries, has fallen or stabilised more recently in all except the Slovak Republic. Tax and social security compliance measures based on comparing theoretical liability with actual receipts suggest that compliance is improving over time (see OECD, 2008a, for more details on trends in informal employment).

2. Reducing the cost of formal employment

Policies that increase the cost of operating or employing formally create incentives for firms and workers to operate outside the regulatory system. High wage and non-wage labour costs along with stringent regulations governing the hiring and firing of workers can make firms reluctant to employ formally. Some of the costs to firms could be perceived as benefits for workers employed formally (*e.g.* high minimum wages or enhanced job security resulting from strict employment protection legislation). However, to the extent that such costs limit the creation of formal job opportunities, they may also impose costs on employees, particularly those vulnerable to informal employment. In some cases, workers and firms may collude in order to reduce costs, such as by failing to declare income to tax or social security authorities. The costs of establishing or operating a formal firm can also influence incentives for firms to operate formally. While a full discussion is beyond the scope of this chapter, existing research shows that costly administrative procedures to set up a business, red tape and corruption all create incentives for firms to operate informally (*e.g.* Auriol and Walters, 2005; Djankov *et al.*, 2002). Reducing these costs can increase the level of formality among firms and increase the likelihood that employees are subsequently registered for and paying taxes and social security contributions.

2.1. Minimum wages

Binding minimum wages may encourage informal employment

Existing empirical evidence suggests that higher minimum wages are associated with lower formal-sector employment, at least in countries where the minimum wage is binding in the formal sector (*e.g.* Carneiro, 2004 and Lemos, 2004, for Brazil; Infante *et al.*, 2003, for Chile; Jaramillo, 2005, for Peru; Hamidi and Terrell, 2001, for Costa Rica; Bell, 1997, for Colombia; Jones, 1998, for Ghana). In most cases, the fall in formal-sector employment due to higher minimum wages is accompanied by an increase in informal-sector employment so that, overall, higher minimum wages are associated with a higher share of informal employment. However, in countries where minimum wages are less binding in the formal sector, there appears to be little evidence of an impact on formal employment (Bell, 1997; Hamidi and Terrell, 2001).[7]

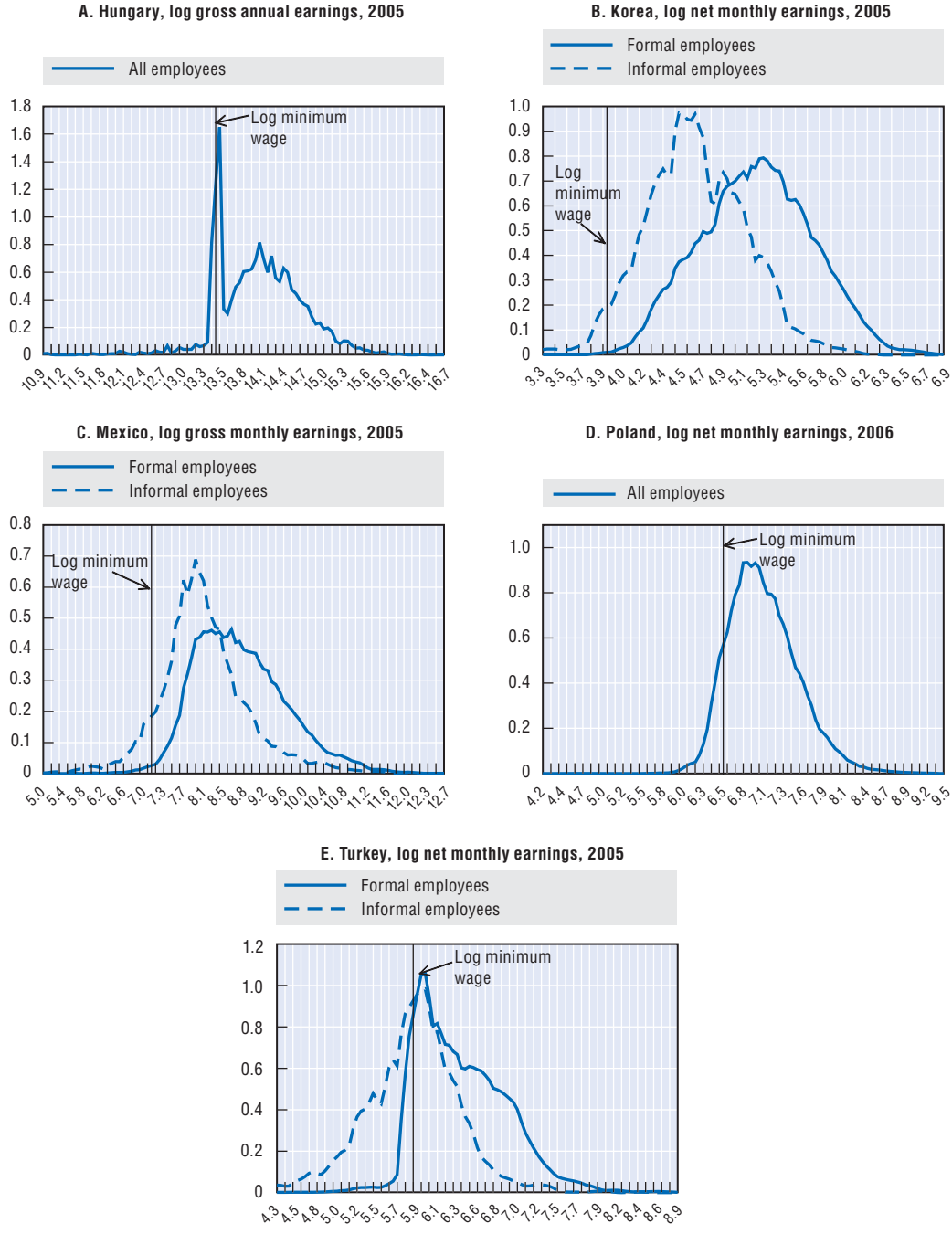
Examining the earnings distribution of formal and informal employees provides an indication of whether the minimum wage is binding for formal employees, a key determinant of whether minimum wages have an impact on informality. Figure 2.1 shows the estimated earnings distribution for formal and informal full-time employees in Korea, Mexico and Turkey and for all employees in Hungary and Poland.[8] The vertical line in each chart represents the minimum wage. In Mexico and Korea, the minimum wage does not appear to be particularly binding on the formal sector, with very few formal employees and only a small proportion of informal employees earning less than the minimum wage. These results confirm existing evidence for Mexico (Bell, 1997). In Poland, a slightly larger proportion of employees appear to earn less than the minimum wage (although some of this may be due to measurement error),[9] but the earnings distribution shows little sign of distortion around the level of the minimum wage.[10] Thus, judging on this evidence, it seems unlikely that the minimum wage is a particularly important cause of informality in Mexico, Poland or Korea.

Employees in Turkey who earn less than the minimum wage typically have low earning capacity

In contrast, the formal earnings distribution in Turkey shows a clear spike around the level of the minimum wage. This suggests that the minimum wage is binding on the formal sector in Turkey and that compliance with the minimum wage is high: only 3% of full-time formal employees earn less than the minimum wage. In contrast, 44% of informal employees earn less than the minimum wage. While there is also a spike in the earnings distribution for informal employees at the level of the minimum wage, overall the minimum wage does not appear to be particularly binding in the informal sector. Regression analysis shows that being informal (not registered for social security) or having characteristics typically associated with low wages increase the probability of earning less than the minimum wage in Turkey (see Annex 2.A1 for details). Low levels of education, fewer years of tenure with the current employer and working in a small firm all increase the probability of earning less than the minimum wage. Casual and temporary workers are more likely to earn less than the minimum wage than those with permanent jobs, although some of this effect may be due to measurement error.[11] These results suggest that low productivity, rather than false reporting of income to avoid tax or social contributions, explains much of the distortion in the earnings distribution around the minimum wage.

Figure 2.1. **Earnings distribution of full-time, non-farm employees**

Kernel density function



StatLink http://dx.doi.org/10.1787/347205683134

Note: The horizontal axis represents log earnings. The vertical axis represents the scaled density (so that the area under each curve is equal to one). Informal employees are employees who are not registered for social security. The sample includes only employees working statutory standard weekly hours or longer (40 in Korea, Hungary and Poland; 45 in Turkey; 48 in Mexico). For Mexico, Turkey and Hungary, employees holding more than one job or who had earnings from a job in another country were excluded from the sample because of difficulties in distinguishing between earnings for different jobs.

Source: Korea, Mexico and Turkey: OECD estimates using data from the Korean Labor and Income Panel Study, 2005, Encuesta Nacional de Ingresos y Gastos de los Hogares, 2005 and Turkish Household Budget Survey, 2005. Hungary: Hungarian Finance Ministry calculations using data from the Hungarian Household Budget Survey, 2005; Poland: Polish Ministry of Labour and Social Policy calculations using data from the Polish Labour Force Survey, 2006.

Lowering the minimum wage (either for all workers or for particular low-productivity groups), or limiting further increases, could improve incentives for formalisation in Turkey. Workers aged 16 years and over must currently be paid the adult minimum wage, so consideration could be given to introducing a discounted minimum wage for young workers or new labour market entrants, as is common practice in a majority of OECD countries (ILO, Minimum Wages Database). Employees aged 15-18 years are 17-23 percentage points more likely to be earning less than the minimum wage than prime-aged employees in Turkey (see Annex 2.A1). Likewise, differentiating the minimum wage on a regional basis could improve the formal employment prospects of low-productivity workers in depressed regions given substantial regional variation in average productivity and living costs. OECD (2006a) estimates that the ratio of minimum wages to regional GDP per capita in 2001 ranged from 20-30% in western regions to 160% in the poorest regions in eastern Turkey. A large proportion of informal workers earn far less than the minimum wage, and quite substantial reductions in the minimum wage would be required to make much impact on informal employment. For example, a 10% reduction in the minimum wage would affect only 4% of informal employees. The impact of a lower minimum wage on informal employment could be amplified by reducing non-wage labour costs (such as income tax and social contributions – see Section 2.2) for low-productivity workers, as well as endeavouring to increase worker productivity levels by investing in education and training.

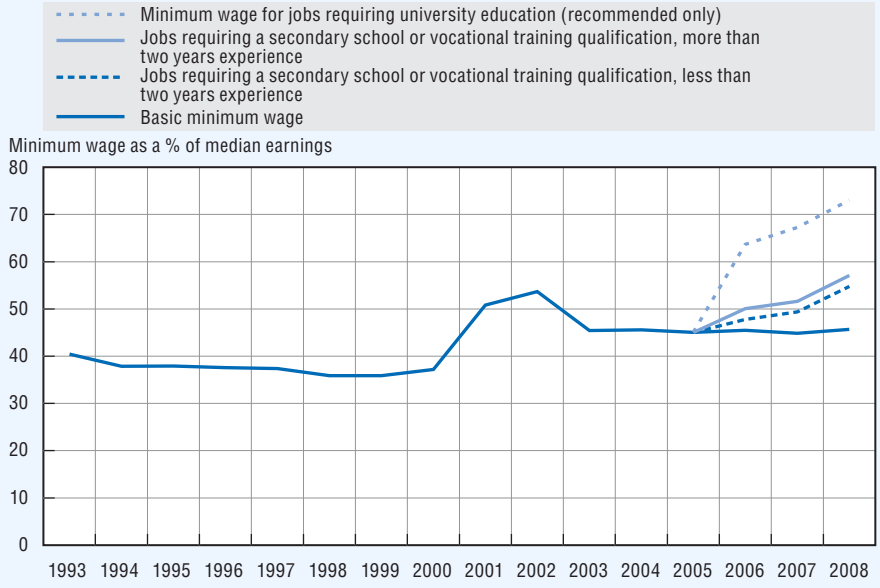
Under-declaration of income cannot fully explain the high incidence of minimum-wage earners in Hungary

For Hungary, the earnings distribution for all employees shows a clear spike at the level of the minimum wage. The same spike in the wage distribution is found using tax authority administrative data (Benedek and Lelkes, 2007) and firm-level survey data,[12] leading to a widespread view that a sizeable proportion of minimum-wage earners falsely report earning the minimum wage in order to minimise tax and social security contributions.[13] This view has led, in part, to the use of minimum-wage increases as a tax-enforcement mechanism and to justify substantial rises in the minimum wage over the past five years (see Box 2.2). While at least some employees who report earning the minimum wage in Hungary are likely to be highly-educated workers in skilled occupations under-reporting their true incomes, available evidence suggests that many of those who report earning the minimum wage have characteristics associated with low pay and thus under-reporting is likely to account for a relatively small proportion of minimum-wage earners. Benedek *et al.* (2006) estimate that only 4% of minimum-wage earners have under-declared income, and that minimum-wage earners are not significantly more likely to have under-declared income than those who earn more than the minimum wage. Minimum-wage earners are more likely to be women than men and have relatively low levels of education. The likelihood of having under-declared income is higher for highly-skilled and prime-aged workers and the self-employed.[14] Using firm-level data from 2003 (after two substantial hikes in the minimum wage), Köllő (2007) finds that the majority of minimum-wage earners have no secondary education, half work in firms with less than ten employees and about 50% are employed in low-wage manual or retail occupations. While a relatively large proportion of managers and freelance professionals (such as architects, artists, lawyers and tax accountants) report earning the minimum wage, these account for less than 10% of all minimum-wage earners.

Box 2.2. **The minimum wage as a tax-enforcement mechanism in Hungary**

Since 2001, the Hungarian Government has made a number of changes to the minimum wage, partly in response to concern about the number of minimum-wage earners with under-reported income. In 2001 and 2002, there were large increases in the level of the minimum wage. In 2006, a tiered system of minimum wages was introduced, whereby jobs requiring secondary or vocational qualifications are subject to a higher minimum wage. Proponents of the changes argue that, if many workers are falsely reporting income at the level of the minimum wage, a higher minimum wage will reduce the extent of under-declared income and increase tax and social security revenue.

Minimum wage as a percentage of median earnings in Hungary



StatLink http://dx.doi.org/10.1787/347420408422

Source: OECD (2007b).

Tonin (2007) compares the earnings and food consumption of workers who earned between the old and new minimum wages in 2001 with a control group made up of those who earned more than the new minimum wage in 2001. He finds that, for workers who were employed in both years, those affected by the minimum-wage increase reduced their food consumption significantly compared with the control group. Lower food consumption indicates lower actual earnings as a result of increased declared income (and therefore higher tax payments). On the face of it, this suggests that increasing minimum wages reduced under-declaration among minimum-wage earners.

However, Tonin's (2007) analysis fails to take account of the employment impacts of the minimum-wage increase. Only workers who were employed both before and after the wage increase are included in the analysis. It could be argued that the fact that these workers remained employed indicates that their actual productivity is higher than the old minimum wage. While there was little evidence of an aggregate employment impact of the 2001 minimum-wage increase in Hungary (see Benedek *et al.*, 2006 for a summary of the literature), Kertesi and Köllő (2003) show that there was a negative employment effect among small businesses. Low-wage workers were more likely to lose their jobs after the wage increase and unemployment benefit recipients who had previously held low-paid jobs were less likely to exit from unemployment. The impact was worst in depressed regions. The negative employment impact of previous minimum-wage rises, along with evidence presented in the text that shows that a significant number of minimum wage workers appear to be working in low-productivity occupations, should caution against using minimum wages as a means to reduce under-declared income.

The existence of a sizable group of low-productivity workers clustered at the level of the minimum wage suggests that the minimum wage may provide an incentive for informal employment in Hungary. Increases in the minimum wage could force some low-wage workers to become fully undeclared, or, if they lose their job as a result, to take up self-employment, with more opportunities for tax and social security evasion. This casts doubt on the effectiveness of using minimum-wage increases as a means to reduce under-reported income and boost tax revenue (see Box 2.2). Lowering minimum wages (or restricting future increases) could reduce incentives for informal employment. In contrast with other central European countries, Hungary does not have a discounted minimum wage for workers aged under 18 years or those with limited labour market experience. As the chances of being employed informally are substantially higher for young workers, introducing a youth minimum wage could reduce informal employment for this group.

For the two countries where earnings distribution data are not available, the minimum wage is unlikely to be binding as very few employees appear to earn the minimum wage. Eurostat Labour Force Survey data show that only around 2% of full-time employees earned the minimum wage in 2007 in the Czech Republic and the Slovak Republic, similar to the level in Poland and compared with 8% in Hungary.

2.2. Taxes

Taxes affect informal employment in a number of ways. First, high taxes on labour may increase formal labour costs and incentives to hire or work (fully or partly) undeclared. Second, the tax structure, and in particular the taxation of self-employed income or business profits compared with labour, may provide incentives to under-declare wages or work as false self-employed. Third, a complex tax system increases compliance costs and incentives to evade taxes.

Other things equal, higher taxes on labour tend to increase incentives for undeclared work

Other things being equal, taxes on labour add to labour costs if they cannot be transferred back to workers in the form of lower wages. This depends on a number of factors, namely: *i)* the presence of a net wage floor (*i.e.* a binding minimum wage); *ii)* the extent to which workers value social protection or public services provided by taxes (see Section 3); *iii)* the relative bargaining power of employers and employees; and *iv)* the relative generosity of possible replacement revenues.[15] In the traditional economic framework with no undeclared work, if higher taxes translate into higher labour costs, employment will fall. Introducing the possibility of working undeclared changes this picture. Higher taxes reduce the gains from formal work compared with informal work, leading to lower formal employment and higher informal employment.

Macro and micro empirical studies usually conclude that there is only a partial pass-through of taxes onto lower wages and an increase in the tax wedge (*i.e.* the difference between total labour costs and take-home pay as a proportion of labour costs), tends to increase labour costs (OECD, 2007a). But the empirical literature on the effects of labour taxes on informal employment is much less developed. Most existing studies consider the effect of taxes (not specifically labour taxes) on overall measures of informality. Using cross-country data for the 1990s, Friedman *et al.* (2000) find that higher taxes are associated with a smaller underground sector, but the relationship ceases to be significant once per capita income levels (and thus the possibility that richer countries have better-run administrations and higher tax rates) are taken into account. In fact, most of the literature

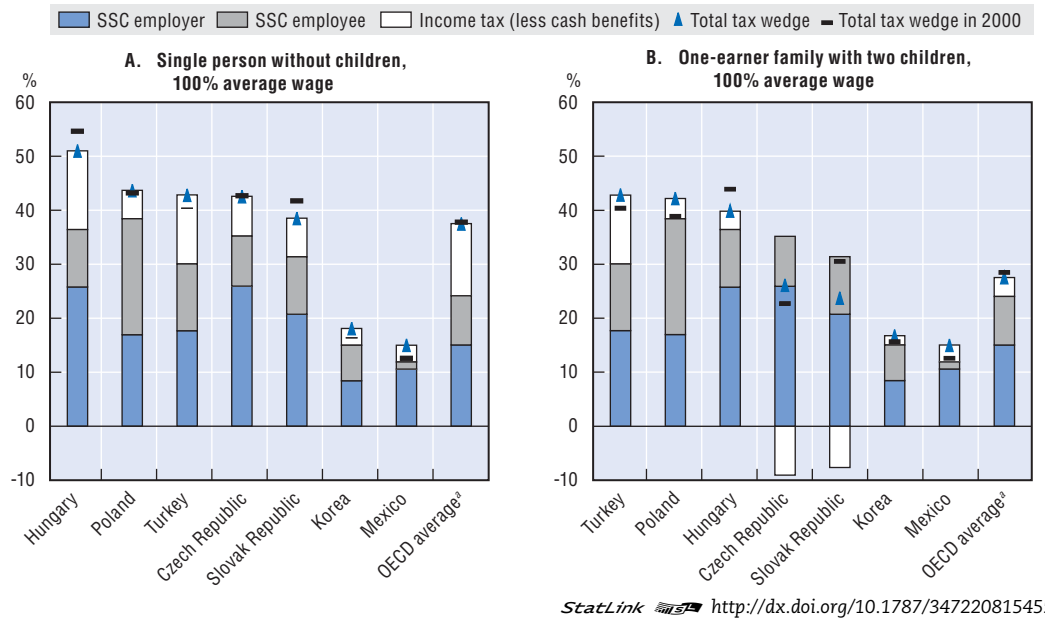
in this field concurs that while tax rates are important in explaining incentives for informality, the extent to which tax rates are enforced and the quality of governance also play a crucial role.[16] Focusing on 19 rich countries in the 1990s, Davis and Henrekson (2004) nevertheless find that higher taxes are associated with a bigger shadow economy. A few micro-studies establish a more precise link between high taxes on labour and formal employment. Based on survey data for Quebec City, Lemieux *et al.* (1994) find that taxes distort labour market activities away from the regular sector to the underground sector. The effect is particularly large for low-income people who are more reliant on the transfer system. Looking at firm-level panel data for Colombia, Kugler and Kugler (2003) find that about 50% of important increases in payroll taxes were transmitted into lower net wages, and that this resulted in less formal employment.

The tax wedge is above the OECD average in all countries except Korea and Mexico

The average effective tax wedge provides a measure of the additional cost associated with declaring, rather than not declaring, an employee. Figure 2.2 shows that the situation is very different in the seven countries studied. Mexico and Korea have low tax wedges – by far the two lowest in the OECD – at 15% and 18% of total labour costs for a single worker at the average wage, respectively.[17] The five other countries all have tax wedges above the OECD average, up to 55% for single workers without children in Hungary. The tax wedge is significantly lower for families in the Czech Republic, Hungary and the Slovak Republic, due to income tax, which leaves Turkey with the highest wedge at 42% for a one-earner couple with two children. In each country, social contributions are the main taxes on labour, accounting for about 70% of the tax wedge in Hungary and Turkey, and 80% or more in the other five countries, against 65% on average in the OECD.

Figure 2.2. **Tax wedge level and composition, 2006**

Percentage of labour costs (wages plus employer social security contributions)



StatLink http://dx.doi.org/10.1787/347220815455

Note: SSC = Social security contributions.
Countries are ranked by descending order of the total tax wedge in 2006.
a) Unweighted average.
Source: OECD (2006b).

In general, changes in the tax wedge for a worker at the average wage have been relatively small since 2000.[18] The main exceptions are the Slovak Republic and Hungary. The Slovak Republic made a radical shift towards a flat tax for personal and corporate income, effective in 2004. Combined with an increase in the basic tax allowance and child tax allowance, this leads to a significant reduction in the tax wedge for families (Figure 2.2). Hungary reduced employer social contributions and increased tax credits for low-income earners and introduced a 50% reduction in social contributions for employers hiring people from disadvantaged groups (long-term unemployed, parents returning from childcare, older workers or the low-qualified) in 2003. The Czech Republic made smaller changes to personal income taxes before 2007, in particular for low-income people and families, but reforms effective from January 2008 introduced a flat personal income tax and a ceiling on social contributions. The biggest impact is on high wage earners, particularly those above the contribution ceiling.[19]

High taxes on low-paid workers increase incentives for fully-undeclared work

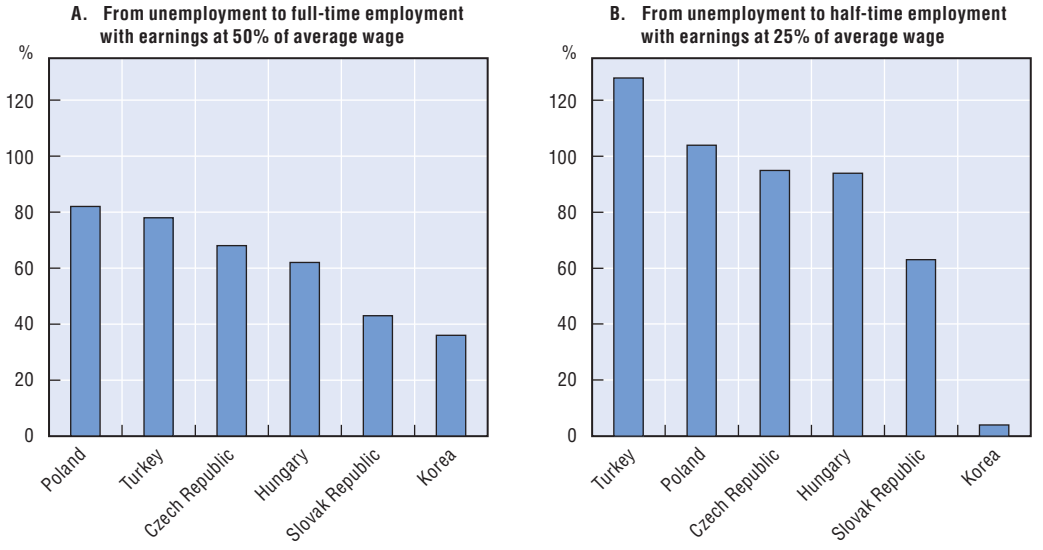
The role of the tax wedge as an incentive to hire or work fully undeclared is probably most important at relatively low wage levels, especially when benefits are also taken into account. In countries with relatively well-developed social safety nets, such as the central European countries, replacement incomes represent a relatively larger share of labour income for low-wage earners. But the tax wedge is also important for low-income earners in less developed countries with no or small safety nets, as the short-run need for subsistence overcomes the need to make longer-run investments in health and pensions and weakens the bargaining position of employees *vis-à-vis* employers. It was noted in Section 1 that many informal employees have low levels of education. Figure 2.3 shows the average effective tax wedge including benefits (such as unemployment, housing, social assistance) at income levels equal to 50% of the average wage. Despite the cut in labour taxes for low-income earners implemented in the Czech Republic and Hungary, taking up full-time, low-wage work for a person eligible for unemployment benefits implies an effective tax rate above 60% in the Czech Republic, Hungary, Poland and Turkey, with Poland having the highest rates. Sharp cuts in non-work social benefits implemented as part of the 2004 tax reform have significantly reduced the effective tax rate at low wages in the Slovak Republic.

Unemployed individuals facing high average effective tax rates may be more inclined to take up informal employment. With the exception of Korea, tax-benefit disincentives to taking up formal work are higher for those taking up part-time work than for those re-entering employment full-time (Figure 2.3).[20] In the Czech Republic and Hungary, this is due to complete withdrawal of unemployment benefits once earnings exceed a relatively low threshold. In Poland and Turkey, where access conditions for unemployment benefits are very strict (see Section 3.1 on benefits), no employment income is allowed. In Korea, on the other hand, the system allows a smooth reduction of unemployment benefit as employment income grows.

The relationship between labour tax progressivity and under-declaration of earnings is complex

While average effective tax rates on labour influence the volume of fully-undeclared salaried work, the progressivity of the tax system and the relative taxation of labour and capital affect incentives for under-reporting wage earnings. However, the relationship

Figure 2.3. **Average effective tax rates for short-term unemployed persons re-entering low-wage employment, 2005**



StatLink http://dx.doi.org/10.1787/347224056806

Note: No data available for Mexico.
Source: OECD Tax-Benefit models.

between tax progressivity and under-declaration is not straightforward, and the theoretical literature on tax evasion is inconclusive. As noted by Spiro (2000), higher tax rates create incentives for evasion since the monetary gains are higher. However, the overall effect will also depend on the probability of being caught and the relative risk aversion of taxpayers. For example, if higher-income earners are more concerned about the risk of being caught and also face the highest tax rates, higher tax rates may not necessarily lead to higher rates of evasion. In addition, tax rates can influence income reporting and labour supply simultaneously. Pencavel (1979) finds that the effect of a change in the marginal tax rates on evasion is ambiguous when income is made endogenous through the labour-leisure trade-off. On the other hand, building on another branch of the tax-evasion literature which allows for different income sources, some of which lend themselves more readily to tax evasion than others,[21] Trandel and Snow (1999) find that increasing tax progressivity causes the underground economy to grow. Elaborating on a efficiency-wage model, Goerke (2004) finds that increasing tax progressivity when there are opportunities to evade taxes will increase tax evasion but also employment. In empirical terms, Crane and Nourzad (1987), the first who explicitly introduced both average and marginal tax rates in a regression of tax evasion in the United States over 1947-1981, find that the average tax rate is negatively related to evasion while the marginal tax rate is positively related to evasion. Testing the elasticity of reported income to tax changes in the United States over the 1980s, Gruber and Saez (2002) find that it is significantly higher for high-income earners.

While lower tax rates on capital compared with labour can stimulate growth (Johansson, *et al.*, 2008), when enforcement is weak, significant misalignment of labour and capital taxation can encourage under-declaration of wages. OECD (2004a) and Grubb *et al.* (2007) argue that the declaration of wages is most effectively implemented through a "top-down" approach, combining efforts to detect business income by tax authorities and a tax structure with progressive taxation of labour income and relatively high taxation of profits.

If tax authorities can trace business income well, the fact that a higher tax rate applies to business owners' own revenues than to employees' wages provides an incentive to properly declare wages, as doing so will reduce the overall tax burden on the income generated by the business. Declared employees' wages are a deduction from taxable profits in incorporated businesses, the latter being subject to corporate income tax as well as personal income tax on any distributed dividends when paid out to owners. In the case of unincorporated businesses, declared employees' wages reduce the owner's income, which is typically higher than that of employees, and subject to higher taxation in progressive income tax systems. It remains unclear, though, what level of detection of business income by tax authorities could be considered sufficiently satisfactory for this proposition to hold. In some of the countries studied in this chapter, particularly Mexico and Turkey, tax authorities face substantial difficulties in detecting business income, especially for small and medium enterprises (SMEs).

In any case, as pointed out by Slemrod and Yitzhaki (2000), the optimal level of tax progressivity should be assessed simultaneously with enforcement capacity. If the capacity to detect business income is relatively low, for a given level of capital taxation, it is likely that high and progressive labour taxes will provide incentives for the under-declaration of wages by both employer and employee. If income detection and enforcement capacity are greater, some progressivity, together with a relatively high taxation of capital compared with labour income, is likely to improve the incentives to declare wages.

The progressivity of labour taxes is determined by income tax features – tax brackets, associated tax rates and tax allowances/credits – and by possible ceilings on social contributions. A useful way to illustrate the resulting progressivity is to examine marginal effective tax rates at different earnings levels. Figure 2.4 shows the tax and social contributions due on additional earnings (as a percentage of total labour costs) as workers' wages (as a percentage of the average wage) increase.

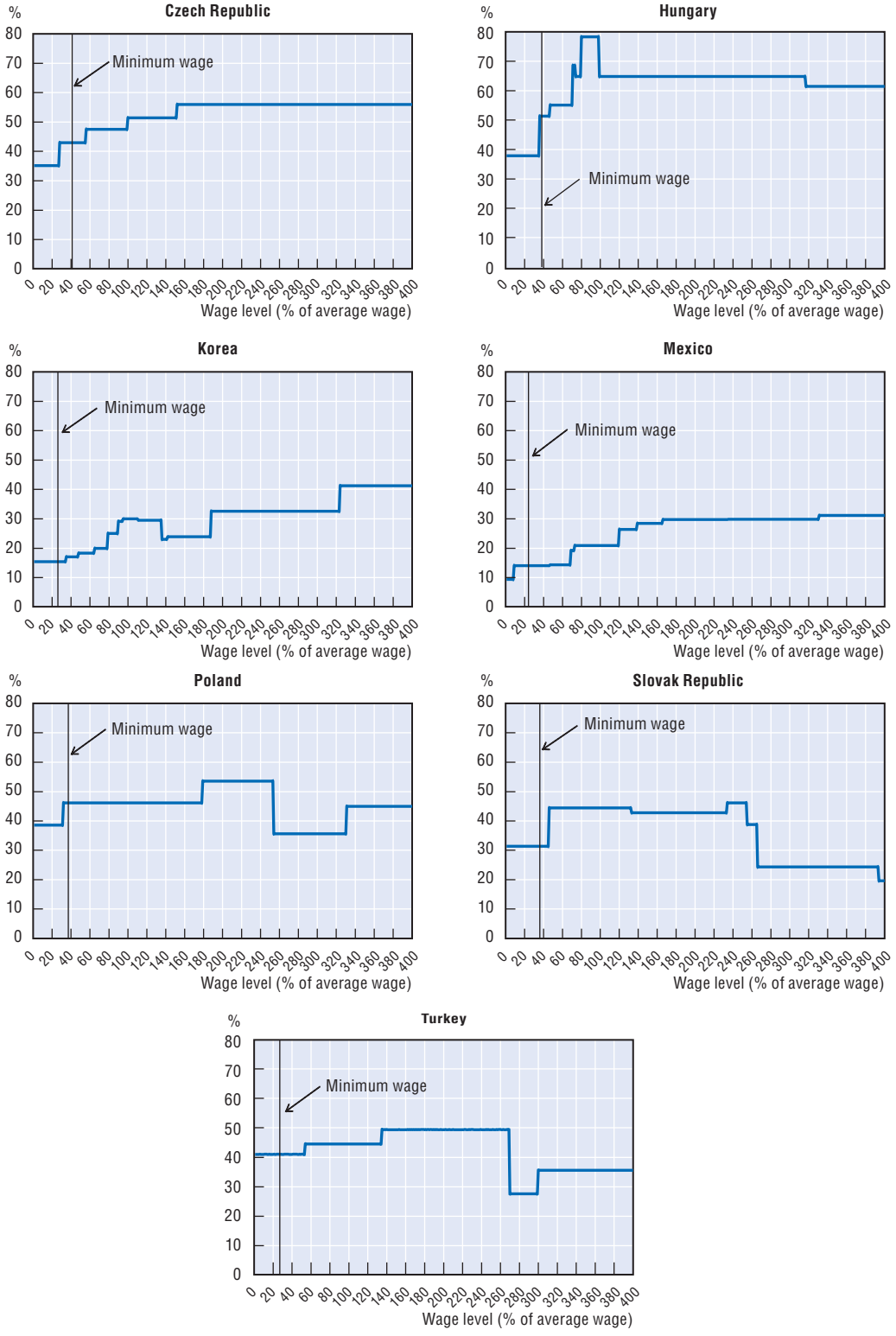
Significantly higher tax rates on labour than on capital favour informal employment

To assess the relative taxation of wages *versus* profits, tax wedges on labour use should ideally be compared with effective tax rates on distributed profits. Such measures are not available, however, and the assessment must be made based on statutory tax rates applying to distributed profits (*i.e.* the sum of the corporate income tax rate and the dividend income tax rate), shown in Figure 2.5, which are maximum rates.[22] Based on these indicators, Korea appears to be an outlier among the countries examined in this chapter. Labour taxation is relatively low but progressive,[23] and clearly lower than capital taxation, so that the tax structure does not seem to provide incentives to under-declare wages. Mexico also has a relatively low and progressive labour income taxation – despite a reduction in the number of tax brackets and the top tax rate between 2004 and 2007 – but the absence of personal taxation of dividend income implies that labour and capital taxation are similar (both close to 30%).

In the five other countries, labour income taxation is high compared with capital income taxation. In Hungary, taxes on distributed profits are lower than those on labour; and the relatively strong progressivity of the tax wedge between the minimum wage (at 39% of the average wage) and the average wage provides incentives for under-declaration of wage earnings. This seems to be especially so at high income levels: Bakos *et al.* (forthcoming) find that the elasticity of taxable income to the tax rate is 0.3 for the upper quintile of taxpayers, while it is five times lower for those earning above the minimum wage.

Figure 2.4. **Marginal tax wedge for a single worker with no children (% of labour cost), 2007**

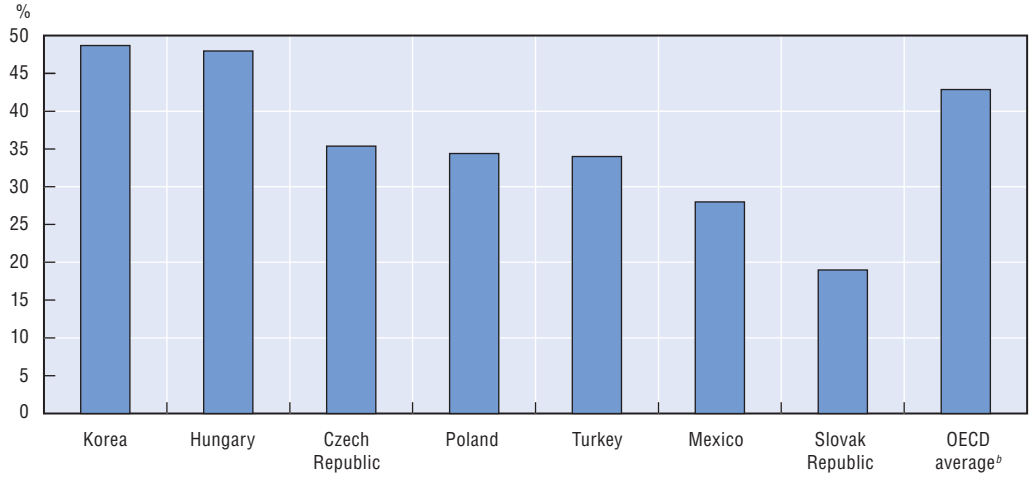
Percentage of labour costs (wages plus employer social security contributions)



StatLink http://dx.doi.org/10.1787/347235716567

Source: OECD (2008b).

Figure 2.5. **Tax rates on distributed profits,[a] 2007**



StatLink http://dx.doi.org/10.1787/347278255426

a) Statutory corporate income tax rate and dividend income tax rate.
b) Unweighted average.

Source: OECD database on Tax.

In the Slovak Republic, the flat tax reform has reduced taxes on labour but also taxes on capital, so that the tax rate on distributed profits (below 20%) remains much lower than taxes on labour. The significant upward step just after the minimum wage might also provide incentives for under-declaration. The situation is likely to be similar in the Czech Republic after the flat tax reform, as social contributions are also left untouched. Finally, in Turkey, effective tax rates on wage income are high, only slightly progressive (even regressive at high wage levels) and higher than tax rates on distributed dividends, except at high income levels.

Preferential tax treatment for the self-employed may spur tax evasion and false self-employment

Self-employed workers and small businesses often receive preferential tax treatment compared with dependent employees (Table 2.2).[24] This can be provided in four forms:

- The self-employed can benefit from reduced personal income tax rates, as in Poland.
- Small unincorporated businesses are sometimes given access to simplified taxes and/or to presumptive taxes. Simplified taxes differ from the standard regime only in relatively minor matters (such as the use of cash rather than accrual accounting, of lump-sum expenses, or the frequency of payments), and are in use in Mexico, Poland and the Slovak Republic. Presumptive taxes use a different tax base, most often turnover which it is easy to monitor, and can substitute more than one type of taxes (income, VAT, etc.). The Czech Republic, Hungary, Mexico and Poland have presumptive tax regimes in place. Access is given to firms on the basis of turnover thresholds. Countries using both types of preferential regimes provide a presumptive tax to smaller businesses and a simplified tax to somewhat larger ones.
- Corporate income can be taxed at lower rates up to a certain threshold, as in Hungary and Korea.
- The self-employed sometimes face more favourable conditions for social contributions, as in the Czech Republic, Hungary, Korea and Poland.

Table 2.2. **Taxation of SMEs' business income, 2007**

	Specific/presumptive tax regimes for unincorporated businesses			Simplified tax regimes/accounting rules/ payment process for unincorporated businesses	Corporate income tax rates
	Existence and access criteria	Taxes/revenues covered	Tax base/rate		
Czech Republic	Own-account workers with annual turnover below CZK 1 million over the last 3 years qualify for a lump-sum tax.	–	The base is equal to gross income less a percentage of gross income in place of actual expenses. The percentage varies according to income source: 80% for agriculture, forestry and fishing; 60% for a technical enterprise; 50% for a non-technical enterprise, 40% for copyright and 30% for rental.	–	24%
Hungary	Businesses with annual sales of a maximum of HUF 25 million (EUR 100 000) including VAT qualify for presumptive tax (EVA).	VAT, PIT, company's car tax, tax on dividends	25% on turnover	–	10% on the first HUF 5 million (conditional on not receiving tax allowance and paying contributions on at least 1.5 times the minimum wage per employee), and 16% for amounts above that plus a solidarity surtax of 4%.
Korea	–	–	–	Taxpayers with earnings below KRW 48 million are allowed not to maintain bookkeeping as long as they keep a reliable record of business transactions.	13% on the first KRW 100 million and 25% above that.
Mexico	Taxpayers with business income or sales (plus interest from previous year) not exceeding MXN 2 million and selling goods and services to the public qualify for REPECOS (Regimen de Pequeños Contribuyentes).	VAT and PIT	2% of gross income (turnover, cash flow basis), with a tax credit of four minimum wages.	Business with income not exceeding MXN 4 million qualify for the "intermediate regime" in which they pay the same rate as incorporated businesses, but on a base estimated on a cash flow basis instead of an accrual basis, and where they can deduct personal expenses (*e.g.* medical expenses, health premiums).	28%
Poland	Taxpayers whose turnover does not exceed EUR 250 000[a] in previous year can choose between PIT taxation under general terms, taxation at a flat 19% rate and a presumptive taxation, called the "lump-sum" taxation. Some specific businesses (*e.g.* small shops, restaurants and transportation business; child care services, small scale education services, liberal professions) can choose the "tax card", where the tax rate varies according to the form and scope of the activity, the number of employees and the size of the city/place where the activity is performed (no accounting requirements).	PIT	The tax base of the presumptive regime is turnover. Tax rates vary according to activity (20% for liberal professions, 17% for car rents, hotels, agency in wholesale trade, 8.5% on service activities, 5% on construction and production activities, 3% on services such as trade and catering).	Small taxpayers and unincorporated businesses choosing the "lump-sum" tax have lower accounting requirements (tax book of revenues and expenses). Since 2007, taxpayers with turnover not exceeding EUR 800 000 are classified as "small taxpayers" and are entitled to quarterly (instead of monthly) tax advanced payments and more generous tax depreciation.	19%
Slovak Republic	–	–	–	Unincorporated businesses calculate the tax base with a single-entry bookkeeping system, and can use lump-sum records of income or tax expenses.	19%
Turkey	–	–	–	Businesses with rental, or annual sales and purchases, or turnover (etc.) below a certain amount can determine, with the help of tax offices, their taxable income on a cash-flow basis.	20%

a) Since January 2008, the threshold for the lump-sum tax has been reduced to EUR 150 000.

Source: OECD Secretariat based on OECD survey on the taxation of small and medium-sized enterprises, Galuščák and Pavel (2007) and 2007 Korean Taxation.

There are two possible justifications for providing preferential tax treatment to the self-employed. First, the costs of compliance are greater for smaller firms, due to significant fixed costs involved in paying taxes.[25] Second, from the tax authorities' point of view, collecting tax from small firms is relatively costly: the revenue potential of small businesses is low, while the time spent collecting taxes is largely independent from the amount due (monitoring small business income might even be more difficult).

However, the case for preferential taxation of small businesses is far from clear (ITD, 2007). There is considerable empirical evidence that the self-employed or small businesses are more prone to tax evasion than wage earners (see OECD, 2008a).[26] Unlike for employees, for whom employers withhold taxes on their wages, no third party exists to withhold taxes on behalf of entrepreneurs. The self-employed can more easily hide part of their incomes and inflate their expenditures to reduce taxation or fully evade taxes. In terms of incentives for formalisation, providing preferential tax treatment to the self-employed might thus be a "double-edged sword" (Schuetze and Bruce, 2004). On the one hand, by reducing costs, it may improve small businesses' compliance. But it increases the marginal benefit of self-employment for those whose intent is tax avoidance or evasion (Schuetze and Bruce, 2004). The overall effects of preferential treatment on tax evasion are thus ambiguous. But the literature concurs that authorities should in any case be cautious not to provide too preferential a tax treatment to avoid *i)* significantly distorting the incentives towards self-employment activities, *ii)* encouraging tax evasion and false self-employment; and *iii)* discouraging small business growth. ITD (2007) argues that the aim of preferential tax regimes for small businesses should be to improve the inclusion of small businesses in the tax net.

The situation differs in this respect among the countries studied. While compliance and monitoring costs are always higher for small businesses than for larger ones, costs might be particularly large for illiterate or low-educated self-employed in countries such as Mexico and Turkey, who cannot be expected to fully record their activities. In low-income countries, ITD (2007) argues that a single simplified regime, in the form of either turnover or cash-flow income tax, is likely to be the best approach. Determining whether the treatment is too preferential is not always easy. But effective tax rates need to be high enough not to discourage transition to the standard regime. The fact that firms stay on the regime year after year may provide a signal that the regime is too preferential (ITD, 2007; Bird and Wallace, 2003). This seems to be the case in Hungary where most businesses planned to remain lump-sum taxpayers even after the increase in the tax rate from 15% to 25% in 2007 (Semjen *et al.*, 2008). Indeed, the presumptive tax (EVA) seems to be used extensively by engineers, lawyers and bookkeepers, who operate with low cost/income ratios, implying that EVA reduces their tax burden. Some entrepreneurs, though, use EVA even if it entails a higher tax burden, because it reduces their administration costs (Semjen *et al.*, 2008).[27] In Mexico, the 2% tax rate on turnover is also low compared with the 28% rate on net income that the self-employed face if they switch to the intermediate regime. Simplified tax regimes are preferable to presumptive ones in this regard because they ensure a smoother transition to the standard regime. Finally, reduced corporate income tax rates on business income below a certain level for all businesses, as in Hungary and Korea, provide few barriers to growth.

Another problem with presumptive tax regimes is that they provide few incentives for small business owners to declare eventual employees, since (wage) expenses are not deductible, as noted for Mexico in OECD (2007c). Specific features of presumptive tax

regimes might also appear undesirable. Experience suggests that having a large number of different rates or bases according to industry sector, as is the case with the lump-sum tax in the Czech Republic and Poland, is likely to create difficulties for multi-activity businesses and is more vulnerable to gaming and abuse (ITD, 2007). Varied enrolment criteria which are assessed by the administration, as for the simplified tax in Turkey, can leave scope for arbitrary decisions and collusion between taxpayers and officials.

Preferential treatment for social contributions raises the same type of trade-off as for other taxes. In economies with low social security coverage, subsidising the contributions of the self-employed, who are generally much more difficult to reach than wage earners, might be a way to extend social protection coverage. This was the case in Korea in 1989, when health insurance coverage was extended to the self-employed. Table 2.3 shows that today, health contributions for the self-employed in Korea are still based on a system of contribution classes, determined on the basis of an individual's property, car ownership and income. However, with increased coverage and improvements in assessing self-employed income, aligning their contributions with those of wage earners would appear both efficient and equitable. In Mexico, where the self-employed are not required to contribute to social security, the question arises as to whether contributions should be compulsory for the self-employed above a certain income level. Self-employment is quite heterogeneous, and it is difficult to justify excusing professionals, who have registered businesses, from contributing to the social protection system.

In richer countries with higher social security registration, the rationale for providing preferential treatment for social contributions to the self-employed is much weaker. Given the difficulty in properly assessing business income, the Czech Republic, Hungary and

Table 2.3. **Coverage by social protection schemes and contribution conditions for the self-employed**

	Social protection coverage			Do conditions differ from those for employees?	
	Pension	Health	Unemployment	Rates	Base
Czech Republic	M	M	V	=	Minimum of 1/2 average wage; maximum equivalent to 1.9 average wage.
Korea	M	M	V	≠ ; pension based on classification of contributors according to 45 levels of monthly income; health contribution rates calculated on basis of personal factors (property ownership, income, age and gender) with no reference to the standard contribution rate of 4.48%; lower rates than employees for unemployment.	
Hungary	M	M	M	= except slightly lower for unemployment; minimum contribution of 15% of the minimum wage.	Minimum wage.
Mexico	V	V	NA	= except slightly lower for health.	
Poland	M	M	NA	=	Minimum of 60% of the average wage.
Slovak Republic	M	M	V	=	
Turkey	M	M	NA	≠; 20% for health and 20% for pensions.	Contributions paid on a notional income chosen in a 24 step scale.

M: mandatory; NA: no access; V: voluntary. = means that rates are identical for the self-employed and employees.
Source: OECD Secretariat.

Poland have introduced minimum contributions or a minimum contribution base (Table 2.3). Scharle (2002) found that the number of self-employed fell significantly as the minimum social contribution was raised in Hungary between 1996 and 1999. OECD (2008a) also shows that the number of own-account workers in the Czech Republic ceased to grow when, together with other measures including the introduction of a minimum income tax, the minimum contribution base for the self-employed was raised from the subsistence minimum to half the average wage (which amounted to doubling their contributions) in 2004. However a maximum contribution base remains in place for the self-employed (equivalent to about twice the average wage in 2007, to be doubled in 2008). In Poland, despite numerous attempts to reform the social protection insurance scheme for farmers (KRUS), contribution conditions have not been changed (KRUS affiliates pay flat-rate contributions unrelated to their actual income) and the scheme remains strongly subsidised. Chlon (2000) found that the average contribution of KRUS affiliates was five times lower than the contribution of non-farm self-employed to ZUS, the alternative social security institution. There is indirect evidence that this preferential treatment induces people to hold onto small plots of land even when they are not really active in farming (World Bank, 2001) and may be inducing higher-than-average rates of multiple job holding in Poland (see OECD, 2008a). This is still likely to be the case despite some tightening of access to KRUS. Favourable contribution conditions for KRUS were also identified by the World Bank as impeding the movement of workers into formal non-farm employment while increasing informal employment in rural areas.

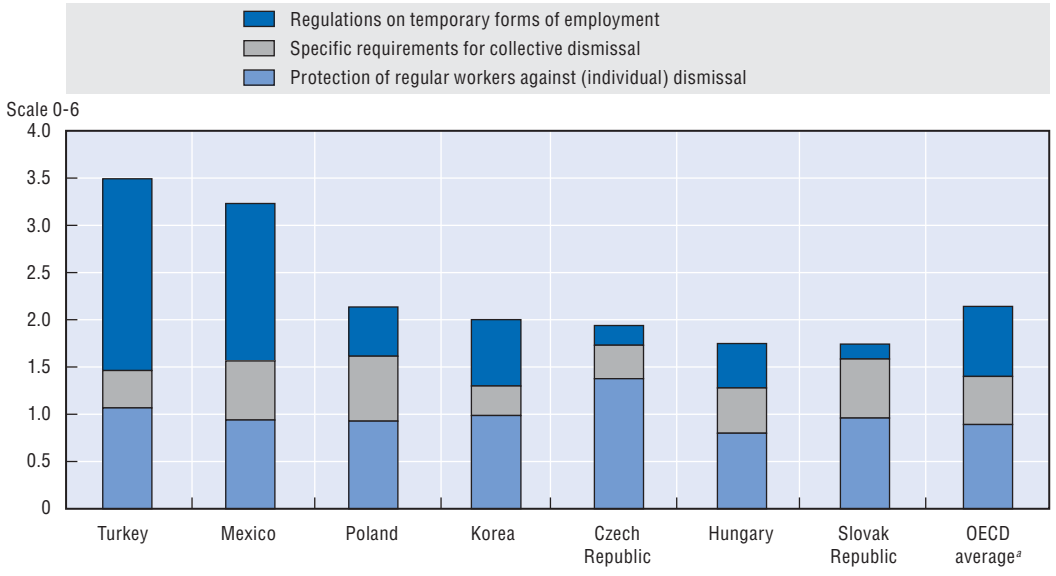
2.3. Employment protection legislation (EPL)

Strict EPL increases incentives for informal employment in countries with limited enforcement capacity

If EPL hinders firms' ability to adjust their workforce in response to business-cycle fluctuations, firms may hire workers informally to avoid severance costs and increase flexibility. In this case, stricter EPL would be associated with higher rates of informal employment. While the indicators of informality and EPL used in empirical studies vary considerably, the general consensus is that stricter EPL is associated with higher rates of informality (Almeida and Carneiro, 2006; Botero *et al.*, 2003; Krebs and Maloney, 1999; Loayza *et al.*, 2006; Marshall, 2007). This relationship is moderated by strong enforcement of labour regulation and good governance. For example, in countries with high-quality governance, Loayza *et al.* (2006) do not find a significant relationship between EPL and informal employment, while Almeida and Carneiro (2006) find that Brazilian firms in regions with stronger labour law enforcement employ fewer informal workers, even though EPL is the same across all regions. However, in these regions stronger law enforcement leads to higher unemployment, rather than higher formal employment.

Using the OECD's index for the strictness of EPL for 2003 (the most recent year available), Figure 2.6 shows that Mexico and Turkey stand out as having among the strictest overall EPL in the OECD, while the Czech Republic has very stringent regulation for regular workers.[28] Six of the seven countries examined – the sole exception is Mexico – have made some changes to EPL since 2003. Changes are likely to have resulted in an increase in EPL strictness for regular employment in the Czech Republic, a reduction in the stringency of regulation on regular employment in Turkey and Korea, an increase in the stringency of regulation on temporary employment in Hungary and Poland and an easing of the stringency of regulation on temporary employment in the Slovak Republic and Turkey. The

Figure 2.6. **Employment protection legislation index in selected countries, 2003**



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a) Unweighted average.

Source: OECD (2004a).

changes, however, were relatively minor and are likely to have had only a small overall impact on the index (see Annex 2.A2).

Lifting restrictions on temporary employment in Mexico and Turkey would increase flexibility in the formal sector, reducing the need to resort to informal employment

Regulation of temporary forms of employment is particularly strict in both Mexico and Turkey, where fixed-term and temporary workers can generally only be hired in exceptional circumstances. This could increase informality because businesses may recruit informally if they require additional flexibility to deal with fluctuations in consumer demand or seasonal production schedules. If informal employment is used to increase flexibility, it could be expected that informal workers have less job security than formal workers, particularly during economic downturns. The limited empirical evidence on informal-sector dynamics suggests that this is the case in Mexico. The probability of separation into unemployment or out of the labour force is much higher and more cyclical for informal employees than formal employees in Mexico, so much so that most of the increase in the unemployment rate during a recession comes from informal employees (Bosch and Maloney, 2007). The level of informal salaried employment in Turkey between 1988 and 2007 was almost twice as variable as the level of formal salaried employment.[29]

The design and operation of EPL can also affect firms' decisions to grow larger. Turkish businesses with less than 30 workers are exempt from the application of EPL. While an exemption based on business size recognises the additional compliance burden for small businesses, it can also create an incentive for firms to stay small, or at least fail to register all their employees, in order to qualify for the exemption. Even in the absence of such exemptions, small businesses may be less hindered by strict EPL than larger businesses in countries with limited enforcement capacity because they are less likely to attract the

attention of enforcement agencies. Pierre and Scarpetta (2006) find that medium and large employers are more likely than smaller firms to report that EPL is an obstacle to business operations in countries where EPL is strict.

Specific features of EPL make it difficult for youth and older workers to find formal jobs in some countries

The Czech Republic, Mexico and the Slovak Republic are among only seven OECD countries that have severance pay for workers with less than one year of service (two months' pay in Slovak Republic and three months' pay in Czech Republic and Mexico). There is also no legislative provision in Mexico or Korea for probationary periods for new hires. Such policies can be a disincentive for firms to formally hire young or low-skilled workers, increasing their chances of being offered or accepting informal jobs. In Korea, Mexico and Turkey, mandatory payments of 12-30 days of pay for each year of service apply in some cases of voluntary termination, such as upon retirement or after marriage for women in Turkey. Large retirement allowances, combined with a relatively low pension replacement rate, may lead older workers in formal jobs to retire early with pension and health benefits and then re-enter the workforce in informal jobs or self-employment with very little incentive for making further social contributions.[30] In all three countries, workers aged 55 years and over have a significantly increased chance of being informal employees or own-account workers. While severance payments in Mexico operate as a substitute for unemployment insurance, reducing the cost of severance payments was one of the key motivations for the introduction of unemployment insurance in Turkey in 1999. However, pressure from unions to retain severance pay, along with strict eligibility requirements to receive unemployment benefits, has lead to the retention of the severance payment system. This means that firms that hire formally currently pay both unemployment insurance contributions (employee and employer contributions combined are 3% of the wage bill) and severance payments (estimated to cost 8% of the wage bill) (OECD, 2006a).

3. Increasing the benefits of formalisation

In many cases (especially in Mexico and Turkey), informal employment is not a voluntary choice, either because workers cannot find an employer willing to declare them or because they are self-employed or low-productivity wage earners at the margin of subsistence and contributing to social security schemes would deepen their poverty. However, if workers have some say in whether or not they are employed formally, the perception that they receive less in benefits (from social protection schemes or public services financed out of general taxation) than they pay in contributions or taxes may be a factor in encouraging informality or under-declaration. This highlights an important role for governments in increasing awareness of the benefits of social protection and public services. There are a range of benefits to firms of operating in the formal sector. While a full discussion is beyond the scope of this chapter, to the extent that formal sector institutions (such as banks and the legal system) operate effectively, they can provide incentives for formalisation of small informal firms, overcoming some of the costs of operating in the formal sector and promoting business growth in the longer term (Perry *et al.*, 2007; Johnson *et al.*, 2000; Straub, 2005).

3.1. Social protection delivery and financing

The seven countries rely mostly on social contributions linked to having a formal job to finance social protection. Access to social protection is thus a benefit of working formally, so, for those workers financially able to contribute and provided with the choice to work formally or not, incentives for formalisation may be improved by increasing the link between contributions and benefits. This may be particularly pertinent in the case of pensions and, to a lesser extent, unemployment insurance, which can be considered deferred wages. The benefits to workers of contributing to pension and unemployment insurance will depend on both the ease of *access* to benefits (*i.e.* the eligibility conditions) and on the *value* of benefits (*i.e.* the replacement rates). Different groups of workers may have different perceptions of the benefits of contributing to social protection. For example, young workers may prefer current consumption to making contributions to a pension scheme that will have little pay-off until many years into the future. The benefits to workers of contributing to other social protection schemes, such as health or disability insurance, may also influence incentives for formalisation. However, increasing the link between contributions and benefits is not relevant in the case of health, as, given the nature of the risk covered, it would amount to excluding the most vulnerable groups from protection. There might be other factors influencing incentives to contribute for health, notably the quality of healthcare provision, but a full discussion falls outside the scope of this chapter.

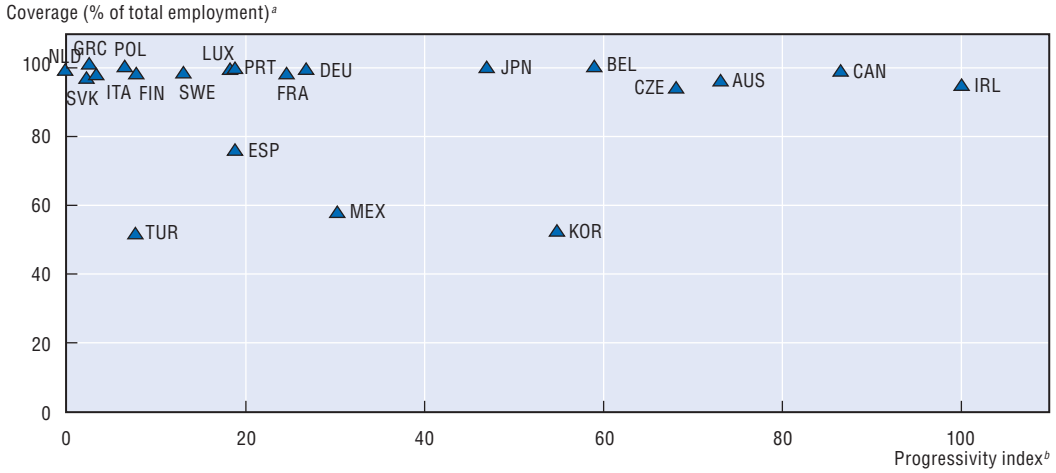
The design of pension systems can affect incentives for formal employment

Pensions financed out of social contributions represent an inter-temporal transfer of income, with a more-or-less explicit link between what is paid and what will be received. If they were strictly deferred wages, employees might not perceive pension contributions as taxes at all, and that would come close to what is meant by actuarially fair pension schemes.[31] Following the analysis developed in Section 2.2, it is often argued that the higher the "tax" component (*i.e.* the share of pension contribution on which the individual receives no return), the greater the incentives to evade (under-report income from work). Disney (2004) found some evidence supporting this relationship across OECD countries, but for women only. However, focusing on countries relying on social contributions to finance their pension system, Figure 2.7 suggests that less redistributive pension systems are not systematically associated with higher pension coverage. Nevertheless, very progressive pension systems might induce under-declaration of earnings rather than full evasion.

The degree of redistribution is not the only parameter describing the link between contributions and benefits and possibly influencing workers' willingness to participate. A weak link between pension rights and contributions may induce early retirement and continued activity in the informal sector. Minimum contribution periods in countries with low coverage (*e.g.* Turkey) and where workers often move in and out of the formal sector (*e.g.* Mexico) may also prevent workers from meeting eligibility criteria. The relative weights of these factors vary across the seven countries studied.

Important reforms of pension systems, aimed at improving financial sustainability in the face of population ageing, have been implemented in Hungary, Poland, Mexico and the Slovak Republic. All have increased the link between contribution and benefits, but to various extents. In Hungary, although the redistributive component is almost nil (the progressivity index for Hungary is 1.3), the pension system is left with a major problem of financial sustainability due to a high replacement rate and a high implicit rate of return

Figure 2.7. **Less redistributive pension systems do not systematically lead to higher pension coverage**



StatLink http://dx.doi.org/10.1787/347358608603

Note: Data for Hungary on pension coverage are unreliable and have been omitted. OECD countries financing pension systems exclusively out of general taxation are excluded from the sample.

a) Number of persons who contributed or accrued pension rights in any of the major mandatory pension schemes divided by the number of persons in employment. Data refer to 2002 for Mexico and Turkey, 2003 for the Czech Republic and the Slovak Republic and 2005 for the other countries. For Japan and Mexico, the denominator of the coverage ratio is dependent employment because the self-employed are not covered by the scheme in Japan and covered only on a voluntary basis in Mexico.

b) The progressivity index is designed so that a pension system paying the same value of benefits to all individuals would score 100; or paying the same replacement rate to all people would score zero. Data refer to 2004.

Source: World Bank Pension Database; OECD (2007e).

compared with most other OECD countries (OECD, 2008b). In fact, the absence of redistribution partly explains the high replacement rate: if redistribution is precluded, a high replacement rate is needed to avoid pensioner poverty. Such characteristics make it difficult to explain the relatively low coverage of the system – around one-fifth of workers are estimated to not be contributing to the pension system (Elek, *et al.*, 2008; Köllő, 2007) – since employees should be willing to join it. However, the high overall level of social contributions and taxes (at 38% of the labour cost for a worker with average earnings), which are jointly collected by the tax authority, may be leading employers to offer undeclared jobs (OECD, 2008c). The Czech Republic has the most progressive pension system of the seven countries studied (Figure 2.7). Coverage is good, but high progressivity, combined with rather high pension contribution rates (and lower taxation of capital than labour) may induce under-declaration of earnings at higher income levels (Section 2.2). In addition, in countries where minimum pensions are higher than the entitlements that low wage workers can expect to accumulate over their working life, minimum pensions, while achieving the desirable objective to reduce old-age poverty, are *de facto* loosening the link between contributions and benefits for low-wage workers.

Pension coverage is relatively low in Korea, Mexico and Turkey

The Korean pension system was created in 1988, and should, in principle, have covered all types of workers since 1999. Yet in 2005, only 61% of the employees were covered[32] and coverage is lower amongst the self-employed (Kim, 2006). The system has not yet matured, and pension income still plays a minor role in sustaining the elderly: only

14% receive a (small) pension benefit (OECD, 2007d), partly explaining high workforce participation rates of older workers. The system is quite redistributive, as benefits are equally based on the average wage and individual earnings, but benefits increase with contributions, even for older workers (OECD, 2008b). Despite increases in contribution rates, the financial sustainability of the scheme is still not ensured (OECD, 2007d). Low coverage implies that average contribution periods are short and thus pension benefits low, probably leaving few options to the elderly other than to continue working undeclared. A means-tested old-age pension was introduced recently, but at 5% of the average wage, recipients may still have to work, most likely in undeclared jobs.

Pension coverage is also low in Turkey and Mexico. In 2005, 68% of employees and about half of own-account workers were contributing to at least one Turkish social security institute, and 31% of private sector employees were contributing to the social security institute (IMSS) in Mexico.[33] While other factors also play a role in explaining low coverage in these countries, some features of the pension system may contribute, particularly in Turkey. In Mexico, the transformation of the system into a fully-funded scheme with individual accounts has helped restore the link between contribution and benefits. However, workers must contribute for a minimum of 25 years to qualify for the minimum guaranteed pension, the amount of which for the majority of workers – *i.e.* low-wage earners – would be higher than the benefits from their individual accounts (OECD, 2007c). Workers moving in and out of the formal sector (not uncommon in Mexico, see Perry *et al.*, 2007) can thus hardly qualify for this benefit. On the other hand, low-wage workers who have reached the 25-year contribution period have few incentives to keep contributing. In part, this results from the fact that returns from pension savings have been rather low, due notably to high administration/management costs. As a result, many workers choose to start a small informal business instead of saving in pension accounts. The 2007 reform of the individual savings accounts may nevertheless help to increase net returns and make pension accounts more attractive (OECD, 2007c).

In Turkey, the very low, means-tested pension – equivalent to 6% of the average wage – is available only to workers not affiliated to social security. But, more importantly, the contributory pension scheme is itself a barrier to formal employment (Brook and Whitehouse, 2006). A very low eligibility retirement age (46 in 2006, to be gradually increased in the future), short contribution period (15 years) and the absence of benefit reduction in case of early retirement, together with the availability of a severance payment on retirement, serve to boost the number of middle-aged pensioners working in the informal sector. Anecdotal evidence suggests that it is common for workers to retire officially and then continue to work informally (often for the same employer), an inference that is consistent with available data.[34] To some extent, 2006 reforms further increased the incentives for pensioners to shift to the informal sector, since they eliminated lower social contribution rates for pensioners continuing to work. Pension parameters, including very high replacement rates, also lead to high pension contribution rates, driving up labour costs and making it difficult for the low-skilled, in particular, to be hired formally (Section 2.2).

Unemployment insurance can give unemployed workers time to look for a formal job…

By giving the unemployed a replacement income while they search for a formal job, unemployment insurance might be important in preventing informality. If no (or very little) replacement income is available, formal workers who become unemployed and do not find another formal job immediately may have no other choice than working informally. On the

other hand, in countries with significant informal employment and weak monitoring of eligibility conditions, workers may also draw their maximum entitlement to unemployment benefits while working informally. In all the countries studied apart from Mexico, salaried workers should, in principle, be contributing to unemployment insurance.

… but few unemployed receive benefits in the countries studied

Table 2.4 shows that eligibility conditions tend to be rather strict and benefits relatively limited in all the countries under analysis. The schemes were introduced only recently in Korea (1995) and Turkey (2000). The qualification period for unemployment benefits is particularly long in the Slovak Republic and Turkey, restricting access significantly. Only 9% of the unemployed were receiving unemployment benefits in the Slovak Republic in 2005 and 5% in Turkey in 2007. In Turkey, this results, in part, from the fact that the share of informal workers, who are obviously not eligible for unemployment insurance, is large. But the long qualification period and the fact that few job separations result from dismissal (a condition for eligibility) also limits access (World Bank, 2006).[35] Qualification conditions are also tight in Poland, where only 12% of the unemployed were receiving benefits in 2005. Benefit generosity is relatively low in all seven countries, due to the combination of short duration and low benefit levels, which reflect previous earnings and thus previous contributions to only a rather limited extent.[36] Limiting the generosity of unemployment benefit preserves the incentive to seek and accept job offers. A number of empirical studies find that generous benefits tend to raise unemployment levels or duration (OECD, 2006c), and the reduction of net replacement rates in Hungary in 2006 was explicitly aimed at increasing employment incentives. However, weakening the link between what workers contribute and their unemployment benefit entitlement may also weaken the incentive to be declared and, even more so, the incentive to declare earnings fully. In addition, low benefit levels, as in Poland in particular, may leave the unemployed with little alternative other than working undeclared to supplement their income.

A combination of more generous benefits and activation policies may allow governments to reap some of the efficiency gains that unemployment benefits are found to create, in particular by allowing workers to seek higher productivity jobs in the formal sector, while off-setting a significant part of the potential labour supply disincentives (OECD, 2006c). In 2007, the Czech Republic reduced the generosity of the ceiling on benefits for the unemployed not actively co-operating with labour offices. However, some activation measures may be difficult and expensive to administer and the costs may outweigh the benefits when benefit duration is relatively short. Another possibility would be to reduce contribution rates. In the Slovak Republic and Turkey, the unemployment insurance schemes have shown structural budget surpluses amounting respectively 79% and 86% of the contributions in 2006, which are difficult to justify.[37] In Poland, unemployment benefits represent around one quarter of contributions.[38] Reducing contribution rates, while preserving the financial viability of the schemes, would go some way towards better aligning contributions and benefits and reduce the tax wedge, thus reducing incentives for informality or under-declaration of income.

Mexico has no unemployment insurance scheme. Mexican workers who have individual pension savings accounts can draw 10% from these every five years, if non-employed, but they provide limited support in case of job loss. Developing individual unemployment savings accounts together with some solidarity funding, as was done in Chile (Box 2.3), is often presented as a good way to provide some compensation in case of

Table 2.4. **Unemployment insurance schemes: contribution requirements, benefits and coverage**

	Contributions		Benefits					Share of unemployed receiving benefits[a]
	Rates (% of gross wage)	Entitlement period	Initial replacement rate	Minimum (% of AW)	Maximum (% of AW)	Duration	Permitted employment	
Czech Republic 2006	E: 1.2% W: 0.4%	12 months in 3 years.	50% of net earnings, 45% after 3 months.	–	56% for a single without children (2.5 times the Minimum Living Standard).	• 6 months for age under 50. • 9 months for age 50-55 and 25 years of contribution. • 12 months for age over 55.	Half of the minimum wage is allowed without losing entitlements to unemployment benefits.	34%
Hungary 2007	E: 3% + fixed amount W: 1.5%	365 days in 4 years.	60% of the average gross wage over past year for 91 days.	22% (60% of the minimum monthly wage).	44% (120% of the minimum monthly wage).	One day of benefit for every 5 days of insurance with a maximum of 9 months.	Benefits are suspended for short-term (<90 days) employment.	37%
Korea 2006	E: 0.7-1.3% W: 0.45%	6 months in 18 months.	50% of the average daily wage in the 3 months preceding unemployment.	23% (90% of the minimum wage).	47%	3 to 8 months increasing with age and contribution period.	II earnings divided by number of days entitled is over 60% of UI benefit then excess deducted.	27%
Poland 2007	E: 2.45%	365 days in 18 months and earnings > 1/2 minimum wage.	Fixed amount equivalent to: • 17% AW if less than 5 years of contribution. • 21% AW if 5 to 20 years of contributions. • 25% AW if more than 20 years contributions.	–	–	6 to 18 months according to unemployment rate in region of residence, contribution period and family status.	No benefits if employed	12%
Slovak Republic 2006	E: 1% W: 1%	3 years in 4 years, except if previous entitlement to rights has not been completely drawn up.	50% of gross wage	–	87%	6 months.	No benefits if employed.	9%
Turkey 2007	E: 2% W: 1%	600 days in 3 years, and 120 days of continuous contributions.	50% of average net wage, based over the last 4 months.	15%	30%	6 to 10 months according to contribution period.	No benefits if employed.	4%

AW= average wage; E: employer; W: worker.

a) Data refer to 2005 except 2004 for Turkey.

Source: Based on OECD database on Benefits and Wages, PECD database on Active Labour Market Policies, Grubb *et al.* (2007) and World Bank (2006).

unemployment in countries with limited financial resources and limited administrative capacity to run an unemployment insurance scheme. In Mexico, it could also replace the severance payment system. Individual savings accounts draw a clear link between contributions and benefits and avoid moral hazard problems inherent in traditional unemployment insurance schemes, which may be of particular value in countries with limited administrative ability to enforce job search requirements. The main problem lies in the limited risk pooling across workers with different risks of dismissal. Workers who are most likely to become unemployed will be relatively less covered. As a result, the introduction of individual accounts is unlikely to increase the incentives of low-skilled informal workers to work formally when possible.

Box 2.3. **Chile's job-loss compensation scheme: improving incentives to be formal?***

An insurance job-loss compensation scheme was introduced in Chile in October 2002. The scheme departs from traditional unemployment insurance in that it is based on a combination of individual savings accounts managed by a private firm and a solidarity fund from which a worker can draw under certain conditions should individual funds be insufficient. Workers can access the solidarity fund only once they have depleted their own account. The scheme covers all workers over 18 years of age employed in private sector salaried jobs. Participation is compulsory for those who start a new job after the introduction of the scheme and voluntary for others.

A fixed percentage of worker's wage (0.6% for the employee and 1.6% for the employer) is deposited in each worker's individual account. These funds and their return can be withdrawn according to a predetermined schedule at the end of the employment relationship. The contingency fund is financed by an additional contribution by the employer of 0.8% of the workers' wage and a government subsidy. To benefit from the unemployment compensation scheme, the worker must: *i)* have contributed for 12 months (not necessarily continuously) for permanent workers or 6 months for fixed-term contracts; and *ii)* have been unemployed for at least 30 days. If accumulated savings are more than two monthly wages (which would require about five years of contribution), the sum is provided to the worker in five progressively-decreasing monthly installments. Workers previously on fixed-term contracts or those with less than 18 months contribution can withdraw the sum in one installment. If the unemployed person has been dismissed for unjust reasons and has accumulated less than two monthly wages, he/she is entitled to a top-up from the solidarity fund and will receive five monthly payments decreasing progressively from 50% to 30% of their previous average wage. If workers change jobs, they can either withdraw the accumulated funds or leave them in the account. The same happens with the remaining sum if an unemployed person finds a job within the five month period.

Acevedo *et al.* (2006) underline that by making the fund belong to the worker, the system preserves incentives to actively search for jobs and accept job offers, largely avoiding moral hazard problems leading to overuse of unemployment insurance by employers and workers in industrial countries. Moral hazard problems in the use of the redistributive pillar are also limited by a number of factors, including the low level of benefits, short duration and lack of access to the solidarity fund until workers have depleted their own-account.

What is the effect of the scheme on incentives for informality? On the one hand, given the clear link between contributions and benefits, contributions should not be perceived as taxes by the worker. Compared with a more traditional unemployment insurance scheme, it may limit the incentives to work informally. However, the relatively restrictive access conditions raise some doubt. Job turnover is very high in Chile, as shown by the fact that only 27 months after implementation, about 80% of the salaried labour force was affiliated because they had started a new job (affiliation is mandatory in that case). Thus, the 12-month contribution period might *de facto* preclude most of the unemployed from benefiting from the scheme. For these workers, the scheme may just provide forced savings. Given that informal workers are often low-educated and low income, and more likely to have precarious jobs and be at the margin of subsistence, the value of the scheme might thus appear limited (or even negative) to them.

* This box draws extensively on Sehnbruch (2004) and Acevedo *et al.* (2006).

3.2. Encouraging tax compliance through better governance

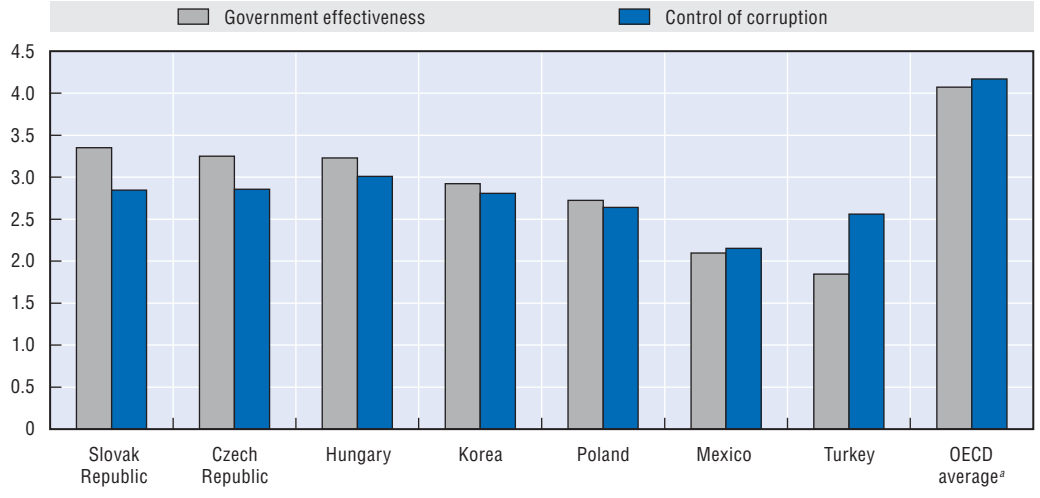
Perceptions about the quality of government services can influence tax compliance (Slemrod, 2007). Taxpayers feel less guilt about evading taxes if they think that tax revenues are being misused, either through corruption or incompetence. A number of empirical studies find a negative link between trust in government or governance quality and tax

evasion behaviour or informality (*e.g.* Friedman *et al.*, 2000; Frey and Torgler, 2007; Hanousek and Palda, 2002). Improving governance standards and combating corruption can play an important role in reducing informality by increasing the perceived benefit to taxpayers of paying taxes. Frey and Torgler (2007) also find that people are less likely to evade taxes if they think that others are paying their fair share, suggesting that publicising good tax behaviour could play a role in a strategy to improve compliance.

The World Bank's Worldwide Governance Indicators rate countries on various aspects of governance using data from a large variety of qualitative and quantitative sources.[39] Figure 2.8 shows that all seven of the countries examined in this chapter perform below the OECD average on indicators of government effectiveness and corruption control. Mexico and Turkey, and to a lesser extent Poland, are particularly poor performers. There has been some progress in recent years: the Czech Republic, the Slovak Republic and Turkey have all improved government effectiveness and Korea and the Slovak Republic have improved control of corruption. In countries where governance is improving, such as the Czech Republic and Korea, publicity about improvements could help change previously low public opinion about the effectiveness or trustworthiness of government. Improvements in governance could create a virtuous circle by improving tax compliance and increasing government revenue, making it easier for governments to deliver quality services.

Figure 2.8. **Government effectiveness and corruption control**

Rated from 0-5 (worst-best), 2006



StatLink http://dx.doi.org/10.1787/347361366534

a) Unweighted average.

Source: World Bank Worldwide Governance Indicators Database, 2006.

4. Improving enforcement

In countries such as Mexico and Turkey, where much informal employment is a survival strategy for those with few other labour market opportunities, it is important to make sure that vulnerable workers do not have their livelihoods put at risk by overly vigorous enforcement activities. Instead, improving incentives for formalisation and enhancing educational outcomes and labour market opportunities should be the primary objective of policy-makers in combating informality. That said, effective enforcement of

tax, social security and labour regulation must be a fundamental component of a policy package aimed at reducing informal employment in all countries. Strengthening enforcement capacity is particularly important in cases where informal employment and undeclared work are the result of workers and firms choosing to bypass regulation or tax requirements.

Enforcement effectiveness can be improved in a number of ways. First, well-designed regulation and transparent administration makes it easier for firms and individuals to comply with legal requirements and should increase voluntary compliance. Second, sufficient resources, including well-trained inspectors or auditors and resources to support their work, should be allocated to enforcement activities. Third, risk-assessment methods should be used to identify firms or individuals who are most likely to be informal and allow limited resources to be used most efficiently. Finally, if the cost of complying with enforcement activities is too high, this can become a disincentive to formalisation. Compliance costs can be reduced by improving coordination between enforcement agencies (Coolidge, 2006).

4.1. Tax administration and enforcement

Tax administration has an important role to play in reducing incentives for businesses to avoid or evade taxes, including by partly or fully failing to declare their employees (tax should be understood in a broad sense here to include social contributions). Tax administration may be complicated, in part, by tax policy. In particular, complex tax systems are likely to reduce the efficiency of tax administration and increase tax evasion. Other organisational features of tax administration also determine how easy it is for taxpayers to comply with tax law.

Complex tax systems increase incentives to go underground

Simplifying the tax system has long been established as essential to enhance the effectiveness and efficiency of tax administration. The main complexities in the tax system arise from the definition of the tax base rather than the rate structure (OECD, 2006d). Complex tax systems have three undesirable effects: *i)* they increase compliance costs for taxpayers; *ii)* they create opportunities for exploiting loopholes and avoiding taxes; and *iii)* they increase monitoring costs for the tax administration. Tax systems with relatively few taxes, a limited number of rates for each tax, a broad base and limited exemptions have proven to be much easier to administer and result in higher compliance levels than complex tax systems (Silvani and Baer, 1997).

Most OECD countries, including the seven countries featured here, have implemented some reforms in this direction. However, the Czech Republic, Hungary, Mexico, Poland and Turkey still have many exemptions and deductions in place in personal income and/or corporate income tax regimes. In Mexico, although their number has been reduced, some sectors still benefit from preferential tax regimes. Bakos *et al.* (2006) also identify the large number of minor taxes in Hungary as increasing administration costs. In Poland, four different taxation regimes exist for the self-employed. In Turkey, personal income tax is very complex, and exemptions are provided according to very detailed criteria (*e.g.* small farmers with size thresholds defined for every type of crop; street vendors not using motor vehicles; self-employed working at home making carpets, lacework, plastic flowers, etc.). Reforms to corporate income tax have, on the other hand, simplified the payment of taxes significantly in Turkey (World Bank and PricewaterhouseCoopers, 2007). Korea in the 1980s

and the Slovak Republic in 2004 undertook substantial reform of their personal and corporate income tax regimes, which have made them much simpler. However, the payment of social contributions remains complicated. In the Slovak Republic, social contributions are paid 12 times a year to five different funds, with different ceilings on contribution bases updated at different dates. In Korea, contributions are still paid to four different social institutions, with three different contribution bases. A law is pending though, which should unify the collection system (see Section 4.3).

Frequent changes to tax law also add complexity. In Mexico, the presumptive tax for small taxpayers has been modified continuously. Initially, the tax had different rates according to turnover level. In 2004, a 2% rate was adopted with two tax allowances and, in 2006, the allowance was modified to four minimum wages. The Centro de Estudios de las Finanzas Publicas (2006) notes that there were 11 legislative changes to the scheme between 2004 and 2006, causing legal uncertainty for taxpayers as well as non-compliance. However, the introduction in 2007 of a minimum income tax (IETU) on firms and professional activities should reduce the administrative burden of paying taxes and improve incentives for firms to declare both income and workers.

Simplifying registration, return and payment procedures is important to reduce compliance costs. In general, registering new businesses or employees for tax or social security is relatively simple, taking less than a day. However, in Mexico, registration for social security takes 2-5 days on average, and up to a week in some circumstances (World Bank Doing Business Database). In all seven countries, taxes are withheld at source by the payer on wages, dividends and interest. In Hungary, compliance costs have been reduced by the availability of tax calculation software, which can be freely downloaded from the tax authority's website, and by the introduction of electronic tax returns (Bakos *et al*., 2006). Korea also allows electronic registration for social insurance (World Bank Doing Business Database). Since 1998, the Turkish tax authorities have invested in electronic declaration and payment, which are now used by a large majority of taxpayers. Turkish tax authorities also provide information and advice to taxpayers through call-centres in a number of regions. More generally, providing small taxpayer-specific services might be a way to increase the benefits of formality. This is difficult because small taxpayers are numerous and diverse, tend to have poor knowledge of tax laws and obligations, have less access to information technology and may thus require face-to-face services or other means of information (ITD, 2007). A cost-benefit assessment is thus required, which should take into account both the benefits from increased formalisation and increased tax revenues.

Properly detecting business revenues and individual income is central to reducing tax evasion

Over the past decade, tax authorities in a number of countries have implemented third-party reporting to facilitate taxpayers' preparation of their tax returns. Employers are required to report (and withhold) on wages, banks on dividend and interest income and the sale of shares, and notaries on real estate sales, etc. The Turkish tax authorities have also started active co-operation with the banks to detect large movements of funds.[40] In Korea, businesses using double-entry bookkeeping and highly-qualified self-employed such as lawyers and doctors are required to use a business bank account for business transactions, notably the payment of personnel.

Korea has also been quite active at improving income detection for the self-employed (the most likely to evade) through other means. Professionals have been required to use

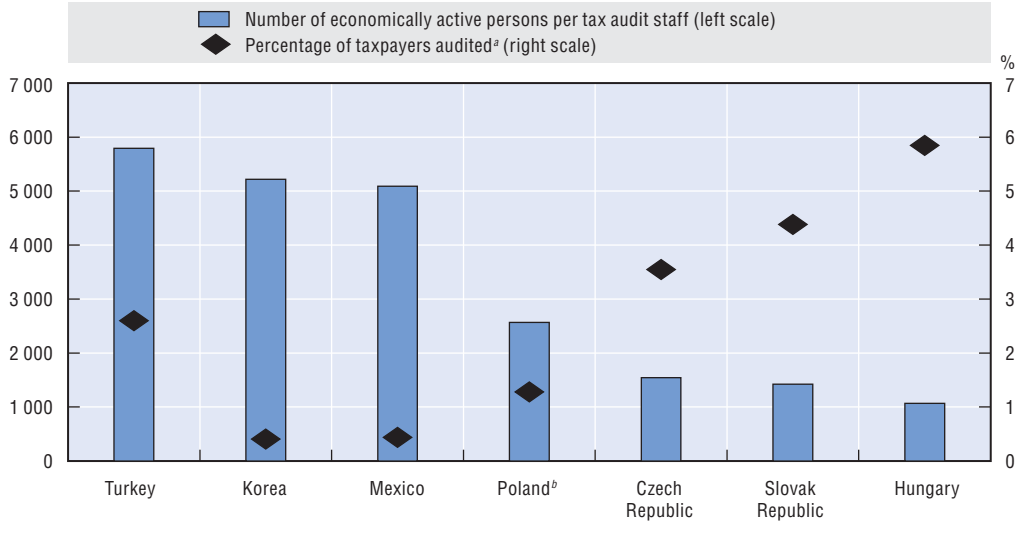
double-entry bookkeeping and an expansion of business account requirements irrespective of size is planned. Business owners with annual income above a certain level making transactions with consumers are required to issue a cash receipt that will automatically transmit sales information for tax authorities. Individuals making payments to a self-employed person and receiving a cash receipt for it can claim a tax credit, thus providing a strong incentive to request a receipt. Mexico is also using tax incentives to improve tax compliance: starting in mid-2008, financial intermediaries will levy a 2% tax on cash deposits for accumulated amounts exceeding MXN 2 500 per month, recoverable by the taxpayer conditional upon respecting tax obligations.

Perceptions about the likelihood of audit and the size of penalties affect compliance behaviour

It is widely recognised that taxpayers' perception of the probability of being audited strongly determines their degree of compliance. The importance that a tax administration assigns to the audit function thus affects its ability to enforce compliance. Figure 2.9 provides an indication of the level of audit staffing and the probability of being audited. In three of the seven countries – Hungary, Mexico and the Slovak Republic – audit staff account for more than 30% of all tax administration staff, a ratio that countries with effective audit operations have found to be necessary to ensure adequate audit coverage (Silvani and Baer, 1997). In Turkey, Korea, Mexico and, to a lesser extent, Poland, the number of registered taxpayers per tax auditor is high. In Korea and Mexico, this results in a very low share of registered taxpayers being audited.[41] With the exception of Hungary, where tax auditors are also in charge of social contributions, the auditing offices of social security institutions also play an important role in enforcement, but information on staffing and activities of these organisations is not available.

In addition to the probability of being audited, the level of the penalty incurred also affects compliance. Ideally, penalties should increase with the length of non-payment, to

Figure 2.9. **Audit staffing and activity, 2004**



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a) Number of completed audits divided by the number of registered taxpayers.
b) Data refer to 2003.

Source: Based on OECD (2006d); and Tax Administration and Tax Systems in Poland, *Tax Information Bulletin 2004*.

encourage quick settlement of arrears, and be higher than the interest rate plus a spread, but not excessive to avoid legal challenges (Silvani and Baer, 1997). The size of the penalty should also vary according to the seriousness of the offence. For example, tax evasion would attract a higher penalty than an error. Penalty rates can vary up to 100% in Mexico and Turkey, but the criteria used to decide on the penalty rate do not seem to be clearly defined. This may leave too much room for tax auditors, and increase corruption opportunities. In order to reduce the risk of corruption, some countries use independent committees to review audit cases before and after completion to ensure that the correct penalty has been imposed.

Even the most developed countries have relatively low direct audit coverage, which is exacerbated in countries with limited auditing resources. The effectiveness of the audit programme can be improved by publicising planned auditing activities and results, which may influence taxpayers' perceptions of the probability of being audited and the consequences of tax evasion.

4.2. Labour inspection and enforcement

Labour inspection services play a vital role in combating informal employment because, in many countries, they are the only government bodies with the authority to investigate breaches of labour regulations in workplaces. Labour inspectors can also play an important educative role by working with firms and workers to encourage compliance. International studies of best practice highlight a number of characteristics of high-quality, well-functioning labour inspection services.[42] These include adequate resources (both staff and infrastructure); recruitment and training policies designed to attract and retain high-quality inspectors; central administration to improve consistency and reduce duplication; preventative targeting of firms based on risk; integration of different types of inspections to reduce the inspection burden on business; and a focus on prevention and education as well as enforcement (Schrank and Piore, 2007; ILO, 2006; Treichel, 2004).

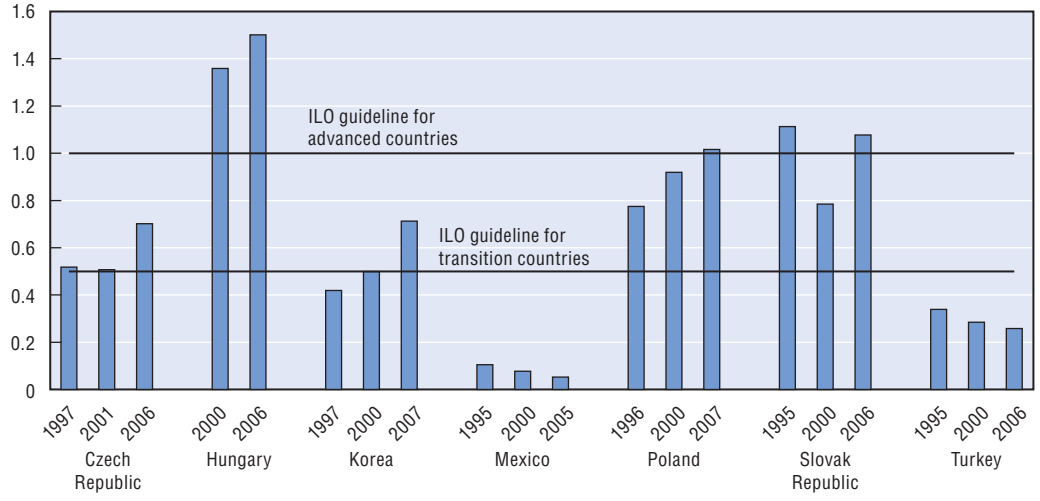
In order to gather key information about the operation and performance of labour inspectorates, which is not available elsewhere for most OECD countries, a questionnaire was submitted to the main labour inspection organisation in each of the seven countries.[43] The organisations are generally responsible for enforcing regulation of employment contracts and working conditions, employment protection provisions, minimum wages and occupational health and safety (OHS), although other bodies may share these responsibilities. Labour inspection bodies in Hungary, Poland and Turkey are also responsible for supervising regulations governing work permission for foreign workers. Uniquely among the seven countries, federal labour law enforcement responsibility in Mexico is shared between federal and state/local governments. The responses reported for Mexico refer only to the Federal Labour Inspectorate, covering enforcement in "strategic" industries (including manufacturing, food, mining, energy and banking industries) and for firms operating in a federal zone or in more than one state. The Federal Labour Inspectorate also has responsibility for enforcement of OHS and training regulations in all firms in Mexico, in which it is aided by state/local inspectors in some "non-strategic" industries.

Labour inspectorates should be adequately resourced and trained

The ILO (2006) recommends that advanced countries have at least one labour inspector per 10 000 employed persons, while transition countries should have one

inspector per 20 000 employed persons. There should be sufficient additional funding for training and infrastructure, such as cars and computers, to ensure that inspectors can do their jobs effectively (Treichel, 2004). The quality of labour inspectors can be improved by having competitive entrance examinations to screen applicants for aptitude, ensuring job security and independence from government interference and providing ongoing training. Training should focus on increasing technical capabilities (*e.g.* new legislation) and more generic skills (*e.g.* negotiation and communication skills) (ILO, 2006; Schrank and Piore, 2007). Figure 2.10 shows that Hungary, Poland and the Slovak Republic meet the recommended number of inspectors for advanced countries, while the Czech Republic and Korea meet the transition country guidelines. All these countries have seen increases in the number of inspectors over the past five to ten years. In contrast, the number of inspectors in Turkey is well below the recommended level and has fallen over the past decade. While the figures for Mexico reflect only a proportion of all labour inspectors, they show that the number of inspectors in the Federal Labour Inspectorate has been falling over the past decade.

Figure 2.10. **Labour inspectors per 10 000 employed persons, 1995-2006**



StatLink http://dx.doi.org/10.1787/347376803461

Note: Figures for Mexico are for federal labour inspectors, who have responsibility for enforcing labour regulations in only a proportion of Mexican firms. No data are available on the number of state and local labour inspectors.

Source: Country responses to OECD labour inspection questionnaire.

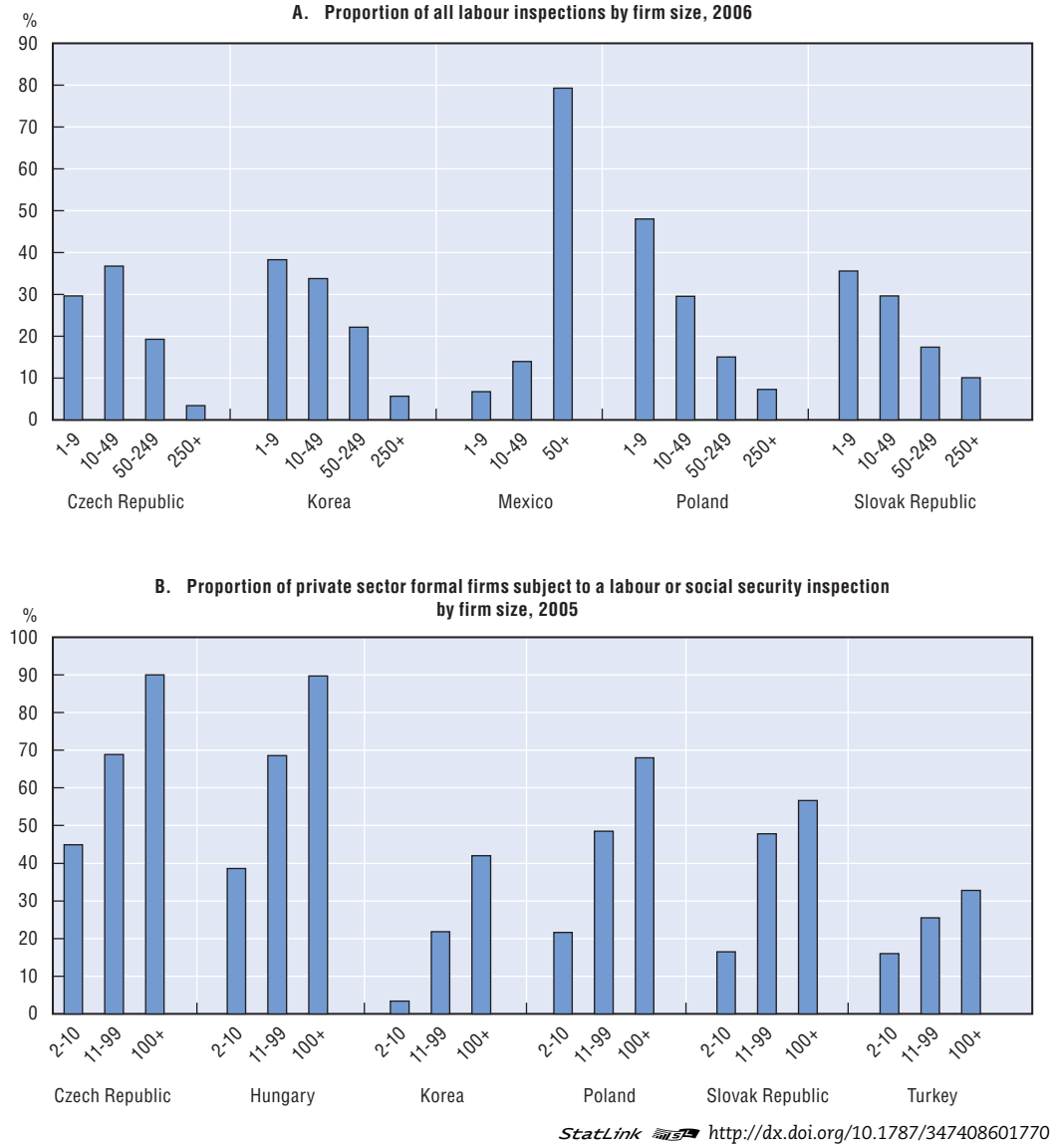
Targeting inspections can improve efficiency

Various mechanisms are used to target inspections. Generally, all complaints about possible breaches of labour regulations are investigated. Around 30% of inspections in Poland and Korea in 2006 were made in response to complaints (no data are available for other countries). While it is important for complaints to be investigated, sufficient additional inspections should be undertaken, particularly as inspections not based on a complaint are typically less confrontational and provide opportunities for information dissemination (Schrank and Piore, 2007). Efficiency can be improved by using risk-assessment techniques to identify firms with a high probability of non-compliance with labour regulations (Coolidge, 2006). All the countries examined in this chapter except Hungary systematically use risk evaluation to target at least some inspections. For the

Czech Republic, Hungary, Mexico and Poland, where there is some random targeting, efficiency gains could be made by increasing the use of risk-assessment methods.

Informality is overwhelmingly concentrated in small firms (see OECD, 2008a), implying that targeting inspections at small firms could yield good results in detecting informal employment. While Figure 2.11 shows that in all the countries for which data are available except Mexico, the majority of labour inspections take place in firms with less than 50 employees, this largely reflects the distribution of firms by firm size.[44] Indeed, small firms have a much lower chance of being subject to an inspection than large firms, particularly in Korea. In general, the chances of being inspected, regardless of firm size, are

Figure 2.11. **Labour inspections by firm size**



StatLink http://dx.doi.org/10.1787/347408601770

Source:

Panel A: Country responses to OECD labour inspection questionnaire. No data are available for Hungary or Turkey. Columns may not sum to 100% because in some countries, the size of firms is not known for all inspections.

Panel B: OECD estimates using data from World Bank Enterprise Surveys, 2005. No data are available for Mexico.

relatively low in Turkey and Korea. In Hungary, labour inspectors require less documentation from small firms and the maximum fine imposed for breaches of labour laws by small firms is half that for larger firms. The Czech Republic began targeting firms with 100 or less employees in 2008 based on previous findings that poor legal awareness in small firms leads to more frequent breaches of labour regulations.

In the two countries for which data are available (Korea and Hungary), OHS inspections make up around three-quarters of all labour inspections. OHS is ranked as the most important or equal most important role of the labour inspectorate in the other five countries. This is reflected in the industry concentration of inspections, which tends to focus on the manufacturing and construction industries. Informal employment is heavily concentrated in a small number of industries: typically construction, retail trade, hotels and restaurants and transport. Targeting inspections in these industries could be a useful strategy for combating informality, and may not necessarily conflict with some aspects of current inspection strategies. For example, the construction industry accounts for 10-15% of current labour inspections (except in Hungary, where over half of inspections are in construction), so current inspection programmes in the construction industry could be expanded in scope to focus more on informality. Increasing the number of inspections in service industries such as retail and hotels and restaurants could also be effective at combating informal employment in these industries.

Sanctions should be large enough to act as a deterrent

Penalties imposed for breaches of labour regulations should act as a deterrent, but the application of sanctions should also take into account the need to protect workers' jobs and the ongoing viability of businesses (Daza, 2004). Table 2.5 shows that the maximum fines for breaches of labour regulations tend to be higher in the central European countries (with the exception of Poland) than in Mexico, Korea and Turkey. While the table shows maximum applicable fines, in many cases employers are subject to substantially lower fines. For example, in Poland the average fine imposed in 2006 was 20% or less of the maximum penalty. While some level of discretion in imposing fines is desirable to protect jobs and businesses, fines will provide little deterrence if the risk of receiving a fine is very

Table 2.5. **Maximum fines imposed for breaches of selected labour regulations**

Maximum fine as a proportion of average annual wage

	No employment contract	Wages below minimum wage	Employment of illegal migrants
Czech Republic	–	8.0	–
Hungary[a]	1.4-9.4	2.3-9.4	4-8 times wage paid, with minimum fine of 0.2-0.4
Korea	0.2	0.6 or imprisonment of up to 3 years	–
Mexico[b]	0.2	0.03-0.1 or imprisonment of 0.5-4 years	0.2
Poland	1.0	1.0	0.2
Slovak Republic	4.1	4.1	4.1
Turkey	–	0.01	0.3

a) In Hungary, the maximum fine is generally half that shown in the table for businesses with less than 20 employers and a quarter when the infringement is in connection with an employee employed by a private household (natural person) who is not a private entrepreneur. Maximum fines are lowest for first-time offences involving only one employee and increase with the number of employees and for repeat offenders.

b) In Mexico, the maximum fine for payment of wages below the minimum wage depends on the length of time that wages below the minimum wages have been paid.

Source: Country responses to OECD Labour Inspection Questionnaire. Average annual wage from OECD Taxing Wages.

low. Very few firms found in breach of labour regulations were fined in the Czech Republic (9%), Korea (3%) and the Slovak Republic (10%). Combined with data on maximum fines, this suggests that in Korea, and possibly Mexico, Turkey and the Czech Republic, sanctions play little role in preventing labour law breaches. For the Czech Republic, this view is backed up by Kux and Kroupa (2006), who state that the system of penalties introduced by the new labour code appears to be largely ineffective, as in practice fines imposed on companies are very low and symbolic in nature. Kus (2006) also argues that penalties in Poland for infringements of labour or tax law are relatively ineffective.

4.3. Better inter-agency coordination

Efforts to increase efficiency and effectiveness within individual enforcement agencies can be amplified by improving coordination between tax, social security and labour inspection agencies, and with other agencies with responsibilities for policing informality, such as police, customs service or business registration offices. A coordinated approach can reduce the compliance burden, prevent duplication of effort, capitalise on opportunities to cross-check information from different agencies and signal to the public that the government is serious about combating informality.

Integration of tax and social contribution collection can increase efficiency and cut compliance costs

Tax and social security contribution collection are the areas where the most obvious synergies for coordination exist. Anusic (2005) finds that countries with integrated tax and social security collection have higher contribution collection and compliance rates. The degree of coordination can range from information sharing, to joint audit or reporting activities to full outsourcing of social contribution collection to the tax authority. Barrand *et al*. (2004) argue that full integration should be a long-term goal because it maximises efficiency savings and takes advantage of the core competency of tax authorities in revenue collection and auditing. However, if the tax authority does not have the capacity to properly administer tax collection, extending its responsibilities could exacerbate compliance problems. In this case, improving coordination between existing tax and social security agencies could still bring significant efficiency savings and improve compliance.

Co-operation between tax and social security agencies can be enhanced by harmonising various aspects of tax and social security administration. A single, unique taxpayer identification number (for each employee and employer) should be used to increase agencies' ability to cross-check information on individual taxpayers. Firms' compliance burden can be reduced by streamlining reporting requirements and auditing activities to reduce the number of times each year that firms need to report to collection agencies or are subject to inspections or audits, adopting a common definition of income for tax and social security purposes and ensuring that rules relating to coverage for employees or the self-employed are the same for tax and social contributions (Barrand *et al*., 2004; OECD, 2004a; Ross, 2004). Such reforms may require legislative change, so the difficulties of simplification should not be underestimated.

Hungary is the only country here to have achieved some degree of integration in tax and social contribution collection activities.[45] Since 1999, the national tax authority (APEH) has been responsible for collecting basic pension and health care contributions.[46] While there are separate auditing bodies for different types of tax, audits for personal income tax and social security contributions are undertaken jointly. Since 2006, social contributions have

been collected electronically on a monthly basis for all employees, allowing APEH to identify individuals who are using healthcare services without paying contributions. Barrand *et al.* (2004) suggest that, while some aspects of the reforms have been successful, coordination and record-keeping deficiencies remain. The existence of separate auditing bodies for different types of taxes suggests that further reductions in compliance costs could be achieved by improving coordination of audit activities and reducing the number of business visits.

A comprehensive reform of tax and social security collection is also proposed for Korea. If implemented, the changes would hand responsibility for collection of social security contributions to a new collection agency within the tax authority, although social contributions from the self-employed would be collected separately by regional social security agencies. In order to facilitate central collection, the income base and payment period for insurance will be harmonised. Other changes have already been made to increase co-operation between tax and social security authorities in detecting non-compliance. From 2008, if the National Pension Corporation suspects under-reporting of the income base for contributions, it can notify the tax authority, which will investigate using tax records. Korean employers are now also required to report the wages of all their employees, including low-wage earners who were previously exempt from reporting requirements. A new earned income tax credit will increase incentives for low-income employees to be registered for tax. Both these measures should increase the number of taxpayers who can be identified by the tax authority (Jang, 2007; Korean legislation).

In the six other countries examined, less progress has been made in coordinating tax and social security collection. In Mexico in 2005, an agreement was reached between IMSS, the National Tax Administration and state tax administrations to exchange information to enable better identification of non-compliant businesses. However, there is little evidence that concrete measures to improve coordination have been taken in the meantime. In Turkey and the Slovak Republic, many employees are not required to file a tax return and so remain unregistered for tax purposes. The ratio of registered individual taxpayers to the number of people in the labour force is very low (19% in the Slovak Republic and 13% in Turkey), limiting the usefulness of taxpayer identification numbers for cross-checking information (OECD, 2006e). There is reportedly little co-operation between tax and social security agencies in Turkey. For example, tax auditors are not required to notify social security agencies if they find undeclared workers.

Coordination between tax/social security, labour inspection and other agencies is vital

Labour inspectorates, tax and social security collection agencies and other government agencies with an interest in deterring informal employment should collaborate and share information as much as possible to improve detection efforts and reduce business compliance costs. Co-operation between government agencies and social partners can also be useful, particularly in industries where traditional enforcement efforts have been ineffective.

In Poland, the scope of the National Labour Inspectorate's tasks was broadened in 2007 to require the labour inspectorate to inform employment offices of the employment of unemployed persons and allow the use of tax, business registration and social insurance data to help in its work. Kus (2006) argues that the database of ZUS (private sector social security organisation) should be used as the basic source of information about undeclared work in Poland, but is only weakly accessible. Labour inspectors are also required to inform

the relevant authority (tax office, social security institution, police or border guard) if they identify infringements of tax or social security law or illegally-employed foreign workers. As the change in legislation is relatively new, little information is available about its effectiveness in reducing informal employment.

In Hungary, the Labour Inspectorate (OMMF) carries out workplace inspections to detect informal employment with colleagues from the tax authority, the Board of Customs and Excise, consumer protection authority, frontier guards and the police. Inspections are targeted in industries where informal employment is known to be most problematic (construction, agriculture, trade, catering and security) and focus on detecting employees working without legal employment documents, unregistered employees, non-payment of the minimum wage, illegal employment of foreign nationals, child work and unlawful employment of young people. OMMF reports that co-operation between enforcement agencies is getting stronger and more effective in detecting informal employment.

The KADİM project in Turkey aims to engage the social partners in dialogue about the need to tackle informal employment. In a pilot project based in three regional areas, employers, trade unions and government agencies made joint recommendations on policies needed to combat informal employment, such as reducing labour costs, improving the benefits of social protection and supporting SMEs. A number of actions were also taken at a regional level including increasing awareness among employers and the general public about the desirability of formal employment and recognising best-practice employers (Heyes, 2007). Further progress appears to be limited. Tekĭnarslan (2007) reports that the first priority for the national-level KADİM project is information campaigns and inspection activities focused on reducing employment of undocumented migrants, with the stated aim of creating more job opportunities for Turkish citizens currently employed informally. Given that the government's own figures estimate that undocumented migrants make up only 1% of all informal employment, this focus appears to be misplaced.

Conclusion

The findings presented in this chapter show that informal employment and undeclared work is not necessarily concentrated among low-skilled or low-paid workers, but that the characteristics informal workers vary considerably, both within countries, across different types of informal employment, and across countries. While informal employment may provide a buffer for some workers who have few alternative labour market opportunities, particularly in Mexico and Turkey, there is a clear case for policy-makers to encourage workers and firms to move into the formal labour market. Informal employment often leaves workers with little protection against old age, sickness, unemployment or economic downturns, reduces tax and social security revenues making it harder for governments to provide high-quality public services, increases contribution rates for formal workers and hinders firm expansion and economic growth. Combating informal employment requires a comprehensive approach that reduces the costs and increases the benefits to businesses and workers of operating formally and ensures that regulations are adequately enforced (see Box 2.4 for country-specific policy proposals). As reform across a range of policy areas is necessary, a whole-of-government approach to tackling informality should be adopted. In particular, increasing enforcement effort is likely to be ineffective, and could actually put jobs and livelihoods at risk, if measures to improve incentives are not taken simultaneously.

In countries such as Mexico and Turkey, where there may be limited formal job opportunities and average productivity levels are low, growth-enhancing policies and, in particular, further efforts at enhancing human capital for youth and adults alike, would in the longer-term improve prospects for employment in the formal labour market. The incidence of low pay among some informal workers is likely to be a significant barrier to improving social protection coverage. In some cases, governments could consider expanding coverage through other means (*e.g.* delinking health insurance from formal labour contracts and financing it out of general taxation) in countries where informality rates are particularly high. Other policies aimed at improving the welfare and income of low-paid workers may also play an important role in overcoming informality. However, more research is needed on the employment impacts of policies designed to prevent in-work poverty.

Identifying suitable policy recommendations to combat informal employment relies on having an in-depth understanding of the extent and nature of informal employment. Almost by definition, this is hindered by a lack of consistent, comparable data on different aspects of informality. For example, European household surveys generally do not collect information on social protection coverage, making it difficult to assess the extent of non-compliance and understand the characteristics of those who are not covered. Existing research comparing administrative data on social protection coverage with labour force data on employment suggests that the extent of non-compliance in central Europe may be non-negligible, particularly in Hungary, and is certainly worthy of further investigation. While accurately measuring under-declaration of income is difficult, new survey methods have been developed that give greater insights into this phenomenon than previously available (*e.g.* European Commission, 2007a). More widespread adoption of such methods would greatly increase understanding of the motives for income under-declaration. More generally, analysis of household survey data to examine different types of informal employment could be more useful in understanding the extent to which the results in this chapter are relevant to higher-income OECD countries than further refining macro estimates of the extent of informality.

There are a number of areas warranting further research on informal employment, but three in particular would be useful in furthering knowledge relevant to OECD countries' experiences. First, more extensive and rigorous evaluation of recent tax policy reforms, such as the introduction of a flat tax in the Slovak Republic, would improve understanding of the links between tax policy and under-declaration and add substantially to existing evidence, much of which is based on theoretical or experimental studies. Second, understanding the dynamics of informal employment – how workers move between formal and informal jobs and the consequences of such moves – would allow policy reforms to be targeted at workers who face the biggest barriers to formalisation and are most vulnerable to remaining informal for long periods of time. Dynamic analysis could take advantage of the growing availability of micro-level panel data for lower-income countries, while a country-specific focus would allow for institutional factors to be taken into account. Finally, there is scant empirical evidence on the impact of specific enforcement measures on informality. A number of OECD countries (including some of those examined in this chapter) are currently undertaking measures designed to improve detection of informal work. Evaluation of the impacts of these policy changes should be undertaken in order to extend knowledge on how enforcement resources can be best used to discourage informality.

Box 2.4. **Encouraging formalisation: a country-by-country synthesis**

Czech Republic

The combination of high taxes on labour income compared with those on capital income, and quite progressive labour taxes may be providing incentives for under-declaration of earnings. The recent tax reform will not significantly affect the tax wedge at average income levels, but incentives for under-declaration at higher income levels are likely to be reduced.

The removal of minimum income tax for the self-employed as part of recent tax reforms could, in the absence of increased income detection and enforcement effort, lead to increased tax evasion by the self-employed.

Reducing or removing severance pay for workers with short tenure might encourage firms to hire young workers formally, rather than without contracts or as false self-employed.

The number of labour inspectors should be increased and there should be greater emphasis on risk-assessment procedures in targeting inspections. Very low prosecution rates for labour law infringement suggest that current sanctions may not have much of a deterrent effect.

Hungary

Labour costs for low-wage workers should be cut by further reducing income tax and social contributions for low-income earners and limiting further minimum wage increases. The use of minimum-wage hikes as a mechanism to increase tax revenue would seem to be misplaced and could damage the formal employment prospects of genuine minimum-wage earners.

Preferential tax treatment through the presumptive tax regime favours self-employment and could contribute to false self-employment. The tax environment should be simplified by reducing exemptions, deductions and frequent changes in tax administration, reducing compliance costs for taxpayers and monitoring costs for tax authorities.

Further improvements in tax and labour enforcement capacity could be made by merging auditing units for different types of taxes and introducing risk-assessment methods to target firms for labour inspections.

Korea

Removing retirement allowances and the seniority based wage system and limiting early retirement would increase incentives for firms to hire and retain older workers, who are particularly prone to informal employment.

Planned integration of tax and social contribution collection and recent changes to tax administration should provide a strong impetus to further increase social security coverage and make it easier for authorities to identify unregistered employees and accurately trace the income of the self-employed.

Enforcement efforts should be enhanced by employing more labour inspectors and improving their training, increasing fines for labour law infringements and increasing the concentration of inspection efforts on small firms.

Mexico

Relaxing strict rules on the use of temporary or fixed-term contracts, introducing a probationary period for new hires, removing the requirement to make redundancy payments for workers with little experience and simplifying redundancy procedures could reduce incentives to hire informal workers and make it easier for youth to enter the formal labour market.

Box 2.4. **Encouraging formalisation: a country-by-country synthesis** *(cont.)*

To reduce formal labour costs, some benefits which are not accessible to many Mexican households but require contributions (*e.g.* housing, childcare) should be either financed by general tax revenue or made voluntary. Improving the efficiency of management of pension accounts, and thus net return, would increase the attractiveness of this saving which is mandatory when working in the formal sector. For those workers who are in a position to choose between formal and informal activity, introducing individual savings accounts as done in Chile and other Latin American countries may also improve the attractiveness of a formal status.

Further changes to the simplified tax system for small businesses should be limited and information and assistance provided to small businesses to help them understand new rules. More generally, the tax system should be simplified to remove loopholes.

Policy efforts to improve incentives for formalisation should be accompanied by further investments in enforcement capacity. Existing enforcement capacity could be enhanced by improving co-operation and information sharing between various levels of government and between enforcement agencies and increasing the use of risk-assessment techniques to target inspections. Further efforts to improve governance, increase regulatory certainty and reduce corruption would contribute to increasing confidence in government and the willingness of both firms and workers to pay taxes.

Poland

Taxes on labour income are relatively high in Poland compared with taxes on capital income, providing strong incentives for informality, particularly at low wage levels. Recent tax reforms will somewhat reduce the tax rate on labour income but disincentives for full declaration will remain.

The self-employed receive preferential tax treatment, which is likely to favour false self-employment and tax evasion. In addition, the number of tax regimes available to small businesses should be cut to reduce opportunities for tax avoidance or evasion. The simplified tax should allow for the deductibility of employees wages to improve incentives to declare workers.

While being careful to preserve job-search incentives, consideration could be given to increasing the link between unemployment insurance contributions and benefits and/or reducing contribution rates. Unemployment benefits are currently very low and have no link to previous earnings. Access conditions are also strict, so that only a minority of the unemployed receive benefits, leaving the unemployed with few other options than to work informally.

Increasing the emphasis of labour inspections on service industries, such as retail, hotels and restaurants where informal employment is common, could yield good results in detecting informality. Extending the current programme focusing on occupational health and safety in small businesses to include information about informal employment could also provide an efficient means to target businesses where the incidence of informal employment is high.

Slovak Republic

High social contributions increase labour costs, despite recent tax reforms. The unemployment insurance scheme is in structural surplus, so contribution rates could be cut and/or access conditions eased in order to reduce the cost or increase the benefit of contributing to the scheme. Administration of social protection schemes could be simplified to reduce compliance costs for businesses. Social contributions are currently paid to five different funds, often with different ceilings and at different times.

Severance payments for workers with less than one year of service should be reduced or abolished to encourage firms to hire more young workers in formal jobs.

Box 2.4. **Encouraging formalisation: a country-by-country synthesis** *(cont.)*

Co-operation between various enforcement agencies should be increased and the spread of tax-payer identification numbers broadened to allow tax and social protection information to be cross-checked. Coverage of small businesses by labour and tax inspections is currently very low. Consideration could be given to introducing compliance programmes aimed specifically at small businesses.

Turkey

The minimum wage is binding in the formal sector whereas almost half of informal employees are paid less than the minimum wage. High replacement rates for the pension system along with a deterioration of the tax base have kept taxes and social contribution rates high. To encourage formal employment, labour costs should be reduced by a combination of a lower minimum wage and lower tax and contribution rates.

Lifting current prohibitions on temporary employment could provide businesses with more flexibility, reduce incentives to hire informally and improve the working conditions of temporary workers, very few of whom currently have social security coverage. Administrative arrangements for registering temporary workers for social security should also be simplified to reduce compliance costs for employers.

The current severance payment scheme should be phased out as it encourages informal employment, particularly among older workers and women. The introduction of the unemployment insurance scheme in 2000 was designed to replace the severance payment system, but very few unemployed people receive benefits, contributing to employee resistance to removing severance payments. The unemployment insurance scheme is currently operating in structural surplus, so there is scope to relax eligibility criteria, increasing the benefit to employees of contributing.

In combination with improving incentives for formalisation, more resources should be allocated to enforcement. The number of labour inspectors is low, given Turkey's population and level of development, and has fallen in recent years. Only a small proportion of formal firms are subject to tax or social security inspections each year and compliance costs are relatively high. Increasing co-operation and information sharing could be one way to reduce costs and increase efficiency. Fines for breaches of labour regulations may be too low to provide much deterrence.

Notes

1. Perry *et al.* (2007) compare official estimates of the size of the informal sector in Mexico with aggregate estimates generated using regression methods and find considerable disparities between the two.
2. The chapter focuses on *informal employment* rather than *employment in informal firms* because the emphasis is on worker-level rather than firm-level informality. Hussmanns (2004) discusses the development of international statistical definitions of both informal employment and employment in the informal sector. In reality, most workers in informal firms are likely to be included in the measures of informal employment used in this chapter. However, by focusing on informal employment, other forms of informality common in formal-sector firms, such as undeclared income, are also considered.
3. As most of the estimates in Table 2.1 are derived from country-specific household surveys or firm-level surveys covering a limited range of countries, it is not possible to replicate these measures for all OECD countries in order to provide OECD average indicators. It would be misleading to produce an overall measure of the extent of informal employment by aggregating the figures in Table 2.1 due to overlaps in the groups incorporated in each measure and the fact that some of the indicators are only proxies for informal employment.

4. Except for Turkey, no data are available to assess self-employed workers' informality (*e.g.* registration to social security schemes).

5. In some countries (*e.g.* Hungary, Czech Republic) self-employed foreigners are not required to have a work permit to work legally, so self-employment might be used by firms or workers as a means of by-passing regulations on the employment of foreigners.

6. This section draws on analysis of the characteristics of informal employment using a variety of data sources presented in OECD (2008a).

7. The limited evidence on the impact of minimum wages on self-employment suggests that minimum wage increases that adversely affect the employment prospects of formal workers have a similar impact on the self-employed (Hamidi and Terrill, 2001; Jaramillo, 2005; Maloney and Mendez, 2004). Possible explanations include increased competition from displaced formal employees driving the self-employed out of business, or improved wage prospects in the formal-sector inducing some "voluntarily" self-employed workers to seek formal jobs.

8. Earnings distributions are estimated using a kernel density estimator with an Epanchnikov kernel function. The shape of kernel density estimates is less sensitive to the choice of bin-width than a simple histogram, particularly in cases where data are clustered. However, kernel density estimates should not be interpreted in the same way as a histogram. Each distribution is scaled so that the area under the curve is equal to one. The vertical axis is the (scaled) density, rather than the proportion of observations at each level of earnings.

9. Data for Poland are from the Labour Force Survey, which is not the preferred source of data on earnings for Poland. However, alternative data sources were not directly comparable with the data used for other countries in Figure 2.1. The Structure of Earnings Survey, the official source of earnings data in Poland, is a firm-level survey of firms with ten or more employees, so is likely to exclude a large proportion of informal workers, who tend to be concentrated in small firms. The Household Budget Survey, the most comparable with other data sources used in Figure 2.1, does not allow for farm-sector employees to be excluded from the sample and does not include data on hours worked to allow employees working 40 or more hours per week to be identified accurately. The estimated earnings distribution using data from the Household Budget Survey for Poland and limiting the sample to those who say they work "full-time" (not defined) is very similar to that shown in Figure 2.1.

10. While the overall earnings distribution is not distorted around the level of the minimum wage in Korea, Mexico or Poland, this does not mean that the likelihood of informal employment for some groups of employees is not affected by the minimum wage. For example, in some regions of Poland, the earnings distribution is distorted around the level of the minimum wage.

11. Full-time employees were identified by their weekly hours: some casual and temporary workers may not work every week, meaning that their monthly earnings would be lower than the minimum wage, even if they were paid the hourly minimum.

12. The earnings distribution using unpublished data from the Wage Survey on the earnings of full-time employees in businesses with five or more employees was provided by the Hungarian Ministry of Finance.

13. It could be expected that a household-level survey like that used to derive Figure 2.1 might more accurately capture true earnings. However, Tonin (2007) notes that surveyors in Hungary are required, where possible, to use tax records to verify earnings data collected in the Household Budget Survey. To the extent that this occurs, the data collected will reflect any under-reporting to tax authorities, rather than the true earnings of under-reporters.

14. The methodology adopted by Benedek *et al.* (2006) would tend to underestimate the extent of under-declared income because it does not consider workers whose expenditure and income differed by only a small amount to be informal, even if they had under-declared income. The analysis was also undertaken using data from 2000, before the largest of the recent minimum-wage increases, when only around 5% of workers reported earning the minimum wage (Tonin, 2007).

15. For an extensive discussion of the employment effect of labour taxes, see OECD (2007a).

16. See Ihrig and Moe (2000), Johnson *et al.* (1998), Kuehn (2007), Lackó (2006) and Loayza (1997).

17. Including the mandatory contributions to the private pension scheme (8.65% of gross wage) would put Mexico's tax wedge at about the same level as Korea's.

18. The OECD maintains tax wedge calculations on a consistent basis back to the year 2000.

19. All incomes will be taxed at 15% in 2008, instead of 12-32% in 2007. The rate should be brought down to 12.5% in 2009. Social contributions will no longer be deductible.

20. Although it is not included in the OECD *Benefits and Wages* indicators, the situation in Mexico is probably similar to that in Korea, because of the low level of the tax wedge and the absence of unemployment benefits or any other significant non-work transfers.

21. These are often called models of the "underground economy". They have two sectors, one in which income is fully known by the tax authorities and the other where evasion is possible.

22. In calculating these rates, it is assumed that the business owner's income will be taxed at the top marginal rate, which may not always be the case.

23. The downward step observed at 140% of the average wage stems from the pension contribution ceiling.

24. Specific VAT regimes for SMEs, although they are not direct taxes on labour income, can also influence evasion, but are not examined here due to time/space constraints.

25. European Commission (2004), for example, cites a survey indicating that compliance costs for VAT and corporate tax are around 0.02% of turnover for larger enterprises, but 2.6% for small businesses.

26. For a review of non-compliance estimates by small businesses, also see Schuetze and Bruce (2004).

27. As outlined in Bakos *et al.* (2006), another problem with EVA is that it may encourage evasion of VAT payments, since an EVA taxpayer is less motivated to ask for tax receipts than a firm which takes into account the gross value of inputs and service costs to calculate its tax liabilities (for VAT and income tax).

28. The OECD's EPL index measures the strictness of legal provisions on hiring and firing workers. The strictness of EPL *in practice* may also be influenced by judicial practices, provisions in collective agreements and the degree to which regulations are enforced, which are captured to only a small degree in the index (OECD, 2004a). Section 4 shows that labour law enforcement capacity is particularly limited in Mexico and Turkey. This may imply that the high values of the EPL index shown in Figure 2.6 over-estimate the costs imposed on businesses in these countries by the operation of EPL in practice.

29. The variability of employment is measured using the coefficient of variation (standard deviation divided by the mean) of a series of six-monthly employment figures from the Turkish Household Labour Force Survey. The coefficient of variation is 29% for employees not registered for social security compared with 17% for employees registered for social security.

30. In addition to the retirement allowance and pension systems, a number of other factors reduce formal employment prospects for older workers in Korea. First, while Korea's EPL is around the OECD average (see Figure 2.6), in practice it can be difficult for firms to fire workers except in the case of serious misconduct. Such restrictions do not apply to workers who have reached mandatory retirement age, so a majority of firms have mandatory early retirement policies in place. Second, seniority-based pay schemes, along with the requirement to pay retirement allowances based on years of tenure, mean that labour costs increase dramatically with age, increasing incentives to fire older workers. Third, age-based discrimination is common and older workers have lower average educational attainment than younger cohorts, making it difficult for displaced older workers to find new formal jobs (OECD, 2007d; OECD, 2004b).

31. For a discussion of the concepts of actuarial fairness and actuarial neutrality and their relevance in the pension debate, see Queisser and Whitehouse (2006). Increasing the link between contributions and benefits involves: *i)* making accrued pension rights proportional to contributions; *ii)* making rates at which pension benefits accrue reflect differences in life expectancy for different population groups; and *iii)* better linking first age of receipt of public pension to differences in expected longevity (OECD, 2007a).

32. OECD estimates using data from the Korean Labor and Income Panel Study.

33. OECD estimates using data from Encuesta Nacional de Ingresos y Gastos de los Hogares and Turkish Household Labour Force Survey.

34. Brook and Whitehouse (2006) note that out of 2.9 million men aged 50-59, only 0.6 million were contributing to social security. Around 1.6 million were receiving a pension, when only 0.9 million stated in the THLFS that they were not participating in the labour force due to retirement. This implies that around 700 000 in that age group were working informally.

35. World Bank (2006) notes that the small share of lay-offs in total job separations is surprising given the slack of the labour market and the relative scarcity of formal jobs in Turkey, and may reflect the fact that the substantial severance obligations (Section 2.3) create incentives for firms to induce resignation rather than formally lay-off workers.

36. In Poland, the amount of the benefit is not related to previous earnings but fixed, varying only according to the contribution period (Table 2.4). In the other countries, initial replacement rates are close to 50% of previous earnings, which is rather low compared with most other OECD countries, and benefits are capped by rather low ceilings. For comparison with other OECD countries, see Table 1.1 of OECD (2007f).

37. The ratio of contributions-minus-benefits to employees' compensation amounted to 0.8% in the Slovak Republic and 1.5% in Turkey in 2006 (*Source:* National Accounts).

38. While unemployment benefits are only a small proportion of receipts in Poland, the unemployment insurance scheme operated at a small deficit in 2007. This is because, in addition to paying benefits to the unemployed, the scheme funds active labour market programmes and early retirement schemes.

39. For more information, see *www.govindicators.org*.

40. Since 2004, using the banking system for payments over TRY 8 000 (about USD 5 600) is compulsory.

41. In Mexico, total tax staffing levels are very low, and were reduced in the first half of the 2000s. To some extent, this reflects the relatively low rates of taxes compared with the other countries.

42. There is very little empirical evidence on the links between labour inspection and informal employment. In the absence of more concrete empirical evidence, the discussion in this section relies on studies of best practice in labour inspection, typically produced by practitioners or international bodies.

43. Responses were received from the following organisations: Czech Republic: State Labour Inspection Office; Hungary: Hungarian Labour Inspectorate; Korea: Ministry of Labor; Mexico: Federal Labour Inspectorate; Poland: National Labour Inspectorate; Slovak Republic: National Labour Inspectorate; Turkey: Labour Inspection Office of the Ministry of Labour and Social Security.

44. As mentioned above, data for Mexico in Figure 2.21 refers only to the inspection activities of the Federal Labour Inspectorate, which are concentrated in industries where firms tend to be larger.

45. Among European OECD countries, Finland, Hungary, Iceland, Ireland, the Netherlands, Norway, Sweden and the United Kingdom are the only countries with integrated collection of tax and social contributions (Anusic, 2005).

46. Contributions for the voluntary tier of the pension system are collected directly by pension agencies.

ANNEX 2.A1

Characteristics of Employees who Earn Less than the Minimum Wage in Turkey

A probit model is used to determine which characteristics affect the likelihood of earning less than the minimum wage in Turkey. The sample, from the Turkish Household Budget Survey, includes only full-time employees working 45 hours per week or more (standard weekly hours). The dependent variable is a dummy variable equal to one if the respondent earns less than the net monthly minimum wage and zero otherwise. Three alternative measures are tested to determine the sensitivity of the model to the definition of earning less than the minimum wage: earning 99%, 95% or 90% or less of the minimum wage. The results (Table 2.A1.1) show that there is little difference in the size or significance of the estimated coefficients between the three measures.

Independent variables included in the model are: gender; age (in ten-year categories, where 35-44 years is the omitted category); educational attainment (primary school or less is the omitted category); occupation (manager or professional is the omitted category); contract type (permanent contract is the omitted category); size of business (less than ten employees is the omitted category); weekly hours of work; a dummy equal to one if the respondent is the household head; and a dummy equal to one if the respondent is registered with any social security agency.

Table 2.A1.1. **Factors affecting the probability of full-time workers earning less than the minimum wage in Turkey**

Marginal results from a probit regression[a]

	Earning 99% or less of minimum wage	Earning 95% or less of minimum wage	Earning 90% or less of minimum wage
Female	0.028**	0.029**	0.023*
	[2.03]	[2.17]	[1.91]
Aged 15-18	0.225***	0.217***	0.169***
	[4.95]	[4.84]	[4.26]
Aged 19-24	0.039**	0.036**	0.016
	[2.08]	[1.98]	[1.10]
Aged 25-34	–0.02	–0.021*	–0.024**
	[1.60]	[1.73]	[2.26]
Aged 45-54	0.006	0.005	0.005
	[0.35]	[0.30]	[0.36]
Aged 55+	0.045	0.045	0.047
	[1.34]	[1.37]	[1.50]

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Table 2.A1.1. **Factors affecting the probability of full-time workers earning less than the minimum wage in Turkey** *(cont.)*

Marginal results from a probit regression[a]

	Earning 99% or less of minimum wage	Earning 95% or less of minimum wage	Earning 90% or less of minimum wage
Lower secondary education	–0.024**	–0.025**	–0.026***
	[2.10]	[2.26]	[2.78]
Secondary education	–0.056***	–0.053***	–0.040***
	[6.25]	[5.95]	[4.98]
Post-secondary education	–0.070***	–0.067***	–0.052***
	[6.92]	[6.74]	[5.23]
Years with current employer	–0.004***	–0.004***	–0.003***
	[4.88]	[4.98]	[4.46]
Clerks	0.037	0.036	0.021
	[1.13]	[1.13]	[0.77]
Service workers	0.04	0.039	0.034
	[1.49]	[1.47]	[1.41]
Tradepersons	0.017	0.019	0.013
	[0.74]	[0.83]	[0.65]
Plant and machine operators	–0.037**	–0.039**	–0.036**
	[2.05]	[2.27]	[2.36]
Elementary occupations	0.055*	0.048	0.035
	[1.77]	[1.63]	[1.37]
Casual employee	0.045**	0.041*	0.050**
	[2.07]	[1.94]	[2.40]
Temporary employee	0.043**	0.044**	0.046**
	[1.96]	[2.01]	[2.23]
Weekly hours	–0.001***	–0.001***	–0.001***
	[3.28]	[3.49]	[2.93]
10-24 employees	–0.032***	–0.029***	–0.024***
	[3.49]	[3.21]	[2.93]
25-49 employees	–0.038***	–0.038***	–0.040***
	[3.37]	[3.46]	[4.36]
50+ employees	–0.058***	–0.058***	–0.054***
	[5.37]	[5.44]	[5.66]
Head of household	–0.087***	–0.082***	–0.082***
	[6.00]	[5.77]	[6.11]
Registered for social security (d)	–0.235***	–0.233***	–0.213***
	[14.26]	[14.20]	[13.39]
Pseudo R-squared	0.41	0.411	0.41
Sample size	4 006	4 006	4 006

StatLink http://dx.doi.org/10.1787/347455370080

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) Robust t-statistics in brackets. For dummy variables, the marginal effects represent the change in probability when the dummy variable is increased from zero to one. For continuous variables, the marginal effects represent the change in probability for a one-unit increase in the variable. The reference categories are aged 35-44 years, primary school or lower education, manager or professional, permanent contract, business less than ten employees.

Source: OECD calculations using data from the 2005 Turkish Household Budget Survey.

ANNEX 2.A2

Recent Changes in Employment Protection Legislation

Changes in employment protection legislation since 2003 are as follows:

- *Czech Republic* increased regulation on regular employment by increasing redundancy payments for regular workers from 2-3 months' average earnings and introducing severance payments equal to 12 months' average earnings for workers who lose their jobs because of permanent incapacity due to an industrial injury or illness. The Czech Republic also imposed a limit of two years on the maximum length of consecutive fixed-term contracts with the same employer and removed restrictions preventing young workers and school-leavers from being employed on fixed-term contracts. The overall impact of these changes on regulation of temporary workers is not clear.
- *Hungary* increased regulation on temporary employment by tightening the definition of temporary agency work.
- *Korea* relaxed somewhat regulation on regular workers by shortening the notice period for dismissal of regular workers from 60 to 50 days.
- *Poland* increased regulation on temporary employment by tightening the definition of temporary agency work and imposing a limit of two renewals for fixed term contracts.
- *Slovak Republic* tightened the definition of temporary agency work and extended the circumstances in which fixed-term contracts can be renewed over the maximum limit of three years, including by agreement in a collective agreement, in a range of specific occupations and in firms with less than 20 employees. The overall impact of these changes is unclear, but is likely to have relaxed somewhat regulation on temporary employment.
- *Turkey* relaxed regulation on temporary and regular employment by increasing the size threshold for the application of EPL from ten to 30 workers.

(*Note:* there have been no significant changes in EPL in Mexico).

Source: National legislation; World Bank Doing Business database.

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Chapter 3

The Price of Prejudice: Labour Market Discrimination on the Grounds of Gender and Ethnicity

Despite some progress, there is still evidence of discrimination on the grounds of gender and ethnic or racial origins in OECD labour markets. Field experiments show pervasive ethnic discrimination in many countries. Indirect evidence shows that on average at least 8% of the gender employment gap and a larger proportion of the gender wage gap can be attributed to discrimination. Virtually all OECD countries have enacted anti-discrimination laws in recent decades, and evaluations as well as cross-country analysis suggest that, if well-designed, these laws can be effective in reducing disparities in labour market outcomes. However, enforcement of anti-discrimination legislation is essentially based on victims' willingness to claim their rights. Thus, public awareness of legal rules and their expected consequences (notably, victims' costs and benefits of lodging complaints) is a crucial element of an effective policy strategy to establish a culture of equal treatment. Moreover, legal rules are likely to have more impact if the enforcement is not exclusively dependent on individuals. In this respect, specific agencies may play a key role.

Introduction

Employment outcomes are far from being evenly distributed among the various socio-demographic groups. Although women's rising labour market participation has been a major component in labour supply growth during past decades, their labour market performance still remains significantly worse than that of men, sometimes dramatically so: in certain countries female employment rates and wages are more than 25% lower than those of their male counterparts, even controlling for observable characteristics. Likewise, ethnic minorities appear to fare less well in OECD labour markets than workers belonging to majority groups (OECD, 2007a). Empirical evidence indicates that, in addition to factors determining labour supply patterns, discrimination in the labour market – *i.e.* the unequal treatment of equally productive individuals only because they belong to a specific group – might be one of the forces behind these large and persistent disparities. In a similar vein, recent OECD work on older workers and disabled persons stresses that changing negative employer attitudes is key to foster the employment prospects of these two under-represented groups and review the potential role of national anti-discrimination laws in this respect (OECD, 2006a, 2006b and 2007b).

Virtually all OECD countries have enacted anti-discrimination laws over recent decades. This important legislative effort has been primarily justified on the grounds of equity and social cohesion. This notwithstanding, to date, no comparable inventory of anti-discrimination legislation on gender and ethnic grounds has ever been produced and no assessment of these laws, in terms of their labour market implications, has been undertaken for the OECD countries as a whole. The present chapter is a first attempt to fill this gap.

In many OECD countries that are facing rapid population ageing, increasing the employment rates of under-represented groups is one key to offsetting labour shortages. Women still constitute the largest pool of underutilised labour supply. In addition, it is expected that there will be need for more worker immigration in the near future. This will only be possible if past and current immigrants, who are more numerous, are seen to be integrating in the host country (OECD, 2007c). Policy efforts of OECD countries to facilitate access to employment and increase the return to paid jobs for women and ethnic minorities, as well as other under-represented groups, are sizeable, and typically take forms such as specific labour market programmes, family-friendly policies or tax incentives. However, pervasive discrimination potentially impairs the effectiveness of such policies. Hence, it is important to quantify the extent of such discrimination if one wishes to put in place effective policies to minimise it.

The chapter starts by providing a picture of employment and wage disparities by gender and ethnic groups (Section 1). Part of these disparities is explained by easily identifiable factors, such as differences in educational attainment. There are a variety of potential explanations for the remaining part, including unobservable individual characteristics that affect productivity – *e.g.* socio-cultural differences in attitude towards

work – and of course, discrimination. Section 2 explicitly focuses on the issue of discrimination. It presents various pieces of evidence on the extent of discrimination, relying on both a comprehensive review of the empirical literature on gender and racial discrimination in the labour market and new cross-country empirical analysis on the contribution of discrimination to gender employment and wage gaps. Finally, Section 3 documents and analyses the legal and institutional framework that OECD countries have gradually implemented to fight gender and racial discrimination in the labour market. It also provides some evidence that such policy efforts may have contributed to improve the labour market situation of women and ethnic minorities.

Main findings

- Across the OECD countries, 20% fewer women than men have a job, on average, and they are paid 17% less than their men counterparts. Similar gaps are found when comparing ethnic minorities with their majority counterparts, although the average gap is more difficult to quantify because race-based statistics are illegal in many countries. Observable characteristics, such as education, experience, occupation, and, when available, motivation, expectations, and field of study, account for a large share of these gaps. Yet, they leave at least one fourth of gender and ethnic gaps unexplained.
- Gender and ethnic disparities in employment and wages have narrowed over time in OECD countries, although the pace of their contraction has slowed down. As regards gender gaps, the educational catch-up of women is by far the most important factor responsible for the narrowing of the gap. Yet, its potential to reduce the gender gaps further appears to be largely exhausted in many countries.
- Field experiments show pervasive discrimination on the ground of ethnic origin in all countries where they are available. Moreover, indirect evidence shows that discrimination also plays a role in shaping gender disparities. Empirical estimates suggest that on average at least 10% of the narrowing of the gender employment gap in the past thirty years can be attributed to a reduction of the extent of discrimination.
- Pro-competitive product market deregulation, by limiting entry, survival and growth of discriminating firms, can play a significant role in reducing the extent of discrimination in the labour market. Estimates suggest that if all OECD countries liberalised their product market to the level of the country with the most pro-competitive regulatory stance, the average gender employment and wage gaps would fall by at least 1 and 3 percentage points, respectively. However, regulatory reforms are unlikely to eliminate all employers who operate discriminatory practices from the market and other policy interventions are necessary.
- Almost all OECD countries have established laws to combat discrimination on both gender and ethnic grounds. Nonetheless, enforcement of these regulations is essentially based on victims' willingness to claim their rights. As a consequence, public awareness and incentives for victims to lodge complaints are crucial elements of an effective anti-discrimination policy strategy. Moreover, legal rules, if well-known, may be an important vehicle of cultural change. Yet, in countries where such information is available, there is evidence that many people are not aware of their legal rights as regards discrimination in the workplace.
- Individual victims of discrimination still face strong barriers to bring a case before the courts: legal action remains a costly, complex, time-consuming and adversarial process

in many countries. Alternative mechanisms of dispute resolution, such as formal mediation, are available in most countries under review. And in countries that have a long experience of such procedures, they have been shown to be effective in solving discrimination disputes. This notwithstanding, mediation will always work better against the background threat of litigation.

- Legal rules will have more impact if the enforcement is not exclusively dependent on individuals deprived of their rights. In most countries, there are specialised bodies empowered to investigate companies and organisations, and to take, even in the absence of individual complaints, legal actions against employers who operate discriminatory practices. The extent to which such measures are effectively implemented is rather unclear. For instance, in many countries, these bodies are not well equipped to sanction employers when they find evidence of discrimination.
- Empirical evidence on the impact of anti-discrimination legislation is scarce. Available evaluations, mainly focusing on the United States, as well as cross-country analysis, suggest that these laws may reduce gender and ethnic disparities in labour market outcomes. But further research is needed. In particular, the magnitude of these positive effects remains difficult to establish. Moreover, if not carefully designed, anti-discrimination laws may discourage employers from hiring disadvantaged groups in the first place. Legislation is only one possible tool to combat discrimination, and its interaction with other policy instruments to promote equality and diversity, such as positive and affirmative action, would also deserve an in-depth analysis.

1. Some stylised facts: gender and ethnic gaps in labour market performance

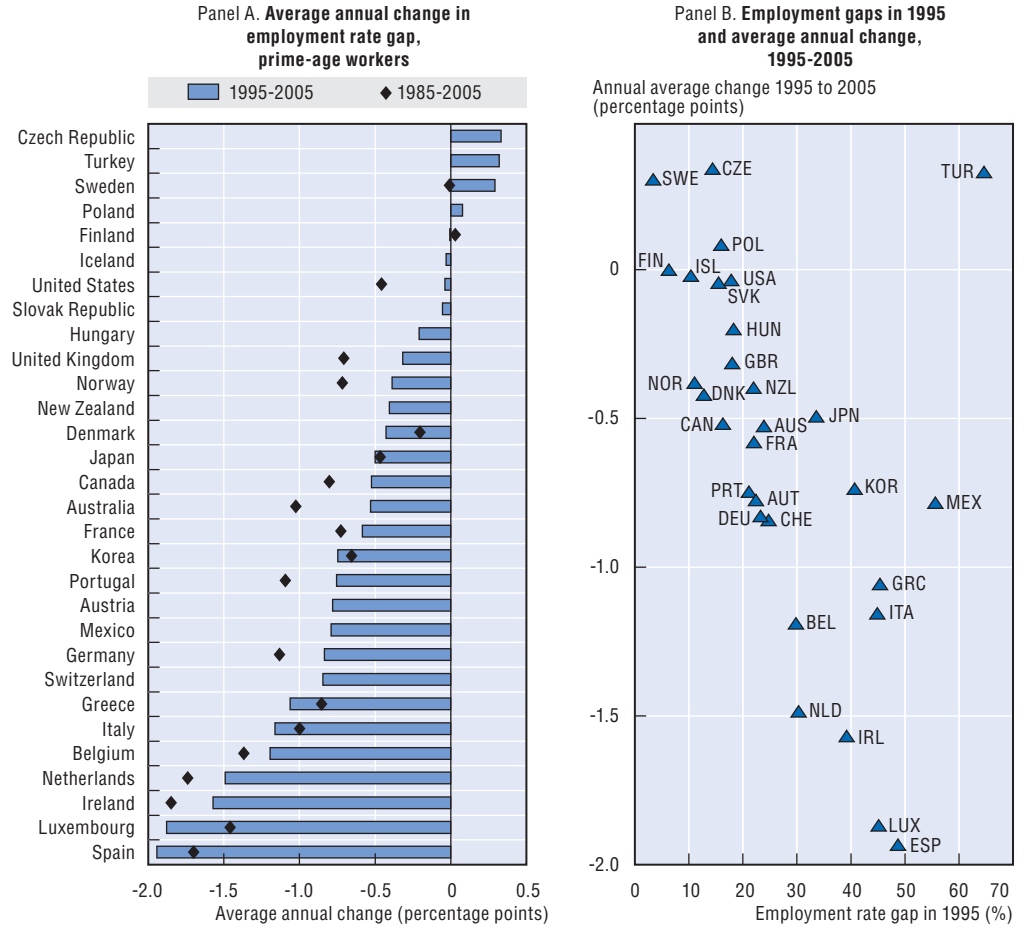
In most OECD countries, differences in labour market performance by gender and ethnic origin have been persistent over time, although the magnitude, nature and trend of these gaps vary across countries and have changed over time. A variety of economic, social or cultural factors can potentially explain these differences. Some of them, such as educational attainment, are easy to identify, while the role of some other factors is more difficult to assert, not least because they are not directly observable. Discrimination is part of this second category of latent sources of gender and ethnic disparities. This section presents the evolution of employment and wage gaps by gender and ethnic origin and assess how much of these gaps can be explained by changes in observable factors. What is left could be taken as a crude upper limit to the extent of discrimination in OECD labour markets.

1.1. *Gender disparities in the labour market*

The gender employment gap has narrowed over time in the OECD area…

One of the most profound labour market developments in OECD countries over the post-war period has been the continued progress made by women (see *e.g.* OECD, 2002, Chapter 2). Female participation and employment have expanded considerably and the *employment gap* relative to men has narrowed virtually everywhere, although the pace of convergence differs significantly across countries (Figure 3.1, Panel A). In countries such as Spain, Luxembourg, Ireland and the Netherlands, the gender employment gap – defined as the difference between male and female employment rates as a percentage of the male employment rate – has narrowed by 1.5 percentage points or more per year in the last ten years, while countries such as the United States and Finland have experienced no change in the gap during the same period.

Figure 3.1. **The gender employment gap has narrowed over time and converge towards countries with low gaps**



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Note: The gender employment gap is defined as the difference between male and female employment rates as a percentage of the male employment rate.

Source: OECD database on Labour Force Statistics.

… but the speed of contraction has substantially slowed down in most countries…

In many countries, the shrinking of the gender gap in employment has somewhat slowed down in the past ten years. By restricting the comparison to only those countries for which data are available for earlier years, it appears that the narrowing of the gap was on average about 0.2 percentage points per year faster between 1985 and 1995 than between 1995 and 2005. This pattern, however, can essentially be explained by the fact that as laggard countries catch-up, their potential for further improvements is reduced. Similarly, cross-country differences in the reduction of the gap are by and large explained by the level of the gap at the beginning of the period (Figure 3.1, Panel B).[1]

These developments mostly reflect changes in the labour supply behaviour of women, a growing proportion of whom remain in the labour market throughout their working lives and combine paid work with caring of children and elderly relatives (see *e.g.* OECD, 2002; and Altonji and Blank, 1999). A variety of forces have driven the dynamics of female labour supply, including changes in family patterns and household formation that increasingly rely also on women's earnings in household income; increasing aspirations of women for

the independence and fulfilment that paid employment can bring; and increasing policy efforts by governments aimed at raising female employment rates by providing tax incentives and suitable framework for family-friendly work environments (OECD, 2007d). At the same time, the dramatic increase in the average educational attainment of women that has been experienced by all OECD countries is by far the most important explanatory driver. For example, Bassanini and Duval (2006) find that, in their sample of 20 OECD countries, about 50% of the cross-country variation in the growth of female employment rates between 1982 and 2003 can be attributed to raising educational attainment, while only 28% was due to policies and institutions.

... and gender disparities remain large

In 2005, the employment rate of prime-age women was 10% to 20% smaller than that of their male counterpart in most OECD countries (Figure 3.2). Smaller gaps are found only in the Nordic countries, with Finland being the country with the smallest gap (6%). The gender employment gap is highest in Turkey, Mexico, Greece, Korea and Italy. With a gap well above 30%, these countries still lag dramatically behind the OECD average (20.6%).

It is possible to appraise the importance of educational attainment patterns in cross-section data (that are available for all OECD countries) by comparing employment gaps across countries for similar distributions of educational attainment in the population. Employment rates are generally much higher, and the gender gap lower, among women with a tertiary qualification than among low-educated women (see OECD, 2007e, statistical annex). In fact, higher education is likely to give women access to more interesting and well-paid occupations, making paid employment more attractive and formal child-care arrangements more affordable (see *e.g.* Altonji and Blank, 1999). Figure 3.2 shows hypothetical employment gaps that would result in each country if gender employment gaps by educational attainment remained unchanged, but the distribution of the population by gender and education were the same as in Finland, which is the country with the lowest overall gap. To the extent that Finland appears to be one of the countries in which educational attainment is the highest and where women have the greatest educational lead with respect to men, the comparison of actual and hypothetical gaps gives a rough estimate of how much the gender employment gap might be reduced by raising the level of qualifications.

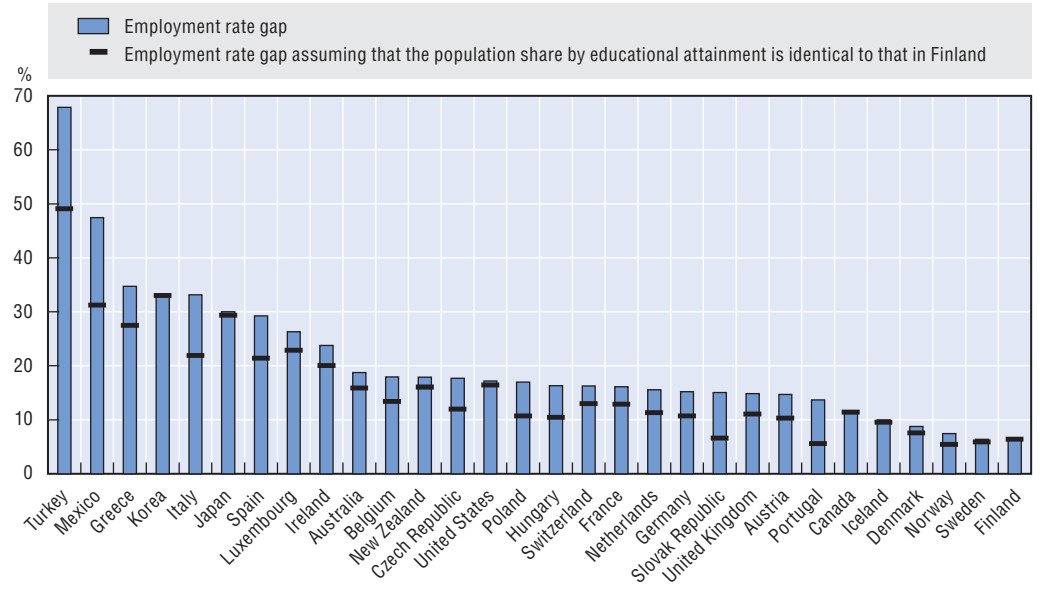
On average, the employment gap would be about 20% (5 percentage points) lower if, with unchanged employment differentials by education, the distribution of the population by educational attainment were the same as in Finland. Not surprisingly, however, this improvement is concentrated in countries that are far from gender parity. Countries with low gender employment gaps appear to have already attained higher average educational attainment among women compared with their male peers. Combining this evidence with the fact that no or little further narrowing of the gender gap has occurred in these countries in the past ten years, one can cautiously argue that it is unlikely that major improvements in the gender gap can be reached in these countries through further improvement in human capital among women, and that accumulation of human capital alone can hardly reduce the gap below a floor of about 5%.[2]

The wage gap between men and women persists...

In order to assess the relative importance of forces that drive gender employment disparities, however, it is important to look simultaneously at the *wage gap* (Bovenberg, 2007).

Figure 3.2. **The gender employment gap still varies widely across OECD countries**

Employment gap between prime-age men and women, 2005[a]



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Note: The gender employment gap is defined as the difference between male and female employment rates as a percentage of the male employment rate.

a) Data refer to 2003 for Japan.

Source: OECD database on Labour Force Statistics; OECD (2007g).

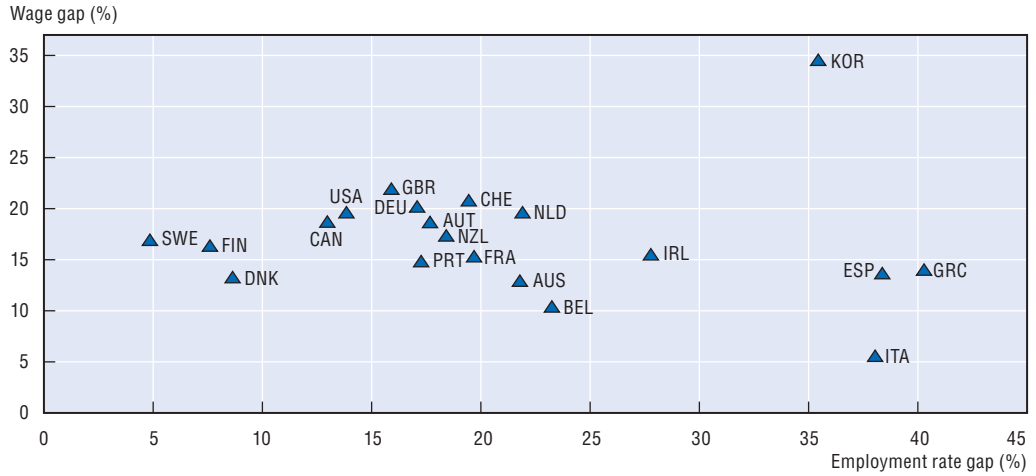
In 2001, the latest year for which comparable data for a large number of OECD countries are available, women earned, on average, 17% less than men per hour worked, with however marked differences across countries (Figure 3.3). The gender wage gap also appears somewhat negatively related to the gender employment gap, as one would expect if labour supply patterns determined gender employment gaps and labour demand were the same for women and men (Olivetti and Petrongolo, 2006).[3] Yet, a few countries (the Nordic countries, Korea and a number of southern European countries) cluster away from the virtual negatively-sloped line linking employment and wage gaps. Moreover, a closer look at gender gaps by educational attainment suggests that the relationship between gender employment and wage gaps is weak, suggesting that other factors also play a role (OECD, 2008a).

… and a large part of it is not explained by easily observable characteristics

Regression-based decompositions have been used in the literature to try to identify the sources of wage gaps between men and women. These decompositions allow assessing how much of the gap is explained by observed gender differences in terms of individual productive characteristics, the remaining unexplained portion being ascribed to differences in unobserved characteristics and/or asymmetries in labour demand (see OECD, 2008a). Educational attainment and labour market experience typically explains only a small or even negligible portion of the gender wage gap. By contrast, labour market segmentation by occupation, type of contract, industry as well as firms and establishments typically explain a far larger share (see *e.g.* Altonji and Blank, 1999; Reilly and Wirjanto, 1999; Datta Gupta and Rothstein, 2005; Heinze and Wolf, 2006).[4] However,

Figure 3.3. **Gender wage and employment gaps are weakly correlated**

Gender wage gap and employment rate gap for prime age workers, 2001



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Note: The gender employment gap is defined as the difference between male and female employment rates as a percentage of the male employment rate. The gender wage gap is defined as the difference between average male and female hourly wages as a percentage of the average male wage. Data refer to 2000 for Sweden.

Source: See Annex 3.A1.

evidence based on large-scale matched employer-employee data shows that even taking into account a fine disaggregation of occupations, industries and establishments, more than 50% of the wage gap remains unexplained (*e.g.* Bayard *et al.*, 2003). More important, the gender distribution of jobs is itself the outcome of the equilibrium in the labour market. It provides therefore some indication of the channels through which a gender wage gap arises, but sheds no light on the ultimate causes of the gap.

A generalised contraction of the gender wage gap in the past thirty years is reported in the literature (see *e.g.* OECD, 2002).[5] For instance, in the United States the average gender wage gap declined from over 45% in 1979 to about 30% in the 1990s, and similar figures can be found for other countries (see Altonji and Blank, 1999). In their meta-analysis of the gender wage gap covering a large number of OECD and non-OECD countries, Weichselbaumer and Winter-Ebmer (2005) show a substantial contraction of the total wage gap between the 1960s and 1990s. A replication analysis undertaken for the purpose of this chapter on the same data, but limiting the sample to OECD countries, shows a similar pattern. This reduction appears to be mostly due to the evolution of observable characteristics such as educational attainment and changes in labour market experience. As a result, however, the unexplained share of the gap has increased over time. In addition, comparable evidence from household surveys for 15 OECD countries provides little evidence of further narrowing of the gender wage gap between 1994 and 2001 (OECD, 2008a).[6] As in the case of the gender employment gap, these pieces of evidence could again reflect the end of the historical catch-up of women with respect to men in terms of educational attainment.

Several researchers have suggested that gender differences in individual characteristics that are usually not available in standard datasets can account for the large unexplained portion of the gender wage gap typically found in regression-based decompositions, as well as for the large contribution to the gender wage gap stemming

from gender segmentation in the labour market. These include factors affecting gender differences in the quality of the labour supply such as the quality of education and field of study, as well as personal traits including expectations and motivation.[7] For example, using recent UK data on a cohort of graduates, Chevalier (2007) shows that differences in motivations, expectations and field of study can explain up to 70% of the observed wage gap.

Although these factors can be seen essentially as labour supply determinants, the gender wage gap is also likely to be affected by the way the labour market rewards them. For instance, Blau and Kahn (1996, 2000, 2003) show – albeit under somewhat extreme assumptions (see OECD, 2008a) – that institutions shaping the dispersion of the returns to unobserved productive skills, and more generally of the wage distribution, have an important impact on the gender wage gap. However, the importance of the wage distribution in explaining the gap must not be overstated. For instance, while there is a strong cross-country correlation between wage dispersion and the gender wage gap (see Bettio, 2002; and Blau and Kahn, 2003), this appears to be essentially due to few countries with wage dispersions far from the OECD average (OECD, 2008a).

1.2. Employment and wage gaps of ethnic minorities

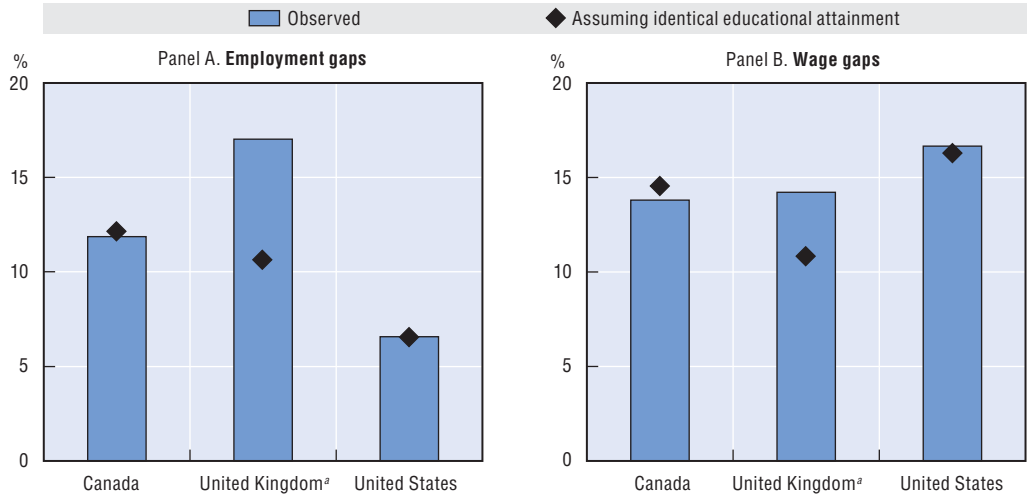
Racial gaps in employment and wages appear large in countries where data are available…

The analysis of labour market inequalities by ethnic origin is more difficult due to the fact that explicit collection of data on race is illegal in many OECD countries, which restrains enormously the number of countries for which racial disparities can be observed and racial gaps computed. Figure 3.4 presents comparative evidence on racial employment and wage gaps in three countries (Canada, the United Kingdom, and the United States) where these data are available. Even though racial employment gaps appear to be substantial, educational attainment plays a role in explaining their cross-country differences. By contrast, this does not seem to be the case as regards the racial wage gap. However, this might be simply due to the limited information on educational attainment used in the international comparison. In fact, available US evidence suggests that, controlling for measures of actual competences and areas of residence it is possible to explain up to almost three-quarters of the racial wage gap (see *e.g.* Altonji and Blank, 1999).[8] It is not clear, however, whether this result generalises to other countries.

In many countries, however, ethnic diversity is essentially due to migration flows. One can obtain some rough information on disparities by ethnic origin by looking at employment rates of the *second generation* – *i.e.* the native-born with foreign-born parents. When looking at figures based on the second generation, however, one has to keep in mind that some countries are multi-ethnic and multi-racial societies in which minority groups are not concentrated in the population with recent immigration background. In addition, in many countries, a large fraction of immigrants come from other OECD countries with similar ethnic composition of the population (OECD, 2008b). In fact, Heath *et al.* (2007) show that, in traditional immigration countries for which data are available, ethnic or racial minorities with no immigration background tend to fare worse in the labour market than the second generation, even controlling for differences in educational attainment. This notwithstanding, with the exception of Canada, employment rates of the second generation appear well below employment rates of native-born with no recent immigration background (Figure 3.5).[9] In countries such as Denmark, Norway and Sweden

Figure 3.4. **Differences in educational attainment play a role in shaping racial employment and wage gaps**

Employment and wage gaps between "white" and "non-white" groups in Canada, the United Kingdom and the United States, prime-age workers in the private sector, 2004-2005, in percentage



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a) Education level is not available for the foreign-born population. Hence, this group has been excluded from calculations of gaps adjusted by educational attainment.

Note: The employment gap is defined as the difference between white and non-white employment rates as a percentage of the white employment rate. The wage gap is defined here as the difference between median white and non-white hourly wages as a percentage of the median white wage. Data refer to 2004 for Canada, and 2005 for the United Kingdom and the United States.

Source: Canada: CNEF; United Kingdom: Labour Force Survey, September-November 2005; United States: CPS.

the employment rate of the second generation is more than 15% smaller than their native-born counterparts with no immigration background.

… but disparities in educational attainment are part of the story

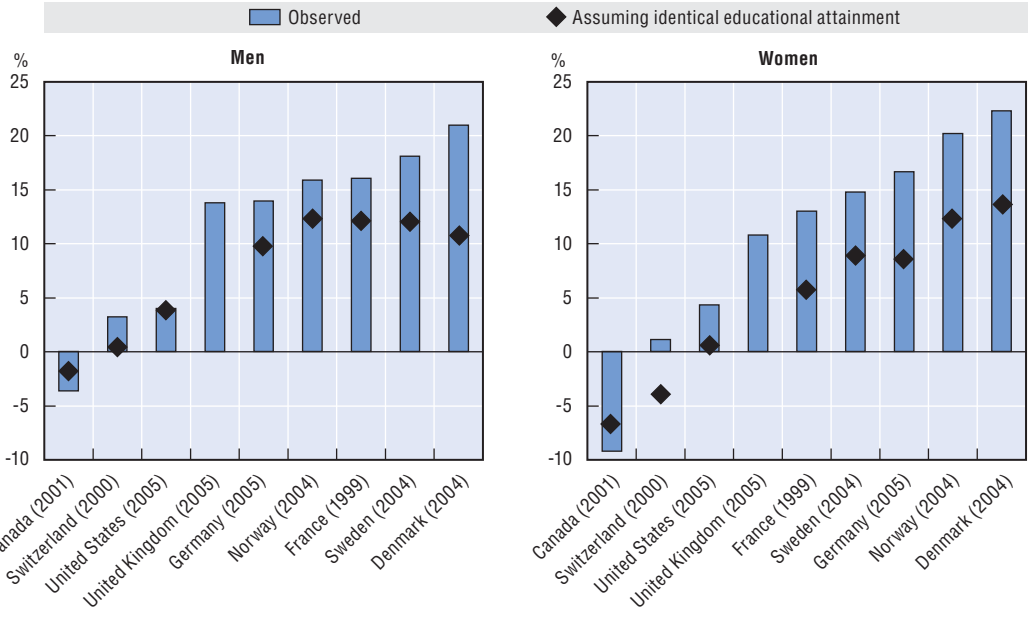
In most countries, however, the average educational attainment of the second generation is lower than that of the native-born population without a migration background. This is not surprising, taking into account that much of the post-war labour migration to European OECD countries was low qualified, and empirical evidence suggests that educational attainment, and more generally human capital, is transmitted across generations.[10] Figure 3.5 shows employment gaps between the second generation and the native-born population without a migration background that would result in each country if employment gaps by educational attainment remained unchanged, but the distribution of the population by educational attainment were the same in the two groups. With unchanged gaps by educational attainment, it appears that the employment lag of the second generation would be reduced by about one half if it caught-up completely with the native-born population in terms of educational attainment.

To sum up, this subsection presented evidence suggesting that several factors other than discrimination help accounting for part of the observed gender and ethnic gaps in employment and wages. However, labour market discrimination may also play a role:

- First, while the accumulation of human capital and the educational catch-up of women explain most of the narrowing of the gender employment gap in the post-war period, the

Figure 3.5. **The second generation has a lower employment rate than the native-born without a migration background, but its lower educational attainment explains about one half of the employment gap**

Employment gaps between the second generation and native-born with no migration background, persons aged 20 to 29 years and not in education, in percentage



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Note: The second generation is defined as native-born, with two parents foreign-born, except for Switzerland, native-born with foreign nationality at birth, and the United Kingdom, native-born with "ethnic background other than white British". Native-born with no migration background have two parents native-born except for Denmark, at least one parent native-born, Switzerland, Swiss nationality at birth, and the United Kingdom, white British ethnic background. The employment gap is defined as the difference between the native-born and second-generation employment rates as a percentage of the native-born employment rate.

Source: OECD (2007a).

educational push appears to be nearly exhausted in many countries, *leaving the gender employment gap above a floor of 5% to 10%.*

- Second, even in the most detailed analyses that include the influence of usually unobserved characteristics such as personal traits, expectations and motivation – *observable exogenous explanatory factors typically leave unexplained at least one quarter of gender or ethnic gaps.*

Moreover, it is not obvious that observable factors that are typically assumed as exogenous – such as motivation and expectations – are determined independently from labour market equilibrium. For example, if discriminatory practices or other factors lower women's wages relative to men's, they are likely to influence the decisions couples make as to who will drop out of the labour force to care for children, whose career will determine the location of the family, etc. To some extent, the same argument can apply to educational decisions and choice of field of study (Blau and Kahn, 2007).

2. From labour market disparities to discrimination

The presence or absence of labour market discrimination cannot be ascertained by simply looking at gaps in labour market performance, even when these gaps are adjusted for many observable characteristics. Indeed, any unexplained residual cannot be attributed

entirely to discrimination. The identification of possible discrimination requires either controlled experiments or the selection of exogenous variables that are likely to affect labour market disparities mainly through discrimination. But before going further in the empirical analysis of the potential contribution of discrimination to the observed differences in labour market performance by gender and ethnic groups, the concept of discrimination itself needs to be defined and understood more precisely.

2.1. Entering into the black box

In this chapter, following the definition used in mainstream labour economics, discrimination in the labour market is defined as "a situation in which persons who provide labour market services and who are equally productive in physical or material sense are treated unequally in a way that is related to an observable characteristics such as race, ethnicity or gender" (see Altonji and Blank, 1999, p. 3168). This begs the following questions: What are the rationales for employers to offer different employment opportunities and/or different wages to equally productive workers? Or alternatively, how may market forces allow discrimination to arise and persist? Answering these questions is important because the different, and usually complementary, explanations put forward by the economic theory allow selecting the exogenous variables that can be used empirically to identify discrimination when controlled experiments are unavailable or inconclusive.[11]

The first, and perhaps most straightforward, explanation proposed by economists is based on employers having a taste or preference to be associated with some persons instead of others. However, by forsaking productive minority employees, prejudiced employers lose profit opportunities, and this type of discrimination should be smaller, the greater the degree of competition in the product market (see Box 3.1). In virtually all alternative explanations for labour market discrimination, imperfect information about workers' abilities constitutes the core rationale for discrimination to arise. If employers cannot measure the exact productivity of heterogeneous job applicants, they use their beliefs and whatever information is available to estimate applicants' potential productivity. This information may include such obvious indicators as education, previous experience and references, but also race or sex if employers believe them to be useful, *i.e.* correlated with the unobserved determinants of performance. To some extent, individuals belonging to the same group will be assigned the same expected ability by employers. As a result, wage and job offers will depend on both individual indicators and his/her group's average characteristics. In that case, persistent wage and employment differentials may arise between workers with the same productivity who belong to different, identifiable groups, even in competitive markets (see Box 3.1).

2.2. Direct evidence on discrimination: field experiments

Evidence of hiring discrimination on racial and ethnic grounds in OECD countries is unambiguous…

Although limited to discrimination in hiring practices only, audit and correspondence testing studies provide the cleanest direct evidence on labour market discrimination. In both cases, carefully matched pairs of testers (from different gender or ethnic group) apply for the same job and evidence on discrimination is inferred from the degree of cross-group asymmetry in the distribution of successes. While audit studies use real testers, typically professional actors, and allow investigation of all stages of the recruitment process, correspondence tests are based on sending written job applications only, and successes are

Box 3.1. **Some theoretical considerations on labour market discrimination**

Following the seminal work by Becker (1957), a core explanation for labour market discrimination is based on economic agents having a taste or preference to be associated with some persons instead of others, which can be held by employers, employees or consumers (for recent surveys, see Altonji and Blank, 1999; and Donohue, 2005). In this theory of "taste-based" discrimination, prejudiced consumers derive their utility both from consumption of goods and services and from the type of person engaging in market transactions with them. Similarly, when employing minority workers, prejudiced employers act as if they must not only pay the market wage, but also pay a so-called "discriminatory psychic penalty" (a similar argument applies in the case of prejudiced co-workers). Just as a labour tax would be expected to lower employment and/or wages of workers in a competitive market, this penalty lowers the quantity demanded and earnings of minorities. And the greater the number of prejudiced employers, or the stronger the intensity of their preference, the greater are the wage and employment gaps between the two groups of workers. Besides, even if there are enough unprejudiced employers around to hire all minority workers, wage disparities may persist. In the presence of any labour market imperfection that renders job search costly, unprejudiced employers will take advantage of the fact that minority workers have less attractive labour market alternatives to offer them lower wages (Black, 1995).

One of the key features of "taste-based" discrimination, when based on employers' tastes, is that it burdens not only discriminated workers, but also imposes a cost on prejudiced employers. Indeed, by giving up productive minority employees, discriminatory employers bear higher average labour costs and thus lose profit opportunities. Hence, this kind of discrimination should be reduced by increased competitive pressure, which would limit entry, survival and market shares of prejudiced employers in the product market. Yet, even if a perfectly competitive product market were attainable, this might not guarantee the full elimination of "taste-based" discrimination. For instance, if employers form a heterogeneous population with different entrepreneurial abilities, some prejudiced employers – those with high entrepreneurial abilities – will still remain on the market. This, combined with the fact that only a few prejudiced firms may cause employment and wage disparities between minority and majority workers to arise when job search is costly, will lead to a situation where competitive product markets are compatible with some forms of "taste-based" discrimination.*

Virtually all other explanations for labour market discrimination are not based on preferences. Instead, imperfect information about workers' abilities constitutes the key rationale for discrimination to arise, which is usually called "statistical discrimination" (see Phelps, 1972; Arrow, 1973; Altonji and Blank, 1999; and Donohue, 2005, for recent surveys). A basic premise is that easily observable characteristics, such as sex or ethnic origin, may convey some additional information about workers' productivity and it is costly or impossible to develop individual tests to infer their productivity more precisely. In other words, employers simply postulate that such individual characteristics are correlated with the unobserved determinants of performance. Hence, hiring and wage decisions are in part based on prior beliefs or stereotypes, be they true or false. Individuals are partly assigned the expected abilities of the group they belong to, which constitutes a rational (and potentially privately efficient) response of firms to uncertainty about an individual's productivity, given its information and beliefs and the cost of resolving that uncertainty.

Box 3.1. **Some theoretical considerations on labour market discrimination** *(cont.)*

As a result, minority workers with above-average ability receive lower wages than majority workers of similar abilities. However, if employers' behaviours are founded on true stereotypes, this "so-called" statistical discrimination is likely to be observed at the individual level only: on average, wage differentials will reflect the average differential in productivity between the two groups of workers. Obviously, this statement does not hold anymore in the case of false stereotypes. Besides, even in the absence of strong prior beliefs or stereotypes, minority and majority workers with the same distribution of abilities may be treated differently if employers are more accurate judges of the talents of nonminority workers than of minority workers (Aigner and Cain, 1977). Here again, the optimal statistical rule that employers apply to set employment and wage levels will imply that minority workers with above-average ability receive lower wages than majority workers of similar abilities (the reverse being true for those minority workers with the lowest abilities). And on average, minority workers receive lower wages than nonminority, as far as employers have some degrees of risk aversion. Finally, such statistical judgments, be they the result of stereotypes or asymmetrical information, might be self-confirming. Preparing to work requires investment by the worker and not all of this investment is observable. If an employer is going to judge workers based on his/her prior beliefs and the worker is aware of this, there is no or limited rewards for this investment. They will not be made, and then the statistical judgments will be confirmed.

* Likewise, if discrimination does not arise directly from employers or co-workers, but from customers who prefer to interact with majority workers and are prepared to pay for this, these discriminatory tastes will remain also in competitive markets, preserving wage and employment disparities between minority and majority workers.

simply measured as call-backs to interviews. However, the main advantage of correspondence tests is that all aspects of the experiment can be controlled for. By contrast, several researchers have argued that the main weakness of audit studies is that, insofar as they involve actors, they cannot prove that experimental conditions are completely controlled for (see Box 3.2).

Corresponding tests on ethnic discrimination have been done in at least nine OECD countries (Table 3.1). Estimated discrimination rates vary across studies, due not only to geographical location (country and region or city) but also to type of jobs and minority groups tested.[12] But, all studies yield significant estimates. Overall, they show that the probability of being called back for an interview after an application is several percentage points lower for minority-group applicants. These results are confirmed by audit studies. Keeping in mind the caveats mentioned above, they also suggest that discrimination at the shortlisting stage is also reflected in fewer jobs offered to minority-group members.[13]

What is the economic cost that ethnic minorities have to pay to equalize the number of call-backs of their majority-group counterparts? As shown in the last column of Table 3.1, ethnic minority applicants typically need to send between 40% and 50% more applications to receive the same number of call-backs as their majority-group counterparts, with lower figures only in a few cases. Assuming that minority and majority-group members have the same ability of searching for new job vacancies, and have the same chances as majority-group members to receive a job offer conditional to the interview,[14] this figure would imply that minority-group members typically have to search

Box 3.2. **Audits and correspondence tests: strengths and weaknesses**

The technique of *audit studies* (also known as situational tests) consists of having randomly selected pairs of testers applying for a specific job over the telephone or in writing and, eventually, attending the job interview. Testers, who are usually specifically-trained professional actors from two different ethnic or gender groups, are matched on their characteristics, in such a way that they are supposed to differ only with respect to race or gender, while having similar fictitious backgrounds and personal attributes. Majority-group testers represent therefore a control group for their matched minority-group testers. The experiment is then repeated for several job vacancies, possibly with multiple testers. It is then possible to count the number of occurrences in which testers from each group are successful and devise an estimate of the hiring discrimination rate from this comparison. This technique has been used extensively in UK and US studies concerning both race and gender differences in hirings (see Riach and Rich, 2002 for a survey). It has also been used in ILO studies on immigrant workers, which concern several OECD countries (see Simeone, 2005).

Audit studies, however, have a number of weaknesses. First, matched testers should be equal in employers' eyes except for gender or ethnic origin. Despite training and the use of professional actors, it is often very difficult to provide a compelling proof that matched testers are identical in all respects. Heckman (1998) notes that testers might differ with respect to some attribute that employers regard as valuable but that cannot be easily codified (say, social capital shown in interpersonal relationships) and therefore controlled in audit experiments. In particular, depending on the distribution of such attributes among testers, different results might come out from the audit study (including a finding of no or reverse discrimination when discrimination actually takes place). Second, audit studies are not double-blind, in the sense that testers know the purpose of the experiment and might consciously or unconsciously try to influence the outcome (Bertrand and Mullainathan, 2004). In addition, audit studies are expensive, which limits dramatically the number of testers that can be used as well as the number of jobs testers can apply for. As a result, the study design is usually circumscribed to specific jobs and characteristics (narrowly-defined occupation profiles, one single level of educational attainment, etc.), making it difficult to assess whether results are representative of the reference population of firms, jobs and workers.

Correspondence testing studies, by contrast, circumvent most of these limitations. The principle of the correspondence test is that pairs of carefully-matched fictitious resumes are sent in response to real job ads posted on some pre-defined media (*e.g.* newspapers, internet websites, etc.), and the success of majority and minority groups is measured by call-backs to interviews. Insofar as resumes are fictitious, a pool of similar resumes can be generated and they can be randomly assigned to fictitious applicants. Remaining within-pair differences in terms of characteristics are therefore random, except for those identifying gender or ethnicity. Ethnic-sounding names and/or place of birth are typically used in the latter case. When place of birth is used, however, immigrants have typically migrated with their family when young and they have received their whole education in the host country. The fact that all applicants are fictitious allows a perfect control of observable characteristics, complete disclosure of experimental details (including all resumes), and in principle, a relatively large sample (even though large samples are rare in practice; see in particular Bertrand and Mullainathan, 2004; and Carlsson and Rooth, 2007). However, in contrast with audit studies, discrimination is measured here as differences in invitations to an interview rather than in job offers, which might result in biased measures of hiring discrimination rates, if there are cross-group differences in call-backs that are not reflected in cross-group differences in job offers. However, usually no reverse discrimination is found in audit studies conditional to admission to interview. Thereforeone can argue that discrimination in callbacks implies overall hiring discrimination and, hence, correspondence testing studies provide at least qualitative evidence on the presence and direction of hiring discrimination.

Table 3.1. **Ethnic minorities have a lower probability of being called back for an interview**

Summary of results of correspondence testing studies of discrimination by ethnic origin, 1980-2007

	Country (region) year	Occupations/Jobs covered	Group-identifying characteristics (minority group tested)	Net rate of discrimination % points, Heckman's definition[a]	Net rate of discrimination % points, Riach and Rich's definition[b]	Net difference in call-backs as a % of call-backs for the minority group[c]
Carlsson and Rooth (2007)	SWE (Stockholm and Gothenburg) 2005-2006	Computer professional, business sales assistant, pre-school teacher, compulsory school teacher, accountant, nurse, construction worker, restaurant worker, shop sales assistant and motor-vehicle driver	Name (Middle-Eastern)	9.7***	28.9***	49.5
Cediey and Foroni (2007)	FRA (Lille, Lyon, Marseille, Nantes, Paris, Strasbourg) 2005-2006	Manager, clerk, nurse, hotel and restaurant worker, construction worker, technician, factory worker, motor-vehicle driver	Name (African)	17.7***	54.1***	205.0
Duguet *et al.* (2007)	FRA (Ile de France), 2006	Accountant	Name (Moroccan)	5.4**	Not available	Not available
Bertrand and Mullainathan (2004)	USA (Chicago and Boston) 2001-2002	Salesperson, administrative support worker, clerk, customer service worker	Name (African-American)	4.9***	29.5***	49.6
Arrijn *et al.* (1998)	BEL (Brussels-Capital Region), 1996	Various jobs, mainly waiter, sales assistant, clerk, manual worker and representative	Name (Moroccan)	Not available	26.1***	40.0
Esmail and Everington (1997)	GBR (England) 1997	Trained medical doctor (senior house officer)	Name (Asian)	16.0*	27.6*	44.4
Hjarnø and Jensen (1997)	DNK (Copenhagen), 1996	Salesperson, clerk, teacher, manual worker	Name and parents' origin (Turkish and Pakistani)	10.0***	35.3***	88.9
Goldberg *et al.* (1995)	DEU (Rhine-Ruhr region and Berlin) 1994	Medical gymnast, foreign language correspondent, sales assistant, industrial merchant, banking salesman, construction draughtsman, designer, lay-out worker, assistant computer worker, nurse	Name and country of birth (Turkish)	2.1***	9.7***	11.9
Bovenkerk *et al.* (1994)	NLD (Randstad area) 1993-1994	Primary or secondary school teacher, laboratory assistant, administrator, financial manager, personnel manager	Name and country of birth (Surinamese)	9.6***	17.8***	26.9
Esmail and Everington (1993)	GBR (England) 1992	Trained medical doctor (senior house officer)	Name (Asian)	19.4**	50.0**	100.0
Riach and Rich (1991)	AUS (Melbourne) 1984-1988	Secretary, sales representative and clerk	Name (Greek and Vietnamese)	8.9***	17.7***	21.7
Firth (1981)	GBR (England) 1977-1988	Accountant, financial manager	Name and country of birth (Asian and African)	29.9***	43.8***	80.1

a) Difference in the number of call-backs between majority and minority groups as a percentage of the number of jobs applied for (jobs for which no call-back is registered are treated as providing evidence of equal treatment).

b) Difference in the number of call-backs as a percentage of jobs applied for with at least one observed call-back (jobs for which no call-back is registered are excluded from the sample).

c) This figure corresponds to the percentage increase in applications required for minority-group members to have the same call-back chances as majority-group members.

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively (based on McNemar's exact test, except for the study by Duguet *et al.* (2007), where it is based on tests reported by the authors).

Source: Studies cited in the first column.

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on average for 40% to 50% longer than their majority-group counterparts before receiving a job offer, which, if unemployed, translates into correspondingly longer unemployment durations.[15] Additional information can be gathered from studies in which variations of personal characteristics have been explored in such a way that returns to these characteristics can be estimated and compared with discrimination rates. For instance, Bertrand and Mullainathan (2004) show that, in their samples for Boston and Chicago, blacks need eight additional years of labour market experience to equalize the call-back probability of whites.

… and the few existing large scale experiments show that women fare better in "blind" recruitments

Correspondence testing and audit studies on gender are much less numerous and are also less conclusive. In fact, any gender discrimination pattern appears to depend crucially on the type of occupation. Given the specific nature of these studies, which often focus on a small number of occupations in a given geographical area, it is difficult to make even rough inferences on the impact of discriminatory behaviours on *aggregate* hiring and employment patterns. In general, until the end of the 1990s, all studies tended to find discrimination against women in male-dominated and mixed occupations – *i.e.* in occupations where the share of women is below a certain threshold in national statistics – and reverse discrimination (or discrimination against men) in female-dominated occupations (see Riach and Rich, 2002, for a survey). Recent correspondence-testing evidence confirms that the way employers shortlist applicants can increase gender segregation in the labour market because estimated discrimination rates are closely related to the share of women in a particular occupation. Nonetheless, these recent studies provide a more mixed picture,[16] which might point to a decrease in the incidence of hiring discrimination against women over time. However, the limited sample size per occupation and the limited number of sampled occupations of these studies suggests that no firm conclusion can be derived from them on this issue. In her study of the French banking industry, Petit (2007), by focusing on all occupations in a single industry where women are over-represented in employment with respect to the national average, partially tackles these problems. She finds that childless women aged 25 years applying for high-skilled jobs need to send out 30% more applications than their male counterparts to obtain the same number of interviews.[17]

So-called "blind" recruitment procedures are sometimes used by employers. In many cases, these procedures can provide large scale quasi-natural experiments, overcoming the problem related to the limited sample size and number of sampled occupations of certain correspondence tests and audit studies. For instance, a number of US orchestras modified their recruitment procedures since the 1970s, often adopting a screen or other device to hide the auditioning musician from the recruitment committee. In a famous paper, Goldin and Rouse (2000) exploit differences in the recruitment procedures across orchestras to show that the use of blind auditions increased dramatically the proportion of hired women. Similarly, between October 2004 and June 2006 two districts of the Swedish city of Gothenburg participated in a pilot programme involving recruitment based only on strictly anonymous job applications. Aslund and Nordström Skans (2007) evaluate the policy pilot by using applications in another similar city district as a control group. They find that anonymous application procedures increased the probability of call-back by more than 20% for both women and immigrants of non-western origin, eliminating all gender and ethnic

differences in callbacks. However, while women appear to have benefited from the scheme also in terms of job offers, no such gain was estimated for immigrants.[18]

Taken as a whole, field experiments offer an impressive snapshot of the occurrence of hiring discrimination, particularly as regards ethnic minorities. The main strengths of these studies are that the experimental set-up is controlled and they focus on the overall effect of discriminatory behaviours. This implies that, if there are multiple discriminatory behaviours related to different sources of discrimination (due, for instance, to stereotypes and preferences, see Box 3.1 above), it is the average effect resulting from the addition of these behaviours that emerges in field experiments, which is the first element that matters for policy and policy evaluation. The disadvantage of many field experiments is, however, that they are often confined to small samples of occupations, and it is sometimes difficult to understand how results that do not unanimously point in the same direction can be generalised. As discussed above, this problem is relevant for gender discrimination. In the studies where this issue is taken into account, hiring discrimination against women appears to emerge. Yet, these studies are too few to draw general conclusions.

2.3. Indirect evidence on specific sources of discrimination

In contrast with field experiments, most studies testing propositions derived from theoretical models are designed to provide evidence on one or more specific sources of discrimination. As such, when evidence of one type of discrimination is found, these studies yield a lower bound of the extent of overall discrimination – that is, they may account for discrimination derived from one source (*e.g.* taste-based discrimination), but not others (*e.g.* statistical discrimination). This principle holds unless two different sources of discrimination elicit discriminatory behaviours that mutually cancel each other, which seems *a priori* unlikely. In other words, if the goal is to know the extent of overall discrimination, this class of approaches sheds additional light only when clear-cut evidence on the type of discrimination which is the object of study emerges.[19] But unlike field experiments, these studies typically cover a large number of occupations as well as large geographical areas. Thus, they can provide valuable complementary information on overall discrimination, particularly when evidence from field experiments is less clear-cut or can be more difficult to generalise, such as in the case of gender discrimination.

Many US studies show indirect evidence of discrimination against women and minorities

Many studies on US data have searched for indirect evidence of taste-based discrimination by testing predictions derived from theory. As discussed above, if discrimination is mainly based on employers' preferences, or more generally if it is privately inefficient, discriminatory firms should earn lower profits and discrimination should therefore be reduced by greater competitive pressure in product markets (see Box 3.1). More specifically, many studies have looked at the relationship between measures of product market competition and employment or wage gaps by gender or ethnic origin. If no additional explanation for a negative relationship between competition and labour market gaps can be provided, empirically establishing such a relationship would provide supporting indirect evidence of discrimination. Overall, with few exceptions, US studies of the relationship between product market competition and employment or wage gaps suggest that discrimination has been playing a role in shaping both gender and race gaps in the United States (Box 3.3).

Box 3.3. **Evidence on taste-based discrimination from country-specific studies**

If discrimination is mainly based on employers' preferences, or more generally if it is privately inefficient, discriminatory firms should earn lower profits, and discrimination be reduced by greater competitive pressure (see Box 3.1). In order to find evidence for these predictions, a few studies use US firm-level data to look at the relationship between employment composition by ethnic origin or gender and either the gap between productivity and wages or profitability. For example, Hellerstein *et al.* (1999) use matched employer-employee data and find that lower relative earnings of women do not appear to be entirely reflected in lower marginal productivities while lower relative earnings of blacks do, suggesting a pattern of discrimination against women. Hellerstein *et al.* (2002) find a positive relationship between the percentage of female employees and profitability in plants with large market shares (interpreted as operating in relatively non-competitive segments of the market), but not in small-share plants (interpreted as belonging to competitive segments). They conclude that these findings are consistent with presence of taste-based discrimination.

A more popular alternative, which dates back to Becker (1957), is to look at the relationship between measures of product market competition and employment or wage gaps by gender or ethnic origin. Many US studies in the 1970s and the 1980s looked at the relationship between market concentration and race or gender employment gaps using cross-sectional industry- or firm-level data and usually found that greater market concentration is associated with greater employment and wage gaps (see *e.g.* Ashenfelter and Hannan, 1986; Heywood and Peoples, 1994; and references cited therein).[*] A problem with these early studies is, however, that the use of market concentration as an indicator of lack of market competition have been increasingly challenged in the industrial organisation literature (see for example Boone, 2008; and Aghion *et al.*, 2005). More recent studies have explored alternative measures of competition. For example, Black and Brainerd (2004) use import penetration as an indicator of competition. They look at the differential effect of the generalised increase in import penetration in the United States between 1976 and 1993 on the gender wage gap between industries with different degrees of concentration at the beginning of the period. They unambiguously find that import penetration had a greater negative impact on the gender wage gap in previously concentrated industries, suggesting that foreign competition tends to reduce gender discrimination. The identification assumption here is that the growth of import penetration is likely to have increased competitive pressure more in previously sheltered industries. Other studies used deregulation of specific industries to identify changes in competitive conditions. In particular, several papers investigated deregulation in the US road transport industry on race and gender wage and employment differentials (Peoples and Saunders, 1993; Heywood and Peoples, 1994; Schwarz-Miller and Talley, 2000), finding unambiguously that deregulation reduced gaps. Identification in these studies is, however, essentially based on the date of the federal reform. As a consequence, it is possible that their results are driven by omitted variables with distinct time profile. Black and Strahan (2001) in their study of the effect of deregulation in the US banking industry, sort this problem out by using cross-state differences in the date of deregulation. They find that, although wages generally decreased after deregulation, the adjustment affected disproportionately men. In the aftermath of deregulation, the gender wage gap fell on average by 9 percentage points and the share of women in managerial positions increased.

Box 3.3. **Evidence on taste-based discrimination from country-specific studies** *(cont.)*

There are also several US studies that try to identify the role of customers' preferences in eliciting discriminatory hiring practices of employers. Most of these studies use the race structure of local neighbourhoods where firms are located to infer the race composition of customers (*e.g.* Kenney and Wissoker, 1994; Stoll *et al.*, 2000) and usually find a negative impact of the concentration of whites in a neighbourhood on employment or hirings of blacks and hispanics, although not always significant. More compelling, Holzer and Ihlanfeldt (1998) use firm data on actual customers and find that a 10 percentage point fall in the share of white customers raises the probability of hiring blacks by about 20%, even controlling for the share of black applicants, while no significant effect is found on wages. There are also many case studies of specific industries such as professional sports (see Depken and Ford, 2006, and references cited therein) and fast-foods (Ihlanfeldt and Young, 1994). Nevertheless, due to the specificity of the studied industries, it is difficult to draw general conclusions from these case studies.

There are only few studies searching for indirect evidence on discrimination in other countries. Hellerstein and Neumark (1999) find no significant discrepancies between gender gaps in wages and productivities in Israeli data. Roed and Schone (2006) find that profitability is positively related to the share of women in Norwegian establishments whose managers declare them to be exposed to fierce competition. Conversely, no such a relationship is found for non-western immigrants. Winter-Ebmer (1995) finds no association between product market concentration and the gender wage gap in Austria but a negative association of the former with the range of job opportunities offered to women. Jolliffe and Campos (2005) note that, during the transition to a market economy, the Hungarian gender wage gap was halved and this pattern was entirely due to the fall in the component of the wage gap that is not explained by observed individual characteristics. They interpret this finding as showing the effect of deregulation on discrimination, but other explanations are also possible.

* Two recent exceptions are Coleman (2002, 2004) who find no or even the opposite relationship between market concentration and the employment or wage gap.

Cross-country analysis show that product market deregulation reduces gender gaps in employment and wages, thereby yielding evidence of discrimination in the OECD area

Outside the United States, country-specific studies searching for indirect evidence on discrimination are scarce (see Box 3.3). Weichselbaumer and Winter-Ebmer (2007) is the only study providing cross-country evidence on the relationship between anti-competitive regulation and the gender wage gap. They use meta-data covering over 1 500 studies of the gender wage gap in several OECD and non-OECD countries and explore the relationship between the Fraser Institute's Economic Freedom Index, which they take as a proxy for competition, and the component of the wage gap that is not accounted by observable characteristics.[20] They find that competition reduces the wage gap, although results for OECD countries are not always robust.[21]

For the purpose of this chapter, further international evidence on the impact of product market competition on the gender employment and wage gaps is estimated by extending the methodology used by Weichselbaumer and Winter-Ebmer (2007). In particular, two separate aggregate analyses of the impact of regulatory barriers in the product market and the gender employment and wage gap are undertaken (see Box 3.4 for

Box 3.4. **Model specification**

The following simple linear regression model is estimated for the aggregate gender employment gap:

$$EG_{it} = \alpha PMR_{it} + X_{it}\beta + \mu_i + \lambda_i + \delta_i T + \varepsilon_{it}$$

where *EG*, *PMR*, and *X* stand for the working-age population gender employment gap, product market regulation and a vector of control variables, respectively, while μ, λ and *T* stand for country *i* fixed effects, time *t* effects and (country-specific) time trends, α and β are parameters to be estimated and ε is a standard error term. In the analysis of ratification of international anti-discrimination conventions (see Section 3), indexes of convention ratifications are added to the equation above. Depending on the specification, control variables include the share of services in GDP, union density, employment protection legislation, the degree of corporatism, the tax wedge, the average unemployment benefit replacement rate, various indicators of family policy, the output gap, import penetration, various indicators of human capital, the gender gap in labour force participation and the aggregate employment rate. The latter two are key control variables: the former represents labour supply factors and the latter proxies the effect of aggregate labour demand. Insofar as product market regulation is likely to affect aggregate demand, the coefficient of *PMR* might capture the effect of regulatory reforms on labour demand and cannot be interpreted as yielding evidence on discrimination. To sort this problem out, the model above is also estimated in two steps. First, the employment gap is regressed on the participation gap and the aggregate employment rate plus country and time effects and country-specific trends; second, the residual from the first step is then regressed on product market regulation, other controls and country and time effects and country-specific trends. The estimated effect of regulation can then be interpreted as its effect over and above its impact on aggregate demand. Only two-step estimates are reported here, although differences from standard, single-step, OLS estimates are minor.

The same specification as above is used in the analysis of the wage gap, except for the dependent variable. The latter is the set of country-year fixed effects from the estimation of a meta-regression specification on meta-data concerning the component of the wage gap that is not accounted by observable characteristics – the so-called unexplained wage residual. Data from Weichselbaumer and Winter Ebmer (2005 – kindly provided by the authors), matched with additional estimates of the unexplained wage-gap residual obtained for the purpose of this chapter in 13 European countries using ECHP data (see OECD, 2008a), are used here. Fixed-effects are obtained from a specification in which the wage residual is regressed on meta-variables including: *i)* variables concerning data selection; *ii)* variables capturing econometric and decomposition methods; and *iii)* variables specifying the type of controls included in the regressions from which unexplained wage gap residuals were obtained.

The aggregate analysis of the determinants of the employment gap is supplemented with an industry-level analysis. As regulatory indicators are available for few industries only at the available level of disaggregation, following Griffith *et al.* (2006), average profitability, defined as the ratio of output to intermediate input, labour and capital costs, is used as a proxy for product market power (and therefore of lack of competition). The estimated model can be written as:

$$EG_{ijt} = \alpha P_{ijt} + X_{ijt}\beta + \mu_{it} + \eta_j + \varepsilon_{it}$$

where *P* stands for average profitability of industry *j* in country *i* at time *t*, *X* for a vector of controls defined at the country, time and industry level, while μ and η captures country-by-time and industry fixed effects, the former controlling for all aggregate factors including

Box 3.4. **Model specification** *(cont.)*

determinants of labour market participation. To control for the overall labour demand of the industry, all specifications include the logarithm of total employment in the industry and its interaction with the average degree of coverage of collective bargaining agreements. In a number of estimates, variables capturing the industry composition of the labour force by age, education, firm size and part-time status are included. In addition, industry-by-time effects are also included to control for industry-specific trends.* The results of this industry-level analysis are presented in OECD (2008a).

More details on the methodology used to estimate aggregate and industry-level equations as well as full results are available in OECD (2008a).

* One problem with the use of average profitability indicators is that they might be endogenous. Various strategies are used to cope with this problem including estimating the impact on industry-specific regulation data on a restricted sample and using these indicators as instruments for profitability on the same reduced sample.

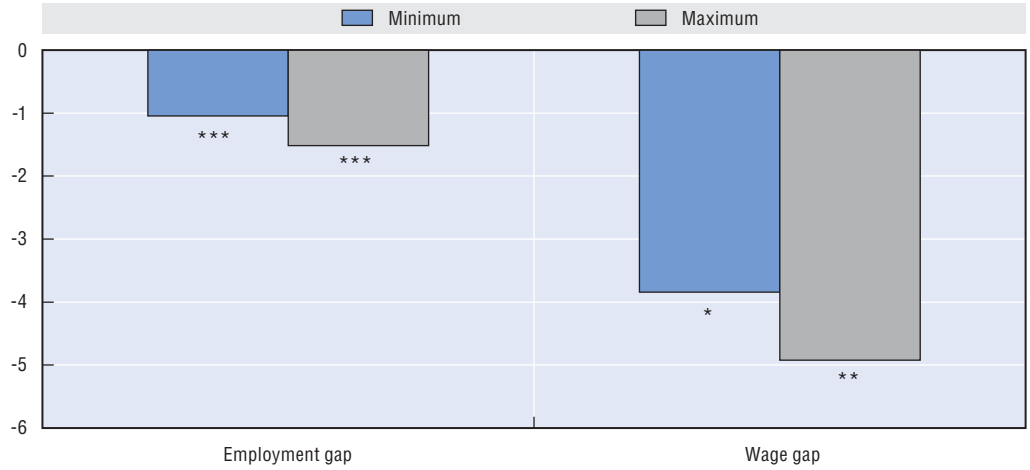
the methodology). OECD aggregate indicators of anti-competive product market regulation in a few non-manufacturing industries – utilities, transports and communications – are used to proxy the overall regulatory stance of a country in a given year, consistent with previous OECD work (*e.g.* Bassanini and Duval, 2006).

Anti-competitive product market regulation appears to be positively associated with the gender employment gap (Figure 3.6),[22] and in particular with the portion of the gap that it is not accounted for by gender differences in labour supply and aggregate labour demand.[23] Such a relationship appears to hold even when controls for the sectoral structure of demand and other institutions and policies – capturing inter-alia the demand-side effect of the bargaining power of insiders, family-related tax policy and family-friendly policies –[24] are included in the analysis (see OECD, 2008a, for full results). Overall, it appears that between 7% and 9% of the cross-country/time-series variation of the gender employment gap in OECD countries can be explained by variation in regulatory barriers.[25] The large liberalisation reform effort undertaken by most OECD countries in the last thirty years accounts on average for about 10% of the narrowing of the employment gap. This figure can be considered a lower bound estimate of the share of the contribution of the reduction in the extent of discrimination to the narrowing of the employment gap, provided that other sources of discrimination (*e.g.* consumer-based or statistical discrimination) do not induce reverse discrimination against men, which seems rather unlikely. Moreover, the average OECD country can still gain significantly from further deregulation. Taking estimates at face value, if all countries liberalised their product markets to the level of the United Kingdom, the most deregulated country in 2003, the OECD average of gender employment gaps would fall by 1 to 1.5 percentage points from its 2003 level.

As discussed above, it is important to check that, within the same period of analysis, deregulation did not have the opposite effect on employment and wages. In fact, if that were true, one could argue that liberalisation reforms simply shifted the equilibrium in the labour market without changing relative demand conditions across gender, which would be inconsistent with a relationship between competition and discrimination. A meta-analysis of the wage gap on a comparable sample of countries and years,[26] however, suggests that the stringency of product market regulation does have a positive and

Figure 3.6. **Pro-competitive regulatory reforms in the product market lower the gender employment and wage gaps**

Estimated percentage-point effect of a 1.2 point fall in the anti-competitive regulation index, working-age population, 1975-2003



StatLink http://dx.doi.org/10.1787/347713228172

Interpretation: The chart shows that a 1.2 point fall in the index of anti-competitive product market regulation (corresponding to the difference between the OECD average and the least regulated country in 2003) would narrow the employment gap by between 0.8 and 1.3 percentage points and the wage gap by between 3.8 and 4.9 percentage points.

Note: The chart presents minimum and maximum point estimates obtained from the different specifications. For the wage gap, the sample is 1975-2001, and reported estimates are based on a sample that excludes three outliers.

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

Source: OECD estimates (see OECD, 2008a, for detailed results).

significant effect on the gender wage gap (Figure 3.6), although point estimates should be interpreted with caution due to the limited sample size, which results in imprecise estimates (see OECD, 2008a).[27] It appears that regulatory barriers to competition explain between 20% and 40% of the cross-country/time-series variation in the gender wage gap (and between 35% and 70% of the variation in the component that is not explained by easily observable characteristics). Taking the most reliable estimates – where main outliers have been excluded – at face value, one can conclude that if all countries deregulated their product markets to the level of the United Kingdom, the OECD average of the gender wage gap would fall by 4 to 5 percentage points.

The relationship between product market competition and labour market gaps that emerges in aggregate OECD data appears to be confirmed in industry-level data for 13 European countries.[28] Restricting the sample to countries and years where comparable indicators of sector-specific regulation can be defined for a sufficiently large number of industries (see Box 3.4 and OECD, 2008a), it appears that deregulation in typically regulated industries – such as utilities, transport and communications – has been beneficial to women's employment. In fact, taking the estimates at face value, about two thirds of the fall in the employment gap in these industries can be attributed to deregulation.[29] Moreover, with respect to their male counterparts, female employees appear to be scarcer in industries and countries where an indicator of profitability – the ratio of output to intermediate input, labour and capital costs, used as a rough proxy of market power and therefore of lack of competition – is higher. Profitability appears to explain between 3.8% and 6.4% of the variation of the employment gap across industries and countries as well as over time.[30]

Overall, available direct and indirect evidence suggests that discrimination has been playing an important role in shaping labour market gender and ethnic disparities in OECD countries in the past thirty years. Moreover, this evidence shows that pro-competitive deregulation in the product market is likely to dampen discrimination and that all OECD countries can reduce discrimination further by enhancing their reform effort in this field.

Deregulation alone might not suffice, therefore specific anti-discrimination legislation is necessary

These findings do not imply, however, that market deregulation can eliminate labour market discrimination by gender or ethnic origin. First, while certain types of discrimination are affected by product market competition, others are not and will remain in place.[31] Second, imperfections in other markets, notably the labour market, are likely to make taste-based discrimination persist (see Box 3.1 above). Third, while pro-competitive regulatory reforms can improve competitive conditions in a market, this does not imply that all inefficient firms will be eliminated from the market, as simple textbook economics would imply. In real-world markets, the most efficient firms gain market shares when the degree of competition increases, but they rarely take the whole market (see *e.g.* Boone, 2008). In fact, in European countries in the post-SMP period, the relationship between profitability and the gender employment gap was no weaker in manufacturing than in non-manufacturing industries (see OECD, 2008a), even though the degree of stringency of regulation and its change was unambiguously smaller in the former. Thus, specific anti-discrimination legislation may have an important role to play.

3. Anti-discrimination laws across OECD countries

All OECD countries have integrated anti-discrimination provisions into their legal framework. But in many cases, legal measures aimed at protecting individuals against discrimination in the labour market have proved to be particularly difficult to enforce. Consequently, most governments have implemented comprehensive strategies intended to raise public awareness of discrimination, but also public awareness of the laws prohibiting discrimination and individual's rights as a victim of discrimination. Currently, in a number of countries, legal instruments are supplemented by an institutional framework that seeks to establish more effective enforcement mechanisms (see Annex Table 3.A2.1).

3.1. Raising public awareness

Legal rules are not self-enforcing. In all OECD countries, enforcement of anti-discrimination laws depends mainly on the action of individuals who feel discriminated against. They are the actors mobilising the law (Havinga, 2002; Niessen, 2003).

Lack of public awareness may impair on the enforcement of legal rules in a number of countries…

At the very least, workers should know that they have a legal right to equal treatment, so as to enforce their rights. Running campaigns to inform individuals of their legal rights is thus crucial, and this is indeed part of the actual workload of national equality bodies, in all countries where such bodies exist (Table 3.2). But the evidence suggests that public opinion is often ill-informed about such rights. With the notable exceptions of Finland, the Netherlands, Sweden, Denmark and the United Kingdom, less than half of the population

Table 3.2. **Public awareness of discrimination issues and public access to the anti-discrimination framework**[a]

	Measures aimed at raising public awareness, conducted by equal treatment bodies or other specialised bodies[b]				Public access to the anti-discrimination framework	
	Publication of statistics on discrimination	Information campaigns to change public opinion	Publication of codes of good practice for employers	Information campaigns to inform the public of their legal rights	Complexity of the legal framework[c]	Complexity of the institutional framework[d]
Australia (FL)	Yes (high)	Yes (medium)	Yes (medium)	Yes (high)	Medium	Low
Austria (FL)	Yes (low)	Yes (high)	Yes (also done by trade unions)	Yes (high)	Low	Medium
Belgium (FL)	Yes (gender: high) (ethnicity: medium)	Yes (gender: medium) (ethnicity: high)	Yes (gender: low) (ethnicity: medium)	Yes (gender: medium) (ethnicity: high)	Medium	Low
Canada (FL)	Yes (high)	Yes (low)	Yes (medium)	Yes (medium)	Low	Low
Czech Republic	No	No	No	No	High	No EB
Denmark	Yes	Yes	Yes	Yes	High	High
Finland	Yes (gender: low) (ethnicity: medium)	Yes (low)	Yes (gender: high) (ethnicity: low)	Yes (low)	High	High
France	Yes (medium)	Yes (high)	Yes (medium)	Yes (high)	High	Low
Germany	Yes (low)	Yes (medium)	Yes (high)	Yes (high)	Low	Low
Greece	Gender: yes (medium) Ethnicity: no	Yes (gender: high) (ethnicity: medium)	Gender: yes Ethnicity: no	Yes (gender: high) (ethnicity: medium)	Medium	High
Italy	No	Yes (high)	No	Yes (high)	Medium	Low
Japan[e] (gender only)	Yes (high)	Yes (high)	Yes (high)	Yes (high)	Medium	Low
Korea[e]	Yes	Yes	Yes	Yes	Medium/high	Medium
Mexico	Yes (high)	Yes (high)	Yes (high)	Yes (high)	High	High
Netherlands[e]	Yes (medium)	Not explicitly (low)	Not explicitly (medium)	Not explicitly (low)	Low	Low
Norway	Yes	Yes	Yes	Yes	Medium	Low
Poland	Yes (low)	Yes (gender: high) (ethnicity: low)	No	Yes (gender: high) (ethnicity: low)	Medium/high	High
Portugal	Yes	Yes	No	Yes	High	Medium/high
Spain[e] (gender only)	No	No	No	No	High	EB not yet operational
Sweden	Yes (low)	Yes (low)	Yes (medium)	Yes (high)	Medium	Low
Switzerland[e] (gender only)	Yes (high)	Yes (medium)	Yes (high)	Yes (medium)	Low	Medium
United Kingdom	Yes (low)	Yes (high)	Yes (low)	Yes (high)	Medium	Medium
United States (FL)	Yes (medium)	No	Publication of guidance documents	Yes (high)	Low	Low

Table 3.2. **Public awareness of discrimination issues and public access to the anti-discrimination framework**[a] *(cont.)*

EB: equality body; FL: information reported in the above table refers to federal laws.

a) Whenever no distinction is made between gender and ethnic grounds, answers cover both.

b) Annotations in parentheses refer to the level of priority attributed by the body in charge of implementing the specified task. High, medium and low, respectively, mean above, close to and below-average importance of the specified task in the actual overall workload of the corresponding body.

c) High, medium and low, respectively, refer to a situation where the core legal framework to ban discrimination in the labour market is built: on both specific legislation and general laws or codes (be they labour, civil or penal codes, employment acts or constitutional laws); on a combination of anti-discrimination laws covering specific areas (*e.g.* equal pay, working condition, etc.) or grounds (gender, ethnicity); on a single, comprehensive anti-discrimination law (covering all grounds).

d) Low, medium and high, respectively, refer to a situation where the responsibilities attached to the promotion and enforcement of anti-discrimination policies are held by: a single body, two bodies and more than two bodies.

e) Country notes:

Japan: there is no specific anti-discrimination legislation covering racial/ethnic minorities. For this reason, discrimination on ethnic or racial grounds is not covered in the analysis conducted for the purpose of this chapter, although some legal provisions exist that in principle allow workers to bring a discrimination case before the courts.

Korea: complexity of the institutional framework: While there is a single equality body, the latter is not really specialised in discrimination issues. Rather, the National Human Rights Commission aims at securing human rights in general, which tends to make its role on discrimination cases per se less visible (at least compared to a situation where there is a unique equality body dealing with discrimination cases only).

Netherlands: equal Treatment bodies have no explicit role on information campaigns, publication of statistics or code of good practices for employers, but the government does have these goals and tries to reach them actively.

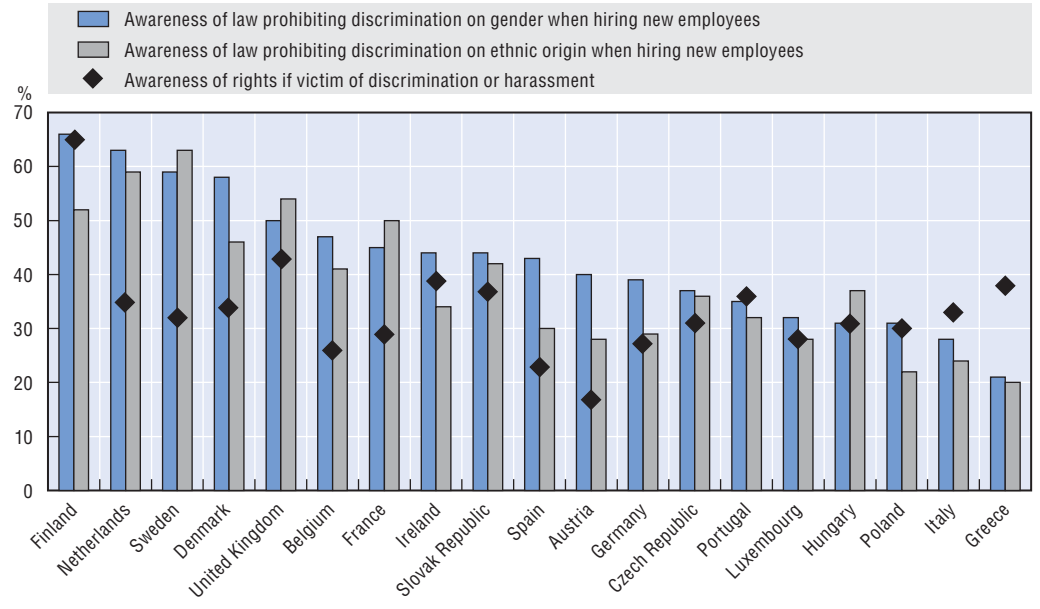
Spain: there is no specific anti-discrimination legislation covering racial/ethnic minorities. For this reason, discrimination on ethnic or racial grounds is not covered in the analysis conducted for the purpose of this chapter, although some legal provisions exist that in principle allow workers to bring a discrimination case before the courts.

Switzerland: there is no specific anti-discrimination legislation covering racial/ethnic minorities. For this reason, discrimination on ethnic or racial grounds is not covered in the analysis conducted for the purpose of this chapter, although some legal provisions exist that in principle allow workers to bring a discrimination case before the courts. Moreover, the Federal Commission against Racism and the Service for Combating Racism may offer guidance and counselling to victims of discrimination. More specific equality bodies can be found in a small number of cantons.

Source: See OECD (2008c).

of European countries where such information is available knows that discriminating on the basis of gender or ethnic origin when hiring new employees is unlawful (Figure 3.7). In addition, public awareness of anti-discrimination provisions concerning ethnic origins tends to be less than for gender. This may, however, simply reflect the fact that the former targets fewer people than the latter. Public knowledge about general rights of discriminated persons is even more limited: on average, only one third of European Union citizens claim to know their rights should they be a victim of discrimination (European Commission, 2007b).

Figure 3.7. **Public awareness about legal anti-discrimination provisions**



StatLink http://dx.doi.org/10.1787/347747307848

Note: The bars correspond to the percentage share of persons answering "Yes" to the question (QA12) "Please tell me whether, in your opinion, in your country there is a law which prohibits the following types of discrimination when hiring new employees" for the cases of discrimination on the basis of gender or ethnic origin, respectively. The symbol corresponds to the share of persons answering "Yes" to the question (QA14) "Do you know your rights if you are the victim of discrimination or harassment?".

Source: European Commission (2007b).

It is also crucial that employers are well-informed about the legal rules and they should be provided with tailored and targeted support to help them improve their performance on equality. Most national equality bodies issue codes of good practices or other guidance documents for employers (Table 3.2). However, this is done in a less systematic way and often with a lower priority than information campaigns targeted at potential victims of discrimination. In Greece (as regards ethnic minorities), Italy, Poland and Portugal, national equality bodies do not provide employers with codes of good practices.

Still, effective enforcement of legal rules largely relies upon employers' knowledge and understanding of the legal framework. And there are some indications that also in this area margins of progress may be substantial. For instance, based on a telephone survey, Havinga (2002) suggests that in many cases, the Dutch equal treatment legislation did not give rise to a re-assessment of equal treatment in personnel management: only one-third of the

organisations surveyed reported that management had discussed the matter, notably the proportion of men and women or the position of ethnic minorities. In fact, the survey shows that while most personnel managers know that equal treatment laws exist in the Netherlands, their knowledge about the actual content of the legislation is rather limited. Awareness of legal provisions is particularly limited in small firms, which consequently tend to pay little attention to unequal treatment and adaptation of internal procedures as a result of the legislation.

According to the British Arbitration, Conciliatory and Advisory Service (ACAS), the situation in the United Kingdom appears to be quite similar. Based on its practical experience of equality and diversity in the workplace, ACAS indeed notes that, to date, the understanding of diversity and the implementation of ethnic and gender mainstreaming remains the domain of larger organisations with a department of Human Resources (ACAS, 2006a). Small and medium-sized firms are statistically less likely to deal with a tribunal claim for discrimination than larger organisations and, therefore, less likely to develop any detailed expertise of the issue. And even in large firms, personnel specialists also struggle with the influx of new legislation. The legal framework is seen by many as overly-complicated and difficult to navigate. In this respect, Phillips *et al.* (2007) underline that the the legal framework in the United Kingdom has developed in a piecemeal and fragmented way, with provisions in many different Acts and Regulations. This contributes to make it confusing for employers (and individuals), and a starting point for creating a better framework for achieving equality could be simpler law, namely a single Equality Act. Likewise, Malheiros (2007) stresses that in Portugal, the multitude of laws and Decree-laws makes it hard for people who are affected by discrimination and even for lawyers and judges to understand which norm actually applies to the case in hand. In fact, this is an area where most countries could usefully take action (see Table 3.2). This could be of particular relevance for countries such as the Czech Republic, Denmark, Finland, Greece, Mexico, Poland, Portugal and Spain, where the institutional framework surrounding the legal rules is rather complex – promotion and enforcement responsibilities being split between several bodies – or not yet operational (as in Spain and the Czech Republic), and thus not in a good position to be able to provide employers (and/or workers) with a clear and synthetic picture of the overall legal framework.

… although the social acceptance of the principle of equal treatment seems well established

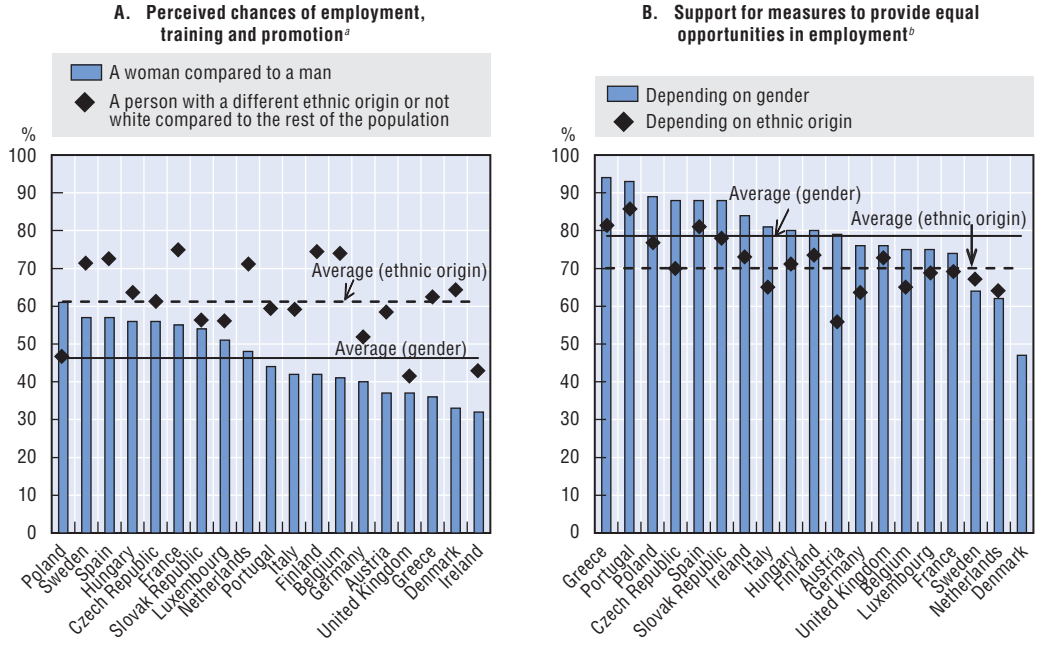
The general effects of the legislation may be indirect and even a vague knowledge of legal rules may help change people's behaviour and contribute to the social acceptance of the principle of equal treatment and the idea that discrimination should not be allowed (Havinga, 2002; Phillips *et al.*, 2007). Likewise, discrimination cases and their court outcomes, even if there are very few, might be an important vehicle of cultural change, if they are well enough publicised.

In most countries, national equality bodies disseminate information and statistics that help raise public awareness of discrimination, in general, and of its concrete manifestation in the workplace, and run information campaigns to change public opinion (Table 3.2). In addition, as noted by Phillips *et al.* (2007), supplying data on the composition of the local population (*i.e.* ethnicity, gender, age, qualifications and skills, employment by group, etc.) may give employers the means of asking and answering questions about their own performance. But in this respect, most European countries are confronted by a

paradox as regards statistics related to ethnic minorities. On the one hand, collecting and using data considered sensitive, such as concerning racial or ethnic origins, are subject to particular restrictions, in part because the use of such data could entail the risk of discriminatory practices (see also OECD, 2007c). On the other hand, this prevents a comprehensive assessment of the situation, which in turn is likely to impair the effectiveness of equality policies, as the progress made and the actions remaining to be taken cannot be clearly identified by the relevant authorities, citizens and individual employers.

Overall, the idea that unequal treatment may arise at the workplace is relatively widespread among the population and there is strong public support for corrective measures (Figure 3.8). On average over the 19 European countries where such information is available, almost half of the population states that a woman would be less likely than a man, with equivalent qualifications or diplomas, to get a job, be accepted for training or be promoted. When it comes to ethnic minorities, this proportion rises to 60%. And in both cases, the adoption of specific measures to provide equal opportunities in the field of employment is supported by a large majority of public opinion (except in Denmark). While discrimination against ethnic minorities is seen as being more prevalent than unequal treatment on the basis of gender (in all countries except in Finland), public support for corrective measures on the basis of ethnic origin is significantly lower – by 10 percentage

Figure 3.8. **Public awareness about discrimination in the workplace and support for equality policies in selected European countries**



StatLink http://dx.doi.org/10.1787/347748632646

a) Share of persons answering "Less likely" to the question (Q7) "Would you say that, with equivalent qualifications or diplomas, the following people would be less likely, as likely or more likely than others to get a job, be accepted for training or be promoted". For "woman compared to man" and for "persons of different ethnic origin or not white compared to the rest of the population", respectively, 5% and 3% of respondents answered "More likely".

b) Share of persons answering "In favour" to the question (Q9) "Would you be in favour of, or opposed to, specific measures being adopted to provide equal opportunities for everyone in the field of employment?". Specific measures for people depending on "gender" and "ethnic origin", respectively.

Source: European Commission (2007b).

points on average – than for policies to address gender disparities. This might reflect some failure in communication actions, as underlined above, and/or the difference in size between the two targeted populations. It can also explain why legislation is sometimes more favourable to the rights of victims in the case of discrimination on the ground of gender than on the ground of ethnic origin (see below).

3.2. Worker incentives to bring a case before courts

For legal rules to be effective, individuals should take action to enforce their rights. To encourage this, both the legal and institutional framework should provide them with the right incentives. At the very least, it should be *possible* for *victims* of discrimination to obtain redress and compensatory damages from the courts.

Bringing a discrimination case before the courts is a costly process…

In this respect, the burden of proof required to support a discrimination claim before the courts is of central importance. The issue is not straightforward: on the one hand, if the obstacles to bringing evidence are so great that an action before courts is doomed to failure, individual legal rights are not really enforceable in practice; on the other hand, it should not be possible to bring a case before courts merely on the basis of gender or ethnic origin each time a treatment is felt to be unfair, otherwise the overall framework would be unsustainable.

Following the European directives passed in the early 2000s, virtually all European countries have lowered the burden of proof for the plaintiff in discrimination cases – the so-called "shift burden of proof" (Table 3.3). Basically, the plaintiff has to provide proofs of differential treatment, and *prima facie* evidence of the link between the latter and the protected ground (*e.g.* gender or ethnic origin). In other words, the plaintiff is not required to prove discriminatory intents or practices per se, but has to present facts from which a connection between the differential treatment and the protected ground can be directly or indirectly presumed. In this way, the burden of proof is shifted to the employer, who has to prove that the differential treatment was disconnected from any discriminatory intents or practices. There are strong rationales for this adjustment of the burden of proof. Indeed, proving that the motivation underlying a difference in treatment is not discriminatory, but entirely caused by legitimate factors, should be relatively straightforward for the employer, while being extremely difficult for a complainant (Freedman, 2002). The evidence necessary for proving motivation is likely to be in the possession of the respondent rather than the complainant, and therefore a court might reasonably expect full and cogent explanations about why a particular person is, or is not appointed or promoted, disciplined or dismissed, etc. These are all matters which are firmly within the knowledge and control of the employer organisation and the managers and staff who took the particular decisions (Rayner, 2007). However, in the absence of further legal guidance or intuitional support, even *prima facie* evidence may be difficult to gather for a complainant (see Box 3.5).

National equality bodies also play a key role in lowering the threshold of a discrimination case (Niessen and Cormack, 2004). In virtually all countries, plaintiffs may receive free legal guidance and counselling from either national equality bodies, NGOs, trade unions (usually provided to members only) or other relevant bodies (Table 3.3). In most countries, national equality bodies are empowered to investigate discrimination claims and have the legal authority to compel people (and in particular, the employer) to provide all of information it requires to investigate the claim. In this respect, they play a

Box 3.5. **More legal guidance or support in gathering evidence of discrimination would be useful**

In most countries, there is no clear legal guidance on what could constitute an element of proof or *prima facie* evidence of discrimination, and no clear legal support on how to gather such evidence (see OECD, 2008c). In this respect, the British questionnaire procedure is an interesting exception. A complainant can under the British anti-discrimination legislation ask an alleged discriminator for answers to specific questions set out in a questionnaire format. First, information received from the employer in response to the questionnaire can aid a decision whether or not to bring the case before the Employment Tribunal (ET). Second, in the event of an ET proceeding, the information, statistics and documents gathered from the questionnaire procedure can be used as evidence and may influence the ET's final decision. If it appears to a tribunal that the respondent deliberately and without reasonable excuse omitted to reply to the questionnaire or that the reply is evasive or equivocal, the ET can draw adverse inferences from that reluctance to co-operate. This key principle is clearly set out in the anti-discrimination legislation itself. The effective use of questionnaire procedures plays an important part in many discrimination claims. This is a method to apply pressure to the respondent due to the rules about responding correctly to the request and may lead to an early settlement (Lewis, 2008).

Situational tests and statistical evidence are other instruments that can be used to establish proofs or at least *prima facie* evidence of discrimination before the courts. While strongly advocated by experts in the anti-discrimination field (see for instance, Niessen, 2003), their effective use is still rather limited in a number of countries. Situational tests (see Box 3.2) may be especially useful in case of discriminatory hiring practices, where most often, the absence of clearly identified comparators makes it particularly difficult to gather evidence of discrimination. In most countries, situational tests are admissible before the courts, or at least not prohibited or restricted by law, but rarely used in practice (see OECD, 2008c). In fact, the evaluation of the admissibility of situational tests may be difficult due to the risks of abuse or manipulation which they may give rise to, and would require some legal guidance that at present does not really exist. For instance, the relevance of any situational test depends crucially on the exact comparability of the potentially discriminated workers and their comparators, in terms of both curriculum vitae and behavioural attitudes during the test. Thus, to have a legal value, situational tests would need to be closely monitored by legal authorities or other relevant bodies (De Schutter, 2003). Likewise, statistical evidence may be crucial for proving or establishing facts from which indirect discrimination can be inferred. Indirect discrimination indeed refers to a situation where the use of an apparently neutral provision, criterion or practice (which cannot be objectively justified by a legitimate aim) puts some individuals, on the basis of their sex or ethnic origin, at a particular disadvantage compared with other persons. Complainants thus need to establish the adverse impact of the above-mentioned provision, criterion or practice on a *group*, and statistical evidence may be particularly relevant in that case. But when it comes to racial or ethnic discrimination, the use of this kind of evidence is rather restricted in most European countries, by legal rules themselves. As a result, with the notable exceptions of Denmark, the Netherlands, Sweden and the United Kingdom, there are no national data concerning racial or ethnic origins of the population.

Table 3.3. **Worker incentives to bring a case before courts**[a]

	Elements of proof to be provided by the plaintiff[b]	Institutional (free) support provided to the plaintiff			Redress and compensation		Protection against victimisation[e]	
		Legal guidance and counselling[c]	Investigation[d]	Legal representation[c]	Reinstatement/redress with back pay	Additional monetary compensation	Plaintiff	Witnesses
Australia (FL)	Proof	EB, U, NGO	EB	U, NGO	Case-by-case basis	Yes, no clear legal guidance. In recent case law, more than AUD 10 000.	Yes	Yes
Austria[f] (FL)	Strong presumption	EB, U, NGO	EB	NGO	Yes, without alternative option	Small minimum amounts set by law, no cap	Yes	Yes
Belgium (FL)	Presumption	EB, U, NGO	Gender: no Ethnicity: EB	EB, U, NGO	Yes	Max 3 to 6 month's salary	Yes	Yes
Canada (FL)	Proof	EB, U, NGO	EB	U, NGO	Case-by-case basis	Max CAD 20 000 (plus CAD 20 000 in some cases)	Limited	Limited
Czech Republic	Strong presumption	U, NGO	Labour inspectorate	U, NGO	Yes	Yes, no clear legal guidance.	Limited	No
Denmark[f]	Gender: presumption Ethnicity: strong presumption	EB, U	EB	Gender: EB, U Ethnicity: U	Gender: Yes Ethnicity: No	Yes, usually between DKK 10 000 and DKK 100 000	Limited	Limited
Finland[f]	Presumption	EB, U, NGO	Gender: EB Ethnicity: Labour inspectorate	U, NGO	No	Gender: min EUR 3 000, mainly no cap Ethnicity: max EUR 15 000	Gender: yes Ethnicity: limited	Gender: yes Ethnicity: limited
France	Presumption	EB, U, NGO	EB	U, NGO	Yes	Yes, no clear legal guidance	Limited	Limited
Germany[f]	Presumption	EB, U, NGO	None	U, NGO	Yes	Yes, limited legal guidance	Yes	Yes
Greece	Presumption	EB, U, NGO	Labour inspectorate	U, NGO	Yes	Yes, no clear legal guidance	Yes	Yes
Italy[f]	Gender: strong presumption Ethnicity: proof	EB, U, NGO	Gender: No Ethnicity: EB	Gender: EB Ethnicity: none	Yes, when possible	Yes, no clear guidance	Gender: no Ethnicity: limited	No
Japan[f] (gender only)	Proof	EB	EB	None	Case-by-case basis	Yes, no clear legal guidance	Yes	No
Korea[f]	Gender: presumption Ethnicity: proof	EB, U, NGO	EB	U, NGO	Yes	Not in all cases, no clear legal guidance	Gender: yes Ethnicity: limited	Gender: yes Ethnicity: limited
Mexico[f]	Strong presumption	Public Labour Defender, EB, U, NGO	Labour inspectorate, EB	Public Labour Defender, EB, U, NGO	Yes	None	Limited	Limited
Netherlands[f]	Presumption	EB, U, NGO	EB	U, NGO	Yes	Not in all cases, no clear legal guidance	Limited	Limited
Norway	Presumption	EB, U, NGO	EB	U, NGO	Case-by-case basis	Yes, no clear legal guidance	Yes	Yes
Poland	Presumption	EB, U, NGO	Labour inspectorate	U, NGO	Yes	Yes, at least monthly minimum wage	Limited	Limited
Portugal	Presumption	U, NGO	Labour inspectorate, mainly	U, NGO	Yes	Yes, no clear legal guidance	Yes	Yes

Table 3.3. **Worker incentives to bring a case before courts**[a] *(cont.)*

	Elements of proof to be provided by the plaintiff[b]	Institutional (free) support provided to the plaintiff			Redress and compensation		Protection against victimisation[e]	
		Legal guidance and counselling[c]	Investigation[d]	Legal representation[c]	Reinstatement/redress with back pay	Additional monetary compensation	Plaintiff	Witnesses
Spain[f] (gender only)	Strong presumption	U, NGO	Labour inspectorate	U, NGO	Yes, without alternative option	Yes, no clear legal guidance	Yes	No
Sweden	Presumption	EB, U, NGO	EB	EB, U, NGO	Yes	6 to 32 month's salary in lieu of reinstatement EUR 6 000 (average) for psychological injury	Yes	Yes
Switzerland (gender only)	Presumption	EB, U, NGO	EB (with limited powers)	U, NGO	In some cases	Max 3 to 6 month's salary in lieu of reinstatement	Limited	Limited
United Kingdom	Strong presumption	EB, U, NGO	Provision of "legal" instruments (*e.g.* questionnaires)	EB (rarely), U, NGO	Case-by-case basis	In 2005/06 (ET), Gender: average of GBP 10 807 (median: GBP 5 546) Ethnicity: average of GBP 30 361 (median: GBP 6 640)	Yes	Yes
United States (FL)	Proof	EB, U, NGO	EB	EB, U, NGO	Case-by-case basis	USD 50 000 max to USD 300 000 max, depending on firm size	Yes	Yes

EB: equality bodies; FL: information reported in the above table refers to federal laws; U: Unions.

a) Whenever no distinction is made between gender and ethnic grounds, answers cover both.

b) (Strong) presumption of discrimination and proof of discrimination, respectively, refer to a situation where the employee has to introduce his/her claim before court by presenting: facts establishing disparate treatment and from which a (strong) presumption of discrimination can be inferred; and facts that prove discrimination.

c) EB, U and NGO, respectively, mean that legal assistance and counselling and/or legal representation can be provided by: the equality body, unions and any non-governmental associations or public interest bodies that advocate for the elimination of discrimination.

d) Investigation procedures conducted by equality (or other relevant) bodies in order to gather *prima facie* evidence or proof of discrimination.

e) "Limited" protection against victimisation/retaliation refers to: cases where the claimant employee, or any employees providing evidence or participating as a witness in a proceeding against discrimination, are protected against wrongful discharge only; or cases where the standard of proof as regards victimisation is more demanding than for "simple" discrimination.

f) Country notes:

Austria: elements of proof to be provided by the plaintiff: The amended Equal Treatment Act lowers the burden of proof for the plaintiff without completely switching it over to the respondent, when the plaintiff established facts from which it may be presumed that there has been direct or indirect discrimination. The law states that the respondent has to prove that "it is more likely that a different motive – documented by facts established by the respondent – was the crucial factor in the case or that there has been a legal ground of justification". Additional monetary compensation: minimum of 1 month salary if the job applicant would have been awarded the position, had the selection not be discriminatory; income differential for at least 3 months if the employee would have been promoted, had the selection not be discriminatory. There is an amendment to the law in the parliament which intends higher compensation.

Denmark: elements of proof to be provided by the plaintiff: Although anti-discrimination laws appear to provide for a shift of the burden of the proof in the case of facts from which discrimination can be presumed, case law on ethnic discrimination cases shows that written statements from the respondent might not suffice to shift it in practice.

Finland: additional monetary compensation – gender: in cases concerning employee recruitment the maximum compensation is EUR 5 000.

Table 3.3. **Worker incentives to bring a case before courts**[a] *(cont.)*

Germany: legal representation: Unions and NGOs can legally represent a plaintiff only in proceedings where the law does not explicitly require a professional lawyer. NGOs are subject to certain requirements.

Italy: elements of proof to be provided by the plaintiff: For gender, the legislation refers to well-founded evidence to shift the burden of the proof. In the case of ethnicity, standard rules for civil disputes apply. Legal representation: Ethnicity: according to the Immigration Law, discrimination cases do not require that the plaintiff is assisted by a professional lawyer. Victimisation: It is mentioned in the law only as regards ethnicity and only as an aggravating element when evaluating damages.

Japan: institutional (free) support provided to the plaintiff: the EB is not directly engaged in discrimination cases brought by workers.

Korea: monetary compensation: as regards gender, the anti-discrimination law does not explicitly provide for remedies such as reinstatement or monetary compensation, but the Labour Standards Act provides for them and there are many judicial practices and court rulings regarding dismissals; as regards ethnicity, no clear legal guidance in the anti-discrimination legislation, and there are no anti-discrimination provision in the Labour Standards Act protecting racial or ethnic minorities.

Mexico: legal assistance and representation: As part of the general framework for labour dispute resolution, all workers have the right to receive free legal assistance from the Federal Public Labour Defender's Office, when needing help to resolve labour disputes, including disputes caused by on-the-job discrimination based on ethnic or national origin, sex, social status, health, religion, political opinions or affiliation, sexual preference, or marital status.

Netherlands: monetary compensation: The equal treatment legislation hardly mentions any sanctions and remedies, except in case of discriminatory dismissal. Thus, victims have to know which sanctions normal civil law and administrative law contains.

Spain: elements of proof to be provided by the plaintiff: The legislation refers to well-founded evidence. The Constitutional Court has been establishing case law on the burden of proof. In order to use the rule of distribution for the burden of proof, it is necessary that the actor accredit "the existence of an indication that generates a reasonable suspicion, appearance or presumption in favour of similar affirmation; it is necessary on the part of the actor to contribute realistic proof" (STC 207/2001); and in another judgment (STC 308/2000) it indicates the "requirement for a principle of proof revealing the existence of a general discriminatory panorama or of facts that the vehement suspicion appears of discrimination…".

Source: See OECD (2008c).

very specific role compared with NGOs and trade unions that usually do not have this investigative power. Investigation procedures are likely to be decisive in providing proofs or evidence that will enable a *prima facie* case for discrimination to be constructed. However, whether this investigative power is effectively binding for employers and potential witnesses remains unclear in practice (see OECD, 2008c). For instance, the extent to which an employer's failure to provide the requested information can be used to draw inferences on discrimination if the case is brought before the courts is rather unclear in many countries, and only few countries report that noncompliance is sanctioned with fines (namely, Australia, Canada, Korea and Norway). Strikingly, in virtually all countries where the burden of proof entirely rests on the plaintiff, equality bodies tend to be empowered with a relatively strong investigative power: in Australia and Canada, anti-discrimination laws clearly specify fines for failure to comply with requests for information or document (in Australia, prison sentences for providing false or misleading information are also provided for), and in the United States, the federal equality body has a *subpoena* power to compel enforcement of a request for information. Thus, establishing a discrimination case before courts may not be more difficult in these countries than in countries with less stringent systems of proof, but where the equality body has more limited investigative powers (O' Hare, 2001).

In the Czech Republic, Finland (as regards racial discrimination cases), Mexico, Poland, Portugal and Spain, investigative procedures are mainly conducted by labour inspectorates, which also have strong powers. This, however, means that there is no one-stop shop where claimants can access information, lodge a complaint, and receive support for gathering the requested evidence to enable a discrimination case to be brought before the courts. Thus, for the overall framework to be effective, labour inspectorates and equality bodies (or other relevant bodies) need to be well coordinated and to operate in close collaboration. In practice, this may be not always the case. For instance, Malheiros (2007) suggests that in Portugal, the main practical difficulties in enforcing legislation relate to the lack of coordination between the different bodies involved in discrimination cases. Obtaining evidence on discriminatory acts is quite difficult and the procedures tend to be very protracted, thus creating a gap between legislation and its practical implementation, with very few cases brought before the courts.

Equality bodies are generally not empowered to provide plaintiffs with legal representation (Table 3.3). And in countries where they have such a power (Mexico, Sweden, the United Kingdom and the United States as well as, as regards gender discrimination cases only, Belgium, Denmark and Italy), legal representation is not provided in a systematic way. In the United Kingdom for instance, the Equality and Human Rights Commission will take legal action, on behalf of individuals, where there are strategic opportunities to push the boundaries of the law, that is where there are chances to create legal precedents or to clarify and improve the law. Similarly, in the United States, the Equal Employment Opportunity Commission litigates on behalf of the public interest, which in practice provides legal representation to claimants, but in a limited number of cases. Overall, the first aim of free legal representation provided by equality bodies, NGOs or trade unions is often to serve the public interest, and in most private, individual cases, lodging a discrimination claim before the courts remains an expensive procedure.[32]

… while potential benefits remain uncertain for individual victims of discrimination

While costs are likely to be very high, benefits are uncertain in many cases: legal guidelines covering compensations are often not clearly specified in anti-discrimination laws (Table 3.3). As a result, for most countries under review, it is not possible to provide a single indication of monetary compensations awarded by the courts in discrimination cases, neither in terms of floors or caps, nor in terms of average or median amounts (see OECD, 2008c). In a number of cases, monetary compensations are defined through normal civil, administrative or penal laws, or in the labour code. To evaluate the costs and benefits of taking a legal action, victims of discrimination have to understands the provisions of these various laws and codes, a difficult task that is likely to restrain them from filing a claim (Holmaat, 2007; Malheiros, 2007). Overall, compensatory damages (established by law or case law), both well-identified and potentially substantial, only exist in a few countries: Australia, Canada, Denmark, Finland, Sweden, the United Kingdom and the United States. Such provisions may have a sizeable impact on workers' incentives to bring a discrimination case before the courts. For instance, Donohue and Siegelman (2005) show that in the United States, the Civil Rights Act of 1991, which introduced additional statutory provisions for compensatory damages (for psychological distress) and more frequent access to jury trials, has generated more lawsuits and larger awards, even though the underlying phenomenon of workplace discrimination may have actually been declining.

Although reinstatement or redress with back pay is possible in virtually all countries, whether such an option may constitute an effective remedy is not obvious. Bringing a discrimination claim before the courts is likely to deteriorate the employment relationship, so that the latter can hardly continue. In Austria for instance, where in cases of unlawful dismissal reinstatement is ordered without the option to accept the termination and claim non-pecuniary damages, Schindlauer (2007) stresses that, as many victims refuse to go back to a discriminatory employer, there is, in practice, neither effective remedies nor sanctions for such discriminatory acts.[33]

The risk of retaliation has to be addressed

From being a victim of discrimination one may also become a victim of retaliation for having filed a complaint, which may constitute a serious barrier in enforcing anti-discrimination legislation. And employer victimisation in discrimination cases is not uncommon. In the United States, for instance, retaliation claims accounted for about 30% of all discrimination charges received by the Equal Employment Opportunity Commission in 2007 (EEOC, 2008). To take another example, Havinga (2002) reports, from a telephone survey conducted in the Netherlands, that according to the complainants, 60% of the employers may react negatively to a discrimination claim. More than half of the employees who filed a discrimination complaint had changed jobs in the meantime and 60% of these changes were related to the complaint. About one-third of the complainants still working with their employer did experience negative consequences in their job. Furthermore, the Dutch Equal Treatment Commission itself points out that key witnesses regularly refuse to testify for fear of negative repercussions, thus unintentionally denying the plaintiff the full protection of equal treatment and non-discrimination law (CGB, 2004).

In virtually all countries, legal provisions protecting individuals from victimisation have been introduced in anti-discrimination laws (Table 3.3). In most cases, these provisions also cover witnesses and other employees who may give evidence or documents

in connection with any proceedings against discrimination. Still, the perspective of possible employer retaliation may remain dissuasive. First, as a general matter of fact, gathering evidence that would enable a victimisation case before the courts may be difficult, and second, for victims of discrimination, this may lead to protracted legal procedures that they cannot always afford. As a minimum requirement, therefore, it is important that victimisation complaints receive the same favourable treatment which discrimination complaints are entitled to, as regards standard of proof and legal proceedings, rather than the treatment normally reserved to standard civil disputes.

3.3. Employer incentives to comply with anti-discrimination legislation and follow an equality policy

Taking a legal action can be costly, complex, time-consuming and represents an adversarial process for victims of discrimination in the workplace. Anti-discrimination laws generally will have more impact if the enforcement is not exclusively dependent on the initiative of individuals deprived of their rights. Enforcement by specific agencies can thus play an important role. In this respect, Liggett (1969) shows for instance that in the United States, before the enactment of Title VII of the Civil Rights Act (the federal anti-discrimination legislation) in 1964, the establishment of so-called fair employment practices commissions (FEPC) helped improve the labour market situation of Black workers in states where such commissions were empowered to conduct formal investigations and follow-up reviews. In states where FEPCs had only purely advisory functions, and even in states where FPECs could enforce their orders through the courts but did not have the legislative support or administrative resources to carry out investigation and reviews, exclusion practices were more persistent.

In most countries, national equality bodies (or other relevant bodies) are empowered to conduct formal investigations, on their *own* initiative and behalf, either randomly or in companies and organisations where there is evidence of discrimination, and to take legal actions when deemed necessary (Table 3.4). While not directly supporting current individual victims of discrimination, such actions may raise the profile of equality issues, establish the value of eliminating discrimination and change people's behaviour, thus indirectly helping all potential victims of discrimination. However, to have an impact, this investigative activity needs to be associated with effective and proportionate sanctions against discriminatory employers (Table 3.4). Publicity of discrimination cases may play a key role in this respect, and such sanctions are available in most countries. Likewise, administrative sanctions, such as withdrawal of public subsidies or other benefits, cancellation of public contracts and temporary ineligibility to compete for public contracts, reinforce the view that the society as a whole, and first and foremost, public institutions, should ban discriminatory practices and promote the principle of equal treatment. But such administrative sanctions are found in only a few countries: Austria, Italy (as regards gender discrimination cases only),[34] Portugal, Spain, Switzerland and the United States. Other available sanctions are fines or prison sentences. They are likely to be less effective, since they often are of a penal nature, and thus only enforceable through penal procedures with highly restrictive standards of proofs. Only Greece, Mexico, Portugal and Spain have highly dissuasive administrative fines. Finally, the overall procedure is likely to be more effective, or at least less time-consuming, when administrative sanctions can be imposed directly by equality bodies (or equivalent bodies) themselves, as in Finland (as regards gender discrimination cases only), France, Norway, Portugal and the United States.

Table 3.4. **Employer incentives to comply with anti-discrimination legislation and follow an equality policy**[a]

	Is the EB empowered to take legal action on its own initiative?[b]	Sanctions in case of non-compliance				Affirmative and positive action	
		Publicity[c]	Administrative, civil or penal fines	Other civil or administrative sanctions	Prison sentences	Allowed	Incentives
Australia (FL)	No	Yes	Penal AUD 10 000 max.	None	Yes (3 months max.)	Yes	Legal requirements, delivery of labels. Financial support (ethnicity only)
Austria (FL)	No	No	Penal, rare, low	Withdrawal of federal benefits	None	Yes	Delivery of labels, financial support
Belgium (FL)	Yes (gender: low, ethnicity: high)	Yes	Gender: none Ethnicity: penal, low	None	Gender: none Ethnicity: 1 to 12 months	Yes	Delivery of labels, financial support
Canada[d] (FL)	Yes (high)	No	None	None	None	Yes	None
Czech Republic	Employment offices and labour inspectorates	No	Administrative EUR 31 900 max.	None	None	Yes	None
Denmark[d]	No	No	Penal, approx. DKK 1 000, for discriminatory job ads	None	None	No, in general	None
Finland	Gender: EB Ethnicity: labour inspectorate	No	Penal	Gender: EB empowered to imposed fines	Yes (6 months max.)	Yes	Gender: legal requirements, delivery of labels
France	Yes (low)	Yes	Penal, EUR 45 000 max.	EB empowered to imposed fines	Yes (3 years max.)	Yes	Delivery of labels
Germany[d]	No	Yes	Administrative and penal, rare	None	None	Yes	Counselling
Greece	Gender only: labour inspectorate (high)	Gender: in some cases Ethnicity: no	Administrative, EUR 1 000-30 000 Gender: no cap for civil and penal sanctions	Full civil protection	Yes (6 months min)	Yes	Gender: delivery of labels, financial support
Italy	Yes (low)	Yes	Gender: administrative, low, never applied Ethnicity: no	Gender: withdrawal of state benefits, never applied Ethnicity: no	None	Gender: yes Ethnicity: no	Gender: public subsidies
Japan[d] (gender only)	Yes (high)	Yes, in some cases	Penal, in some cases (JPY 300 000 max.)	None	Yes, in some cases (6 months max.)	Yes	Delivery of labels, counselling and other assistance
Korea[d]	No	Yes	Penal gender: max. KRW 5 to 30 million	None	Yes (gender: 5 years max.)	Yes	Delivery of labels, administrative and financial support
Mexico	Yes (high)	Yes	Labour law, 3 to 315 times the daily minimum wage	None	Yes (3 days to one year)	Yes	Delivery of labels, financial support
Netherlands	Yes (low)	Yes (EB only)	Penal, EUR 6 700 max.	None	Yes (max. of 2 or 6 months)	Yes	Counselling and other assistance

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Table 3.4. **Employer incentives to comply with anti-discrimination legislation and follow an equality policy**[a] *(cont.)*

	Is the EB empowered to take legal action on its own initiative?[b]	Sanctions in case of non-compliance				Affirmative and positive action	
		Publicity[c]	Administrative, civil or penal fines	Other civil or administrative sanctions	Prison sentences	Allowed	Incentives
Norway	Yes	No	Administrative	EB empowered to impose administrative fines	Gender: no Ethnicity: yes (3 years max.)	Yes	None
Poland	Yes	No	Penal Vary between EUR 300 and EUR 200 000 max.	None	Yes (3 years max.)	Yes	Gender: delivery of labels and financial support
Portugal[d]	No	Yes	Administrative. Clearly specified in the Labour Code, vary from EUR 1 780 to EUR 53 400, according to the degree of fault, seriousness of the offence and employer turnover.	Ethnicity: EB empowered to order the removal of benefits granted by public bodies or services, and the removal of the right to participate in trade fairs and public markets.	None	Yes	Gender: delivery of labels
Spain[d] (gender only)	No	Yes	Administrative. Vary according to the degree of fault from EUR 3 000 to EUR 90 000.	Possible removal of tax relief, subsidies and any benefits in connexion with employment programmes.	yes (6 months to 2 years)	Yes	Requirement of gender equality plan in large companies (with numerical goals), delivery of labels, financial incentives
Sweden[d]	Yes (low)	No	None	None	None	Yes	Legal requirements
Switzerland (gender only)	No	Yes	None	Possible debarment from receiving federal government contracts	None	Yes	Financial support
United Kingdom	Yes (medium)	Yes	None	None	None	Yes	None
United States[d] (FL)	Yes (medium)	Yes	None	Cancellation of and debarment from receiving government contracts. Termination, denial, or discontinuance of federal financial assistance.	None	Yes	Legal requirements for public contractors, "Awards" for best practices

EB: equality bodies; FL: information reported in the above table refers to federal laws.

a) Whenever no distinction is made between gender and ethnic grounds, answers cover both.

b) That is, the body in question can take legal action against companies or organisations that apply discriminatory practices, even if no specific victim is referred to (in which case the consent of a victim is not required). Annotations in parentheses refer to the level of priority attributed by the body in charge of implementing the specified task. High, medium and low, respectively, mean above, close to and below-average importance of the specified task in the actual overall workload of the corresponding body.

c) Publicity means that courts (or other relevant bodies) can order the nominative publication/publicity of a discrimination case, and/or send a notice outside the firm in question (media, trade unions, etc.).

Table 3.4. **Employer incentives to comply with anti-discrimination legislation and follow an equality policy**[a] *(cont.)*

d) Country notes:

Canada: Fines – Remedial legislation as opposed to penal. There is, however, a penalty provision, a fine not exceeding CAD 50 000, in case of victimisation/retaliation as well as for a person obstructing an investigator or a member or panel of the tribunal in carrying out their functions. *Positive and affirmative action*: there are two acts regulating affirmative/positive action, the federal Employment Equity Act that applies to the federal public sector and to federally-regulated private sector companies, and the Quebec Act respecting equal access to employment in public bodies that applies to the Quebec public sector only. These two Acts require employers to make regular public reports on employment composition and to take positive action to promote employment of disadvantaged groups. They cover only about 10% of Canadian workers, however.

Denmark: Positive actions – Positive actions allowed only in projects with public authorization. Gender preferential treatment is allowed in the case of training if that gender is under-represented.

Germany: Publicity – Due to privacy rules, publicity is likely to be limited to official court documents (MIPEX, 2007). *Incentives*: most of the activity related to incentives for the private sector is limited to counselling firms on how to comply with requirement of the anti-discrimination law.

Japan: Publicity – In the event that an employer is in violation of any of the provisions contained is this Law regarding the prohibition to discriminate and the Minister of Health, Labour and Welfare has given a recommendation, but the employer has not complied with it, the Minister of Health, Labour and Welfare may make a public announcement to that effect.

Korea: Prison sentence – gender: imprisonment of five years or less or a penalty of KRW 30 million or less in case of violation of the equal wage provision (for work of equal value in the same business). *Affirmative and positive actions* – gender: Affirmative action (employment improvement measures) is generally allowed, and government-invested institutions, subsidiary organisations of government, and companies with 500 workers or more are *required* to implement affirmative action. National and local governments can provide administrative and financial incentives to firms with good records in affirmative action.

Portugal: Other civil or administrative sanctions – In addition, the High Commissioner for Immigration and Ethnic Minorities (the EB) may also apply the following ancillary sanctions: publication of the decision; public admonition of the perpetrators of discriminatory practices; confiscation of property; prohibition of the exercise of a profession or activity which involves a public capacity or depends on authorisation or official approval by public authorities; compulsory closing of premises owned by the perpetrators; suspension of licences and other permits.

Spain: Other civil or administrative sanctions – In case of direct or indirect discrimination on the grounds of sex, these sanctions may be replaced by the preparation and application of an equality plan in the company, if so determined by the competent labour authority at the request of the company and after an official report issued by the Social Security and Employment Inspection Service. Should the equality plan not be prepared or applied or should it be carried out in manifest breach of the terms laid down in the ruling of the labour authority, on the proposal of the Social Security and Employment Inspection Service, the said authority will remove the effect of the substitution of the penalties in question.

Sweden: Affirmative and positive action – Employers are obliged under penalty of a fine to work for diversity and to prevent discrimination on grounds of gender as well as ethnicity through targeted and proactive measures. The ombudsmen against discrimination will supervise how the employers fulfil this obligation and have the power to enforce the work by bringing the case before a board that can decide whether the employer has done enough or not. When it comes to gender, some actions are mandatory. The employer must, for instance, every year examine the salaries of the employees from a gender perspective in order to ensure equal pay for equal work.

United States: Is the EB is empowered to take legal action on its own initiative? – EEOC (Equal Employment Opportunity Commission) takes legal representation in about 40% of charges as to which the EEOC has found reasonable cause to find discrimination and following unsuccessful conciliation of the charge. EEOC litigates on behalf of the public interest, which in effect provides legal representation to claimants. *Affirmative and positive action*: no mandatory quotas, but goals and timetables.

Source: See OECD (2008c).

In addition to this coercive approach, all countries allow employers to take positive actions and provide them with incentives to do so, mainly in the form of labels publicising company good practices (Table 3.4). While in some countries (Australia, Finland, Norway, Spain and the United States), employers are legally required to implement specific and well-defined positive measures, Phillips *et al.* (2007) underline that in many cases, the fear of contravening the existing equality laws restrains employers from taking positive actions. First and foremost, they would need to receive clearer legal guidance and counselling. However, this kind of support is available only in a few countries, such as Germany, Japan and the Netherlands. Finally, recognising that implementing positive measures may have a cost, a number of governments provide employers with financial support.

More generally, the downside of anti-discrimination legislations is that some provisions may discourage employers from hiring disadvantaged groups in the first place. Affirmative and positive action policies can provide appropriate incentives to prevent this. For instance, the fact that employers' obligations as regards maternity leave – which may have a cost, at least in the short run – tend to have a detrimental impact on the recruitment of women of child-bearing age is well documented. In other words, where cost is involved employers tend to feel they have a legitimate reason for discrimination (ACAS, 2006a; Donohue, 2005). In this respect, the Spanish government has implemented an interesting measure: firms do not have to pay any employers' social contributions when hiring an unemployed person, on a temporary contract, to replace an employee on maternity or adoption leave, or any leave during pregnancy or breastfeeding. It is noteworthy however, that while positive and affirmative action policies can constitute a valuable complement to anti-discrimination laws, they may themselves result in distortions, disincentive effects or call into doubt the merit of the targeted population (see Fryer and Loury, 2005). This would deserve an in-depth analysis that goes beyond the scope of this chapter, which primarily focuses on the legal aspects of equal treatment policies.

3.4. Alternative resolution mechanisms: mediation and conciliation procedures

Individual victims of discrimination face strong barriers to enforce their legal rights by bringing their case before the courts, in particular when they wish to continue working with their current employer. As underlined by ACAS in the United Kingdom, once a claim has been lodged, it can be very difficult to repair the employment relationship because of the adversarial nature of the litigation process. Even where the parties agree to settle before the actual hearing, this will often be on the basis of a termination of the employment relationship and compensation because of the damage that has already been done (ACAS, 2006b). In fact, while many of the potential benefits of pursuing discrimination cases are collective, many of the costs of pursuing them are individual (Burstein, 1989). Consequently, most national equality bodies also offer what is described as "mediation" at an early stage, preferably before any legal claim has been made (Table 3.5).

For both parties involved in a discrimination dispute, mediation presents several advantages (Keppler, 2003):

- First, it offers the likelihood that the employment discrimination complaint might be resolved faster and cheaper. Mediation procedures take on average between two and eight months in countries where such information is available (Australia, Canada, France, Greece, Japan, Switzerland, United Kingdom and United States, see OECD, 2008c) and are free for both parties since they do not require legal representation by a private

lawyer. Besides, effective mediation procedures can also achieve considerable savings to the public purse. In the United Kingdom for instance, the high resolution rate of labour disputes by ACAS considerably reduces potential hearing days at Employment Tribunals (75% of potential hearing days are saved in this way). In addition, the cost per case settled or withdrawn through ACAS is GBP 393, while the cost per case heard at an Employment Tribunal is about GBP 2 000 (ACAS, 2006b).

- Second, the mediation's non-adversarial setting not only increases the probability of compromise, but also reduces the risk of irreparably damaging the employment relationship. Indeed, in virtually all countries, mediation takes place on a voluntary basis, is assisted by a third neutral party and offers the parties confidentiality. By playing the role of an unbiased advisor, the mediator can help the parties re-evaluate unrealistic assumptions and thus bridge the gap between the parties' initial positions, while the confidentiality afforded by mediation allows the parties to make the admissions and concessions necessary to reach a compromise solution. Since a mediator is not a decision maker, any decision is left to the parties, increasing the parties' acceptance and overall satisfaction with the outcome and providing the basis for rebuilding a fractured employment relationship.

The effectiveness of mediated settlements is reduced in countries where they are not legally binding, such as Belgium, Germany, Greece, the Netherlands and Portugal (Table 3.5). For victims of discrimination, this renders mediation much less attractive. In some countries, participation is not established on a voluntary basis and/or the equality body does not act as a fully neutral third party. This is, for instance, the case in Austria, Finland, Norway or in the Netherlands, where national equality bodies act as a semi-judicial body empowered to give an opinion on a discrimination claim, seeking to secure the parties' voluntary compliance with it. This is also the case in Canada and the United States when it comes to the so-called conciliation procedures, where both participation is mandatory and the equality body seeks redress on the behalf of the claimant.[35] These procedures thus lie in between mediation and court proceedings: while the complaint may still be resolved faster and cheaper, they offer less guarantees as regards the possible continuation of the employment relationship.

Available evaluations suggest that mediation procedures offer a valuable alternative for discrimination dispute resolutions. The Canadian Human Rights Commission began offering mediation services in 1998, on a pilot-project basis, in order to evaluate the effectiveness of the programme (CHRC, 2000). The two-year pilot project came to an end in the fall of 2000. During this time, mediation was offered to the parties in some 500 complaints. The participation rate in the programme, *i.e.* the proportion of complaints in which both parties agreed to participate, was 60%. And settlements were reached in 56% of cases. Evaluations showed that the majority of complainants and respondents felt that mediation had been worthwhile whether or not a settlement was reached. Mediation is now widely used by the Canadian Human Rights Commission: it represented 40% of all cases dealt with in 2006. Most of these settlements were reached with the assistance of a Commission mediator or conciliator. In a small number of cases, the parties settled the matter on their own (CHRC, 2006). The mediation programme available in the United States was also recently evaluated (McDermott *et al.*, 2000). And here again, results are encouraging. The majority of the participants felt that the mediator understood their needs (87%) and helped to clarify their needs (82%). Most participants (85%) also felt that the mediator played a very useful role in the development of options for the resolution of

Table 3.5. **Mediation and conciliation procedures**[a]

	Existence of an institutional framework for mediation/ conciliation	General characteristics of the mediation/conciliation procedure			Status of the agreement reached by the parties	
		Voluntary process	Intervention of, and guidance from, a third neutral party	Confidentiality	Legally binding	Enforcement secured by the relevant body
Australia (FL)	Yes	Yes	Yes	Yes	Yes	No
Austria (FL)	Not explicitly	The EB is empowered to give an opinion and seeks to secure the parties' voluntary compliance with it.			Yes	No
Belgium (FL)	Yes	Yes	Yes	Yes	No	No
Canada[b] (FL)	Yes	Mediation: yes Conciliation: no	Yes	Yes	Yes	Yes
Czech Republic	No	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark[b]	Yes	Gender: The EB can assist parties in finding a settlement through mediation			Yes	No
		Ethnicity: yes	Ethnicity: yes	Ethnicity: yes		
Finland	Gender: not explicitly Ethnicity: no	Gender: the EB is empowered to give an opinion and seeks to secure the parties' voluntary compliance with it. If there is no voluntary compliance, the EB can enforce its decision with the threat of a penalty.			Gender: EB decisions can only be appealed to the tribunal.	Yes
France	Yes	Yes	Yes	Yes	Yes	Yes
Germany	Yes	Yes	Yes	Yes	No	No
Greece[b]	Yes	Yes	Yes	Yes	No	No
Italy	Yes	Yes	Yes	Partly	Yes	No
Japan (gender only)	Yes	Yes	Yes	Yes	Yes	No
Korea	Yes	Yes	Yes	Yes	Yes	Yes
Mexico	Yes	Yes	Yes	Yes	Yes	Yes
Netherlands	Not explicitly	The EB is empowered to give an opinion and shall seek to secure the parties' voluntary compliance with it.			No	No
Norway[b]	Not explicitly	The EB is empowered to give an opinion and shall seek to secure the parties' voluntary compliance with it. If there is no voluntary compliance, the EB is empowered to make administrative decisions.			EB decisions can only be appealed to the tribunal.	Yes
Poland	No	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	Gender: no Ethnicity: yes	Ethnicity: yes	Ethnicity: yes	No	No	No
Spain (gender only)	No	n.a.	n.a.	n.a.	n.a.	n.a.
Sweden	Yes	Yes	Yes (EB non neutral)	No	Yes	Yes
Switzerland (gender only)	Yes	Yes	Yes	Yes	Yes	No
United Kingdom	Yes	Yes	Yes	Yes	Yes	No
United States[b] (FL)	Yes	Mediation: yes Conciliation: no	Mediation: yes Conciliation: no	Yes	Yes	Yes

EB: equality bodies; FL: information reported in the above table refers to federal laws.
n.a.: not applicable.

a) Whenever no distinction is made between gender and ethnic grounds, answers cover both.
Belgium: intervention of and guidance from a third neutral party.Ethnicity: the equality body is not a neutral party since it can bring cases before the courts.

b) Country notes:

Canada: mediation and conciliation refer to two distinct procedures. The main difference is that mediation is voluntary while conciliation is mandatory. The Commission encourages use of mediation early in the complaint process, although it is available at any stage up to tribunal hearings. Conciliation generally takes place after an investigation of the facts, before a case is referred to the tribunal. However, the Commission can order conciliation at an earlier stage. The roles of the conciliator and the mediator are quite similar. But, unlike mediators, conciliators give direct feedback on the strengths and weaknesses of arguments, opinions and proposals.

Table 3.5. **Mediation and conciliation procedures**[a] *(cont.)*

Denmark: the EB for gender discrimination complaints (Gender Equality Board), in comparative law terms, lies in between a conciliation organisation and a tribunal with, in addition, investigative power. Without acting as a mediator, it can assist parties reaching a settlement agreement. If mediation fails, it has the authority to make administrative decisions, which may be appealed to the tribunal.
Greece: confidentiality: The settlement process followed by the Labour Inspectorate is confidential but the plaintiff may use the mediation conclusions in court.
Italy: the mediation process is regulated by the labour code, the code for civil proceedings and similar laws for disputes with the public administration. EBs can, however, act as mediators.
Norway: the EB, in comparative law terms, lies in between a conciliation organisation and a tribunal with, in addition, investigative power. The Ombud has the authority to make administrative decisions, which may be appealed to the tribunal. The Ombud may give an opinion as to whether a matter is in contravention of anti-discrimination provisions contained in the legislation. The Ombud shall seek to secure the parties' voluntary compliance with this opinion. If a voluntary arrangement cannot be reached, the Ombud may bring the case before the tribunal. In addition, if the parties do not voluntarily comply with the opinion of the Ombud and if waiting for an administrative decision by the tribunal will cause inconvenience or have a harmful effect, the Ombud may make administrative decisions (that may be appealed to the tribunal).
United States: EEOC (Equal Employment Opportunity Commission) encourages use of mediation early in the complaint process, although it is available at any stage up to tribunal hearings. Conciliation generally takes place after an investigation of the facts, before a case is referred to the tribunal. EEOC operates as a neutral party during mediation, but seeks remedial action on behalf of the claimant during conciliation. OFCCP (Office of Federal Contract Compliance Program) conciliates directly with the contractor as a party to secure relief on behalf of the victims. If the contractor declines to participate or the conciliation is otherwise unsuccessful, OFCCP may refer the matter to the Department's Office of the Solicitor. The Office of the Solicitor may file an administrative complaint.
Source: See OECD (2008c).

the dispute and a majority (59%) were satisfied with the results of mediation. Overall, about 60% of the participants resolved their claims through the mediation programme. And among those who failed, about 30% nevertheless recognised that progress was made in mediation toward the resolution of their claim.

As noted by O'Cinneide (2002), concerns were initially expressed that mediation would allow individuals to achieve personal remedies without securing overall systemic change in the behaviour that led to their complaint. Results to date have, however, shown that mediated settlements can result in broader remedies, such as anti-discrimination training, a review of staff structures and pay scales. Nevertheless, the possibility exists that extensive use of mediation could reduce overall enforcement, by focusing on individual remedies at the expense of systemic ones and preventing the establishment in case-law of clear precedent. More generally, mediation should probably be seen as an alternative to, but never as a replacement of, effective enforcement through the legal system. Replacing meaningful enforcement with conciliation and mediation could remove the sting of the legislation: mediation will always work better against the background threat of litigation.

3.5. *How effective are these anti-discrimination frameworks?*

Evaluations of national legislative efforts to ban discrimination are scarce. Having a long-standing experience in policy to ban discrimination compared to most other OECD countries, the United States is probably the only country where there are enough pieces of evidence to draw some conclusions on the impact of anti-discrimination legislation on race and gender differentials in labour market performance (Annex Table 3.A2.2; and for comprehensive surveys, see Donohue and Heckman, 1991; Altonji and Blank, 1999; and Donohue, 2005):

- First, available empirical evidence shows that laws barring discrimination helped to improve the relative labour market situation of ethnic minorities, in terms of both earnings and employment. And while their impact on gender differentials is less

documented, there also is some evidence that these laws contributed to reduce gender wage gaps and helped women to get jobs in male dominated occupations.

- Second, these effects materialised over time, through direct and indirect channels, as enforcement capacity and ability increased and public opinion changed. Thus, evaluating their magnitude is not an easy task and, to date, there is no strong consensus on this important issue (see Donohue and Heckman, 1991; Altonji and Blank, 1999).
- Third, anti-discrimination provisions may also have side-effects on the populations they are intended to protect and need to be carefully designed. For instance, some evaluations suggest that early State legislation, which introduced gender equal pay provisions without additional employment protection (*i.e.* without nondiscrimination provisions regarding hiring and dismissals), widened gender employment gaps. And even when discriminatory hiring practices are prohibited by law, strong on-the-job protections (*e.g.* regarding pay and dismissal) may still restrain some employers from hiring protected workers in the first place (see Oyer and Schaefer, 2002).

Cross-country evaluations are even scarcer. Indeed, no cross-country comparable time-series of the degree of stringency of anti-discrimination regulations is available. To cope with this lacuna, Weichselbaumer and Winter-Ebmer (2007) use ratifications of international conventions on discrimination – ILO's Conventions on Equal Remuneration for Men and Women Workers for Work of Equal Value and on Discrimination in Respect of Employment and Occupation and the UN's Convention on the Elimination of All Forms of Discrimination against Women – as proxies for domestic anti-discrimination laws,[36] and find a robust negative impact of this variable on the gender wage gap in their meta-analysis concerning OECD and non-OECD countries.

For the purpose of this chapter, the analysis of Weichselbaumer and Winter-Ebmer (2007) has been replicated on OECD countries only and further extended to gender employment gaps, using the same methodology employed above for the analysis of product market regulation (see Box 3.4). Two indexes of ratifications of anti-discrimination conventions are developed: a qualitative index that takes value one if at least one convention is ratified and not denounced; and a quantitative index that counts the number of conventions that are ratified and not denounced, and allows for non-integer scores in the case of reservations concerning labour market aspects of a convention (see Annex 3.A1). The econometric estimates show that both indexes are negatively and significantly associated to the gender employment gap in international data (Table 3.6, Panel A), and in particular with the portion of the gap that it is not accounted for by gender differences in labour supply and aggregate labour demand.[37] Taken at face value, ratification of all three anti-discrimination conventions is associated with a reduction in the gender employment gap between 0.5 and 1.3 percentage points.[38] While these figures are relatively small, they probably reflect the roughness of the proxy used.[39] Similar results emerge in the case of the gender wage gap (Table 3.6, Panel B) where, however, as in the analysis of the impact of product market regulation, point estimates are larger but also less precise (see OECD, 2008a, for detailed results).[40] Overall, available evidence confirms that anti-discrimination legislation can have a significant impact on labour market disparities.

Table 3.6. **Ratification of anti-discrimination conventions is associated with a lower gender employment and wage gaps**[a]

Panel A. Effects of ratification indexes on the gender employment gap (in percentage), working-age population[b]

	Period 1960-2003				Period 1975-2003		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Anti-discrimination conventions (qualitative index)	–1.15***	–1.11***	–1.17***	–1.19***			
	[6.80]	[6.74]	[6.93]	[6.96]			
Anti-discrimination conventions (quantitative index)	–0.18*	–0.16*	–0.18**	–0.20**	–0.41*	–0.44**	–0.44*
	[1.96]	[1.77]	[2.00]	[2.12]	[1.92]	[2.06]	[1.84]
Observations	971	971	953	953	436	436	414

Panel B. Effects of ratification indexes on the logarithm of the gender wage gap (in percentage), 1975-2001[c]

	No control for outliers			Excluding outliers		
	(1)	(2)	(3)	(4)	(5)	(6)
Anti-discrimination conventions (quantitative index)	–0.071**	–0.065**	–0.070**	–0.050**	–0.044*	–0.047*
	[2.19]	[2.02]	[2.13]	[2.05]	[1.82]	[1.94]
Observations	188	188	188	185	185	185

StatLink http://dx.doi.org/10.1787/347765040510

Interpretation: the table shows that i) the ratification of at least one anti-discrimination convention is estimated to reduce the gender employment gap by 1.1-1.2 percentage points (Panel A); and ii) the ratification of all three conventions is estimated to narrow the gap by 0.5-1.3 percentage points (Panel A); and iii) the ratification of all three conventions is estimated to narrow the gender wage gap by 1.3-2.1 percentage points (Panel B).

a) Each cell refers to a different specification. The qualitative index takes value 1 when at least one international convention on discrimination has been ratified and not denounced. The quantitative index varies between 0 and 3, depending on the number of ratified conventions that have not been denounced (adjustments are made for ratifications with reservations).

b) All specifications control for the gender labour participation gap and total employment rate, include country dummies, time dummies and country-specific time-trends and, except for those in column (1), include controls for ratification of conventions banning female night and underground work. Specifications in columns (3), (4), (5), (6) and (7) also include the logarithm of import penetration. Specifications in column (4) include a control for collective bargaining conventions. Specifications in columns (5), (6) and (7) include product market regulation, the share of services in GDP and, except in column (5), union density. Specifications in column (7) include controls for EPL, tax wedge for couples, average benefit replacement rate and a dummy for high corporatism.

c) The dependent variable is the unexplained residual reported in the different studies included in the meta-analysis. Observations refer to the number of country-by-year couples. All specifications control for meta-variables and include country dummies, time dummies and country-specific time-trends. All specifications include product market regulation. Equations (2), (3), (5) and (6) also include EPL. In addition, equations (3) and (6) include the (log) gender employment gap and controls for ratification of conventions banning female night and underground work.

Robust t statistics in brackets. *, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

Source: OECD estimates (see OECD, 2008a, for detailed results).

Conclusion

Available evidence suggests that gender and racial discrimination in the labour market is still significant in a number of OECD countries. The chapter mainly focuses on coercive legal approaches, as a tool for policy-makers to fight discrimination. It provides some evidence that such approaches can help improve the labour market situation of women and ethnic minorities. Importantly, the merit of anti-discrimination laws resides not only in their capacity to repress unwanted behaviours and compensate victims, but also in their capacity to induce cultural change and redefine socially acceptable practices. Anti-discrimination legislation is, however, only one possible tool to combat discrimination and more research is needed on positive action and incentive schemes that can elicit virtuous behaviour. In addition, the chapter shows that increased competitive pressure on the

product market has contributed to reduce employment and wage gaps. In this context, by proceeding further along the route of regulatory reforms, OECD member countries are likely to not only to strengthen productivity and growth but also to reduce discrimination and disparities in the labour market.

The ways in which the institutional framework interacts with discriminatory behaviour in shaping their effect on employment and wage gaps deserves, however, further exploration. For instance, minimum wage legislation *de facto* reduces the scope for unequal wage treatment based on discrimination, but may reinforce discriminatory hiring practices. Likewise, employment protection legislation restrains employers from adopting discriminatory approaches as regards firings, but may have the opposite effect on the hiring process. To take another example, in "insider-outsiders models" discriminated groups will tend to fare less well in the labour market since discrimination is likely to place them in an outsider position: thus, they will face the same barriers to employment as any other outsider, in addition to the specific barriers they face in relation to discriminatory employment practices *per se*. More generally, discrimination might interact with policies designed to increase labour supply. In fact, by affecting labour market returns, discriminatory practices will discourage labour market participation. But, anticipation of differential returns from educational choices could also influence individual incentives to invest in education and training, the choice of field of study and, later on, the choice of industries and occupations. These interaction mechanisms are potentially important in shaping the overall consequences of employer discriminatory behaviours. A deeper analysis of such interactions may contribute to a better understanding of the factors underlying the observed wage and employment gaps, which in turn, may have important implications for the design of an effective strategy to mobilise human resources from under-represented groups.

Notes

1. The correlation coefficient between the average annual change and the initial level of the gap is –0.65 for the change between 1985 and 1995 and –0.53 for the change between 1995 and 2005. The latter figure, however, increases to –0.86 if Mexico and Turkey, two clear outliers in Figure 3.1, are excluded. Moreover the countries where convergence slowed between the two decades are those with the smallest employment gap in 1995 (the cross-country correlation coefficient being –0.57), that is those that were then closer to gender parity.
2. Labour demand factors have also played a role in shaping gender employment gaps, and they might play an increasing role in the future to the extent that the labour supply push, due to the evolution of educational attainment in the population, might slow substantially. For instance, the industry structure of labour demand has changed in a way that has favoured women, with a shift from agriculture and manufacturing towards services, where women tend to be over-represented (see *e.g.* OECD, 2002). In addition, upward shifts in aggregate labour demand (*e.g.* as a result of liberalisation reforms in the product and service markets and/or policy reforms aimed at reducing insider/outsider segmentation in the labour market) are likely to have disproportionately affected women who tend to be over-represented among new hires.
3. Within this view, in countries with higher female labour force participation, even women with relatively low return to paid job would participate in the labour market and have a job, which would widen the average wage gap in these countries. Conversely, the women with similar potential returns would choose to stay out of the market in countries with low participation, thus narrowing the gap.
4. In particular, persisting occupational gender segmentation appears to play a key role in explaining the gender pay gap. Women are still under-represented in managerial and top administrative occupations as well as in engineering professionals and technicians, while they are over-represented in clerical occupations and sales jobs where average wages tend to be lower (see *e.g.*

Groshen, 1991; and OECD, 2002). Segmentation by industry and type of firm or establishment appears also to play a key role.

5. Comparable evidence, however, is usually based on weekly, monthly or annual earnings (*e.g.* OECD, 2002) and might therefore also reflect greater work attachment by women.

6. National surveys for EU countries confirm this pattern, with however marked differences between recent and older members, the former, mainly countries of eastern Europe, still showing a significant downward trend (European Commission, 2007a).

7. Personal traits such as leadership, motivation, self-esteem and aggressivity are typically found to be correlated with wages (see *e.g.* Bowles *et al.*, 2001). Motivations and expectations differ significantly by gender. For instance, Chevalier (2007) reports that men are more likely to self-define themselves as ambitious, state that career development and financial rewards are very important long-term values and expect their partner to take a career break after child-birth, while women put forward job satisfaction, being valued by their employer and doing a socially useful job as more important for them.

8. Residential segregation might result from housing discrimination with cumulative effects on labour market performance (see *e.g.* Blank, 2005). However, the analysis of this channel is outside the scope of this chapter.

9. Since immigration is a relatively recent phenomenon in a number of countries, comparison is restricted to young adults aged 20-29.

10. See *e.g.* Currie and Moretti (2003) and Black *et al.* (2005).

11. In addition, the menu of available policy instruments, will depend, at least in part, on the nature of discrimination (see below).

12. Two alternative measures of the discrimination rate are reported in the table. They differ with respect to the way the event of no callback for both applicants is treated. According to Heckman (1998), this is equivalent to evidence of equal treatment and must be included in the denominator for the computation of the rate. By contrast, Riach and Rich (2002) argue that it provides no information and should be excluded. McNemar's tests (see Somes, 1983), used in the table to compare results from the different studies, are however independent from the chosen definition. Three studies for France (Amadieu, 2004, 2005, 2007) are not included in Table 3.1 since it is not possible to present their results using standard definitions of discrimination rates. Nevertheless, results from these studies appear consistent with those presented in the table.

13. See *e.g.* Kenney and Wissoker (1994), Bendick (1998), Nunes and Seligman (1999) and the references cited therein for the United States; de Prada *et al.* (1996) for Spain; Arrijn *et al.* (1998) for Belgium; Bovenkerk *et al.* (1994) for the Netherlands; Goldberg *et al.* (1995) for Germany; Allasino *et al.* (2004) for Italy; and Cediey and Foroni (2006) for France. Using actual Swedish data, Eriksson and Lagerström (2007) find a positive correlation between the probability of callbacks and the probability of hiring.

14. These are cautious assumptions insofar as ethnic minorities are likely to be less efficient in searching for new vacancies and, as suggested by audit studies, are likely to have a lower probability of job offer conditional to being granted an interview.

15. Assuming that the arrival of advertised job vacancies follows an exponential distribution and that search effort does not vary across groups and along the unemployment spell. The latter assumption is undoubtedly restrictive.

16. See Weichselbaumer (2004) for Austria, Riach and Rich (2006) for the United Kingdom and Carlsson (2007) for Sweden.

17. By contrast, no significant gender difference is found in low-skilled jobs.

18. One can perhaps explain this latter finding on the basis of the extreme requirements of the recruitment procedure required by the Gothenburg pilot. Applicants were in fact asked to erase from their resumes all information from which origin could be identified, including geographical location of schools. The latter is much more likely to confound the experimental outcome in the case of non-western immigrants. Unfortunately, information on the second generation, which would have provided a more reliable test, is not available in these data.

19. For instance, in a famous paper, Altonji and Pierret (2001) argue that if firms statistically discriminate on the basis of race or gender because they use race or gender to proxy for characteristics that are difficult to observe at the time of hiring, as they learn about the real productivity of their employees over time, wage returns to race and gender should fall. They apply

this intuition to US data from the National Longitudinal Survey of Youth and find no evidence that the wage penalty for blacks decrease with experience. Yet, while providing evidence of lack of statistical discrimination, Altonji and Pierret's results are consistent with the presence of race discrimination due to *e.g.* preferences.

20. By so doing, they limit the analysis to papers providing at least one estimate of the unexplained residual using regression-based decomposition (see OECD, 2008a) or dummy variables in a wage regression.

21. In particular, the estimated coefficient of competition becomes insignificant and even changes sign in specifications in which country fixed effects are included when the sample is restricted to OECD countries.

22. The regression analysis is performed on data concerning 21 OECD countries between 1975 and 2003 for Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Norway, New Zealand, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States.

23. The aggregate employment rate is included to avoid that the estimated coefficient of regulation capture also the effect of regulatory reforms on aggregate demand, whose movements are likely to affect disproportionately disadvantaged groups such as women, thus not being interpretable as yielding evidence on discrimination. Note that this problem is unlikely to be relevant for industry-specific studies, such as those reviewed in Box 3.3.

24. As the indicator of product market regulation that is used here is based on regulation in non-manufacturing industries, one can expect that its estimated coefficient partially reflects this structural shift rather than its effect on discriminatory behaviours. For this reason, the service sector share is included in most regression models. In addition, deregulation in the product market, by reducing the size of rents, might reduce the bargaining power of insiders, thereby increasing opportunities for women who are more represented among outsiders. To control for this effect, most specifications include various labour market institutions, including trade union density, whose time path can proxy the evolution of insiders' strength (see also OECD, 2008a, for more details).

25. These figures are obtained by looking at the range of variation of the gender employment gap predicted by the range of variation of the indicator of regulation. Not surprisingly, the estimate is relatively small as compared with about 85%-90% of such range explained by the gender gap in labour participation and the aggregate employment rate.

26. The meta-analysis is performed on a strongly unbalanced sample concerning 20 OECD countries between 1975 and 2001 (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, Norway, New Zealand, Portugal, Spain, Sweden, Switzerland, the United Kingdom, the United States). To increase sample size, the EPL indicator has been set at its 1982 values for years preceding that date.

27. The sample contains a maximum of 188 country-by-year observations.

28. The largest sample covers 16 industries in Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain and Sweden from 1992 to 2002. The sample is limited by availability of industry-level gender gaps and profitability indicators.

29. If one looks at the range of variation of employment gaps that is explained by regulatory indicators, a much smaller figure is found : only 4% of the variation across industries, countries and over time is explained by regulatory indicators (9% if the comparison is limited to utilities, transport and communications where indicators vary across countries and over time). This is not surprising since the range of variation of employment gaps in the sample is much greater than the corresponding variation in aggregate data, due mainly to large cross-industry differences in the share of women in employment. Given these differences, it can be argued that gender differences in the logarithm of employment are a more appropriate dependent variable. A sensitivity analysis, however, shows that results are not affected by changing the dependent variable.

30. This result is confirmed by instrumental variable estimates where regulatory indicators are used as an instrument for profitability.

31. It is even possible that statistical discrimination could increase as a result of deregulation, as firms might react to enhanced competition by increasing selection and screening behaviours when hiring (see Autor, 2001). However, greater competition is perhaps more likely to increase the value of information gathering and therefore decrease statistical discrimination.

32. In a number of countries, however, there exist simplified procedures for conflict resolutions that do not require the presence of a lawyer (see Section 3.4).

33. There is an amendment to the law in Parliament which intends, in case of unlawful dismissal, to make it possible for the plaintiff to choose between reinstatement and compensation.

34. In Italy, however, these sanctions are envisaged only for the most serious breach of the prohibition to discriminate and, in practice, have never been applied to date.

35. More precisely, in Canada, if the Canadian Human Rights Commission chooses to order conciliation, participation by the claimant and the respondent is mandatory; and if both parties come to a settlement, the Commission can enforce the terms of that settlement (usually at the request of the claimant).

36. This proxy is clearly very rough, not least because certain early adopters of stringent regulations always refused to sign international conventions.

37. The analysis of the association between convention ratifications and the employment gap is performed on two unbalanced samples: an extended sample covering all countries and years for which data are available – including 28 countries from 1960 to 2003 (all OECD countries except Iceland and Luxembourg) – and a more restricted sample – 21 countries from 1975 to 2003 as in Section 2.3 (see above for the list of countries) – where product market regulation indicators are available and a larger list of controls can be included. However, since most OECD countries had already ratified at least one convention by 1975, the analysis of the association of the qualitative index with the employment gap is not repeated in the restricted sample. For the same reason, due to the small number of country-by-time points before 1975 for which wage data are available, the analysis of wage gaps and the qualitative index is not undertaken.

38. Granger-causality tests suggest that this association is likely to reflect a causal impact of the adoption of anti-discrimination laws on the gender employment gap (see OECD, 2008a).

39. Notice that the apparent greater estimated effect per convention of the qualitative index might be due to the likely lower noise to signal ratio of this index with respect to the quantitative one.

40. The most reliable estimates (excluding outliers) are nonetheless in the range of those obtained by Weichselbaumer and Winter-Ebmer (2007).

ANNEX 3.A1

Data Sources and Definition

Employment and wage data in Section 1

Employment rates: Unless otherwise specified, employment data come from the OECD database on Labour Force Statistics. Employment rates by educational attainment are taken from *Education at a Glance – OECD Indicators* (OECD, 2007f). When necessary (Figure 3.2) adjustments were made to correct for minor discrepancies between the total employment rate according to the OECD databases on Education at a Glance and on Labour Force Statistics.

Table 3.A1.1. **Wage data (except for Figure 3.4)**

	Sources
European countries	Unless otherwise specified, data are estimated by the OECD using the European Community Household Panel (ECHP). Hourly wages refer to gross monthly earnings in the main job divided by 52/12 and then by usual weekly hours of work for employees working for at least 15 hours a week. Overtime pay and hours are included.
Australia	Data are derived from the August 2000 Labour Force Survey and the supplementary survey "Employee Earnings, Benefits and Trade Union Membership". Average gross hourly wages are calculated using total weekly earnings divided by actual hours worked.
Canada	Hourly wages are estimated using the Cross National Equivalent File (CNEF). Earnings are gross annual labour earnings divided by annual hours worked.
Korea	Hourly wages are estimated using the Korean Labor and Income Panel Study, wave 4 (2001). For employees paid by the hour, they refer to gross hourly earnings. For employees paid daily, weekly or monthly, hourly earnings are estimated as gross weekly earnings (daily earnings are multiplied by five and monthly earnings are divided by 52/12) divided by average weekly hours of work.
New Zealand	Data are from the New Zealand Income Survey which is run annually as a supplement to the Household Labour Force Survey in the June quarter. Data refer to the June 2001 quarter. Information on earnings includes actual and usual wages and salaries (including ordinary time, overtime and other income) for the main job and up to two other jobs. The earnings measure used in the tables is average usual hourly earnings from all wage and salary jobs.
Sweden	The data were provided by Statistics Sweden based on the *Statistics Yearbook of Salaries and Wages* (2000). The data come from five different sources, three of which pertain to the public sector and cover the entire population; the other two sources are based on enterprise sample surveys covering the private sector. The wages are gross wages and include agreed bonuses but exclude overtime and profit-sharing. In the public sector the hourly wages were calculated by dividing the monthly wage by 165, the average worked hours per month. In the private sector the hourly wages were calculated by dividing the total wage by contractual worked hours (overtime hours are excluded).
Switzerland	Hourly wages were calculated by the Swiss Statistical Office based on the 2001 Enquête de la Population Active by dividing gross annual earnings by 52 and then by usual weekly hours of work.
United States	Hourly wages are estimated using the March Outgoing Rotation Group of the Current Population Survey (CPS). Earnings are gross annual labour earnings divided by annual hours worked. Average estimated wage gaps can be biased by the fact that wage data in the CPS are top coded. This problem does not apply to median wage gaps.

Table 3.A1.2. **Data for Figure 3.4: Employment and wage gaps between "white" and "non-white" groups in Canada, the United Kingdom and the United States**

	Employment data	Wage data
Canada	Data are limited to the private sector and estimated using the Cross National Equivalent File (CNEF).	Earnings are gross annual labour earnings in the private sector divided by annual hours worked and are estimated using the same source as for employment.
United Kingdom	Data are limited to the private sector and estimated using the Quarterly Labour Force Survey, September to November 2005. The educational attainment of foreign-born individuals, not being comparable to native-born, is set to missing.	Earnings are average gross hourly pay for employees in the private sector and are estimated using the same source as for employment.
United States	Data are limited to the private sector and estimated using the Current Population Survey (CPS).	Hourly wages are estimated using the March Outgoing Rotation Group of the Current Population Survey (CPS). Earnings are gross annual labour earnings divided by annual hours worked.

Details on definitions and sources for regressions in Section 2

Table 3.A1.3. **Aggregate variables**

	Definitions	Sources
Aggregate employment rate	Employed workers as share of the working-age population (15-64 age group), in %. Data adjustment: While the primary source is the OECD database on Labour Force Statistics, Annual Labour Force Statistics – which tend to be available over longer time periods – were also used in some cases to extrapolate employment rates backwards (under the assumption of similar percentage changes in unemployment and employment rates in both sources). Missing observations are obtained by linear interpolation when possible.	OECD database on Labour Force Statistics; OECD, Annual Labour Force Statistics
Group-specific employment rates	Employed workers as a share of the corresponding population group, in percentage.	OECD database on Labour Force Statistics
Wage gaps	Unexplained wage gap residuals from regression-based decompositions. The primary source is the meta-dataset of Weichselbaumer and Winter-Ebmer (2005), kindly provided by the authors. Additional estimates for 13 European countries using ECHP data, by applying the Oaxaca-Blinder decomposition and using estimated male regression coefficients to identify returns to characteristics in the absence of discrimination. For each country and year, the logarithm of hourly wages of prime-age wage and salary male workers in the private sector, working at least 15 hours per week at the time of the survey, is regressed on a quadratic in potential experience, three levels of educational attainment, five categories of firm size, a dummy for previous unemployment experience (plus a dummy for missing values as regards to previous unemployment experience), a dummy for part-time status, regional dummies and a spline in tenure (over the ranges 0-1 year, 1-3 years, 3-6 years, 6-9 years and 9-15 years), plus a dummy for tenure greater than 15 years and a dummy for non-reported tenure values.	Weichselbaumer and Winter-Ebmer (2005); OECD calculations from the European Community Household Panel (ECHP)
Meta control variables	Meta control variables are defined as in the preferred specification of Weichselbaumer and Winter-Ebmer (2005). They concern data selection variables, econometric and decomposition methods and the type of controls included in the regressions from which unexplained wage gap residuals were obtained.	Weichselbaumer and Winter-Ebmer (2005); OECD calculations from the European Community Household Panel (ECHP)
Product market regulation	OECD summary indicator of regulatory impediments to product market competition in seven non-manufacturing industries. The data cover regulations and market conditions in seven energy and service industries: gas, electricity, post, telecommunications (mobile and fixed services), passenger air transport, railways (passenger and freight services) and road freight. Detailed indicators exist also at the one-digit ISIC Rev. 3 classification for three industries (energy, transports and communications).	Conway *et al.* (2006)
Quantitative index of anti-discrimination convention ratifications	Number of conventions that are ratified and not denounced by a country at a given date, among ILO's Convention on Equal Remuneration for Men and Women Workers for Work of Equal Value (ILO C100), ILO's Convention on Discrimination in Respect of Employment and Occupation (ILO C111) and the UN's Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). *Data adjustment:* in the case of the CEDAW, 1/3 of unit is subtracted for reservation to Art. 11(1b), and 1/6 of unit is subtracted for each reservation to Art. 11(1c), Art. 11(1d) and Art. 11(2). The qualitative index is a dichotomous variable taking value 1 if at least one of the conventions is ratified and not denounced.	ILOLEX, *www.ilo.org/ilolex/english/docs/declprint.htm* CEDAW, *www.un.org/womenwatch/daw/cedaw/states.htm.*

Table 3.A1.3. **Aggregate variables** *(cont.)*

	Definitions	Sources
Qualitative index of anti-discrimination convention ratifications	Dichotomous variable taking value 1 if at least one of the following conventions is ratified and not denounced: ILO's Convention on Equal Remuneration for Men and Women Workers for Work of Equal Value (C100), ILO's Convention on Discrimination in Respect of Employment and Occupation (C111) and the UN's Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).	ILOLEX, *www.ilo.org/ilolex/english/docs/declprint.htm* CEDAW, *www.un.org/womenwatch/daw/cedaw/states.htm*
Index of work-ban convention ratifications	Number of conventions that are ratified and not denounced by a country at a given date, among ILO's Conventions on the Employment of Women on Underground Work in Mines of all Kinds (C45) and Night Work of Women Employed in Industry (C89).	ILOLEX, *www.ilo.org/ilolex/english/newratframeE.htm*
Index of collective bargaining convention ratifications	Number of conventions that are ratified and not denounced by a country at a given date, among ILO's Conventions on Freedom of Association and Protection of the Right to Organise (C87) and the Application of the Principles of the Right to Organise and to Bargain Collectively (C98).	ILOLEX, *www.ilo.org/ilolex/english/docs/declprint.htm*
Union density	Trade union density rate, *i.e.* the share of workers affiliated to a trade union, in percentage.	Bassanini and Duval (2006)
Union coverage	Collective bargaining coverage rate, *i.e.* the share of workers covered by a collective agreement, in percentage.	Bassanini and Duval (2006)
Degree of corporatism	Indicator of the degree of centralisation/co-ordination of the wage bargaining processes, which takes values 1 for decentralised and uncoordinated processes, and 2 and 3 for intermediate and high degrees of centralisation/co-ordination, respectively. The "high corporatism" dummy variable frequently used in this paper takes value 1 when bargaining is centralised or coordinated and zero otherwise.	Bassanini and Duval (2006)
EPL index	OECD summary indicator of the stringency of employment protection legislation incorporating both regular contracts and temporary work. *Data adjustment:* in the aggregate wage gap regressions, this indicator is assumed to be constant at its 1982 value between 1975 and 1982.	OECD (2004)
Labour tax wedge	Tax wedge between the labour cost to the employer and the corresponding net take-home pay of the employee for a single-earner couple with two children earning 100% of APW earnings. The tax wedge expresses the sum of personal income tax and all social security contributions as a percentage of total labour cost.	Bassanini and Duval (2006)
Average unemployment benefit replacement rate	Average unemployment benefit replacement rate across two income situations (100% and 67% of APW earnings), three family situations (single, with dependent spouse, with spouse in work) and three different unemployment durations (first year, second and third years, and fourth and fifth years of unemployment).	Bassanini and Duval (2006)
Weeks of unpaid parental leave	Maximum number of leave weeks that can be taken by a mother for the birth of a first child as maternity leave, parental leave and childcare leave. Focus is on the most generous provisions that can be obtained, even though these may not apply to all women depending on their employment history or income. Only leave provided under national legislation is used (variations in schemes by region, province, länder, or canton are not included).	Bassanini and Duval (2006)
Tax incentives for part-time work	Increase in household disposable income between a situation where the husband earns the entire household income (133% of average production worker earnings) and a situation where husband and wife share earnings (100% and 33% of average production worker earnings respectively) for a couple with two children. Denoting the first scenario by A and the second by B, the calculation is: Tax incentive to part-time = (Household net income $_A$ – Household net income $_B$)/Household net income $_A$.	Bassanini and Duval (2006)
Relative marginal tax rates on second earners	Ratio of the marginal tax rate on the second earner to the tax wedge for a single-earner couple with two children earning 100% of APW earnings (see definition of the "labour tax wedge" above). The marginal tax rate on the second earner is in turn defined as the share of the wife's earnings which goes into paying additional household taxes: Tax 2nd earner = 1 – (Household net income $_B$ – Household net income $_A$)/(Household gross income $_B$ – Household gross income $_A$), where A denotes the situation in which the wife does not earn any income and B denotes the situation in which the wife's gross earnings are X% of APW. Two different tax rates are calculated, depending on whether the wife is assumed to work full-time (X = 67%) or part-time (X = 33%). In all cases it is assumed that the husband earns 100% of APW and that the couple has two children. The difference between gross and net income includes income taxes, employee's social security contribution, and universal cash benefits. Means-tested benefits based on household income are not included (apart from some child benefits that vary with income) due to lack of time-series information. However, such benefits are usually less relevant at levels of household income above 100% of APW. *Data adjustments*: as this series began after 1980 for some countries, missing data prior to the first observation were replaced with the value of the variable in the first year it was available.	Bassanini and Duval (2006)

Table 3.A1.3. **Aggregate variables** *(cont.)*

	Definitions	Sources
Family cash benefits	Increase in household disposable income from child benefits (including tax allowances) for a single-earner couple earning 100% of APW earnings. It is calculated as follows: Child benefits = (Household net income $_B$ – Household net income $_A$)/Household net income $_A$, where A denotes a household earning 100 % of APW without children, and B denotes a household earning 100% of APW with two children.	Bassanini and Duval (2006)
Female (male) education	Number of years of education of the female (male) population aged 25 and over.	Bassanini and Duval (2006)
Average years of education	Number of years of education of the population aged 25 and over.	Arnold, Bassanini and Scarpetta (2007)
Output gap	OECD measure of the gap between actual and potential output as a percentage of potential output.	Bassanini and Duval (2006)
Service sector share	Share of G to Q industries' nominal value-added (ISIC Rev. 3 classification) in the GDP.	OECD, STAN database
Network industries share	Share of the nominal value-added of industries E and I (energy, transport and communications, ISIC Rev. 3 classification) in total GDP. These industries are those for which product market regulation indicators are defined.	OECD, STAN database

APW: Average production worker.

Table 3.A1.4. **Industry-level variables**

	Definitions	Sources
Profitability indicator	Ratio of industry output to intermediate input, labour and capital costs. *Data adjustments:* Capital stock is constructed by perpetual inventory method for countries where it is not provided in national accounts at a sufficiently disaggregated level. However, since reconstructed capital stocks are available only in volume terms, in practice nominal capital stocks are obtained by dividing them by value added in volume terms and pre-multiplying them by nominal value added from STAN. In the calculation of the cost of capital, following Griffith *et al.* (2006), it is assumed that capital flows freely across borders so that all countries face a world interest rate, for which the US long-term interest rate (from Bassanini and Duval, 2006) is used.	All data come from the OECD STAN database, except for data use to compute capital costs that come from ECO/CPE/WP1 (2008)4
Employment	Number of wage and salary employees	OECD STAN database
Gender employment gap	*Definition:* Ratio of the male-female difference in the number of wage and salary employees aged 25-54 years and the number of male wage and salary employees aged 25-54 years.	European Labour Force Survey
Share of employees aged between 45 and 54 years	Ratio between the number of wage and salary employees aged 45-54 years and the number of wage and salary employees aged 25-54 years.	European Labour Force Survey
Share of employees with more than upper secondary education	Ratio between the number of wage and salary employees aged 25-54 years with more than upper secondary education and the number of wage and salary employees aged 25-54 years.	European Labour Force Survey
Share of part-time employees	Ratio between the number of wage and salary employees aged 25-54 years working less than 30 hours a week and the number of wage and salary employees aged 25-54 years.	European Labour Force Survey
Share of employees in small firms	Ratio between the number of wage and salary employees aged 25-54 years working in firms with 10 employees or less and the number of wage and salary employees aged 25-54 years.	European Labour Force Survey

Note: All variables coming from the European Labour Force Survey refer to employees working at least 15 hours a week and living in the same country where they work.

ANNEX 3.A2

Supplementary Tables

Table 3.A2.1. **National legal and institutional framework to fight labour market discrimination on gender and ethnic grounds**[a]

	Main national anti-discrimination laws	Main bodies contributing to the promotion and enforcement of anti-discrimination policies
Australia[b] (federal laws)	Sex Discrimination Act (enacted in 1984). Racial Discrimination Act (enacted in 1975).	Human Rights and Equal Opportunity Commission. (Human Rights and Equal Opportunity Commission Act, enacted in 1986).
Austria[b] (federal laws)	Equal Treatment Act (enacted in 1979, last amended in 2005), for private sector.	Ombud for Equal Treatment. Commission for Equal Treatment (independent body). (Act on the Equal Treatment Commission and the Equal Treatment Office, enacted in 2004).
Belgium[b] (federal laws)	Law of 10 May 2007 Combating Discrimination between Women and Men. Law of 10 May 2007, amending Law of 30 July 1981 Criminalising Certain Acts Inspired by Racism and Xenophobia.	Centre for Equal Opportunities and Opposition to Racism (1993). Institute for Equality between Women and Men (2003).
Canada[b] (federal laws)	Canadian Human Rights Act (enacted in 1977).	Canadian Human Rights Commission (established in 1978).
Czech Republic[b]	Charter of the Fundamental Rights and Freedoms (Sec. 14). Law N°435/2004 Coll. on Employment (Sec. 4, Para. 1,2,9, and Sec. 12, Para 1a). Law N°218/2002 Coll. on Official Service in State Administration and on Remuneration of these Official and Other Employees (Sec. 80, Para. 1).	No specialised bodies in charge of discrimination issues. Employment Offices and Labour Inspectorates are relevant for some enforcement aspects.
Denmark	Act on Prohibition of Discrimination on the Labour Market (enacted 2005). Act on Equal Treatment (enacted in 2006), first time similar act passed, 1978. Act on Equal Pay (enacted in 2006), first time passed, 1976. Gender Equality Act (enacted in 2002).	*Gender only:* Centre for Information on Women and Gender (KVINFO, since 1964); Gender Equality Board (since 2002). *Ethnicity only:* Danish Institute for Human Rights (DIHR), since 2002; Complaints Committee for Ethnic Equal Treatment (since 2003).
Finland	Act on Equality between Women and Men (609/1986, last amended in 2005). Non-Discrimination Act (21/2004, enacted in 2004). Provincial Act on Prevention of Discrimination in the province of Åland (66/2005).	*Gender only:* the Ombudsman for Equality and the Equality Board (established in 1987); Council for Gender Equality (established in 1972). *Ethnicity only:* Ombudsman for Minorities (established in 2001). Occupational safety and health inspectorate (established in 1972).
France	Law Combating Discrimination (enacted in 2001). Law on Equal Opportunities (grounds: race and religion, enacted in 2006). Labour, Civil and Penal Codes.	High Authority Combating Discrimination and Promoting Equality, HALDE. (Law creating the specialised body, enacted in 2004).
Germany	Act on Equal Treatment/Anti-discrimination (enacted in 2006). Protection Against Dismissal Act.	Federal Anti-discrimination Office (established in 2006).

Table 3.A2.1. **National legal and institutional framework to fight labour market discrimination on gender and ethnic grounds**[a] *(cont.)*

	Main national anti-discrimination laws	Main bodies contributing to the promotion and enforcement of anti-discrimination policies
Greece	Act 3488/2006, on the "Application of the principle of equal treatment of men and women regarding access to employment, vocational training and professional advancement, and working terms and conditions and other relevant provisions". Act 3304/2005 respecting the "Application of the principle of equal treatment irrespective of racial or national extraction, religious or other beliefs, disability, age or sexual orientation".	Greek Ombudsman (public sector only, established in 1997). Labour Inspectorate Body (private sector only, established in 1954). *Gender only:* General Secretariat for Equality of the Ministry of the Interior, Public Administration and Decentralization; Regional Committees for Equality (since 1985); and Research Centre on Equality Matters, legal entity under private law supervised by the General Secretariat for Equality (since 1994). *Ethnicity only:* Economic and Social Council of Greece (founded in 1994, established by the Constitution of Greece in 2001).
Italy	*Gender:* Legislative decree n. 198/2006 (amending previous laws). *Ethnicity:* Legislative decree n. 215/2003 and Legislative decree n. 286/1998 (Immigration law). Statute of Workers (both gender and ethnicity), regulating dismissals, since 1970.	*Gender only:* Network of Equality Advisors (since 2000). *Ethnicity only:* National Office Against Racial Discriminations (since 2004).
Japan	*Gender only:* Equal Employment Opportunity Law (enacted in 1986, amended in 1999 and 2007) and Labour Standards Law (Art. 4).	*Gender only:* Equal Employment Office of the Prefectural Labour Bureau (Ministry of Health, Labour and Welfare) and Equal Employment Opportunity Conciliation Commission established at each Prefectural Labour Bureau.
Korea	Equal employment Act (enacted in 1987, revised in 1989, 1999 and 2005). National Human Rights Commission Act (enacted in 2001). As for ethnic/racial discrimination, there is no specific law beyond the NHRCA that aims at securing human rights in general.	National Human Rights Commission (established in 2001). Not really specialised in discrimination issues. Rather, this commission aims at securing human rights in general.
Mexico	Constitution (Art. 1 as amended in 2001). Federal Law for the Prevention and Elimination of Discrimination (enacted in 2003). Federal Labour Law.	National Council for the Prevention of Discrimination (established in 2004). Labour Inspectorate. Federal Public Labour's Defender Office. Conciliation and Arbitration Board.
Netherlands	General Equal Treatment Act (enacted in 1994, last amended in 2004).	Equal Treatment Commission (established in 1994).
Norway	Gender Equality Act (enacted in 1978, last major amendment in 2005). Anti Discrimination Act (2006).	Equality and Anti-Discrimination Ombud (established in 2006).
Poland	Labour Code (as amended in 2001 and 2003). Act of 20 April 2004 on the Promotion of Employment and Labour Market Institutions. (also important: Act on National Labour Inspectorate).	Ministry of Labour and Social Policy- Department of Women, Family and Counteracting Discrimination (January 2005). National Labour Inspectorate. Commissioner for Civil Rights Protection.
Portugal	Labour Code, Law 99/2003 (all grounds). Labour Relation Act, Law 35/2004 regulating Law 99/2003 (all grounds). Law 18/2004 on Racial and Ethnic Origin Discrimination (amended in 2005).	*Gender:* Commission for Citizenship and Gender Equality (established in 2007, prior Commission for Equality and Women's Rights, 1992, and Commission for Women's Status, around 1975); Commission for Equality in Labour and Employment (established in 1999). *Ethnicity:* Commission for Equality and Against Racial Discrimination (established in 1999), presided by the High Commissariat for Immigration and Ethnic Minorities. *All grounds:* General Labour Inspectorate.
Spain	Law 3/2007 for Effective Equality Between Men and Women. Law 62/2003 on fiscal, administrative and social measures (Title II, Chapter III, including ethnic ground). Workers' Statute (law 8/1980, Royal Decree 1/1995); Law on Employment (56/2003); Law on Labour procedures (Royal Decree 2/1995); Law on Procedure in Industrial Disputes Royal Decree 7/1995); Law on Infringements and Penalties in the Social Sphere (Royal Decree 5/2000).	Social Security and Employment Inspection Service. Women's Participation Council (established by Law 3/2007): *not yet operational.* Council for the promotion of equal treatment of all persons without discrimination on the grounds of racial or ethnic origin (established by Law 62/2003): *not yet operational.*
Sweden	Equal Opportunities Act (enacted in 1991/92, gender ground only). Measures to Counteract Ethnic Discrimination in Working Life Act (enacted in 1999).	Equal Opportunities Ombudsman (established in 1980). Ombudsman against ethnic discrimination (established in 1986).

Table 3.A2.1. **National legal and institutional framework to fight labour market discrimination on gender and ethnic grounds**[a] *(cont.)*

	Main national anti-discrimination laws	Main bodies contributing to the promotion and enforcement of anti-discrimination policies
Switzerland	Federal Act on Gender Equality (enacted in 1995). (also: Swiss Code of Obligations). No specific Law as regards discrimination based on ethnic or racial grounds.	Federal Office for Equality between Women and Men. Federal Office for Equality between Women and Men. Conciliation Offices (Commissions) at the cantonal level.
United Kingdom[b]	Sex Discrimination Act (enacted in 1975, last amended in 2005). Equal Pay Act (enacted in 1970, last amended in 2005, gender only). Race Relations Act (enacted in 1976, last amended in 2003).	Equality and Human Rights Commission (established in 2007). Arbitration, Conciliatory and Advisory Service (established in 1975).
United States[b] (federal laws)	Title VII of the Civil Rights Act (enacted in 1964) Federal Executive Order 11246. Section 188 of the Workforce Investment Act of 1998.	Equal Employment Opportunity Commission (established in 1965). Office of Federal Contract Compliance Programs (charged with enforcing Executive Order 11246, established in 1965).

a) Whenever no distinction is made between gender and ethnic grounds, answers cover both of them.

b) Country notes:

Australia: Australia is a federal state and in addition to the federal framework, each state and territory of Australia has anti-discrimination legislation and an equal opportunity or anti-discrimination board and/or tribunal. However, once a complaint of unlawful discrimination is dealt with in one jurisdiction, it cannot be considered in another. More precisely: a person cannot make a complaint of discrimination with HREOC under federal legislation after they have made a complaint, instituted a proceeding or taken any other action under an analogous state or territory law about the same events. This operates to prevent complainants "double dipping" by making the same complaint in multiple jurisdictions and seeking multiple remedies for the same complaint.

Austria: employment of federal civil servants and employees is covered by the Federal Equal Treatment Act (enacted in 1993, last amended in 2004).

Belgium: the federal state is responsible for regulating employment contracts and general rules of civil and criminal law. To the extent it takes the form of such rules, anti-discrimination legislation will therefore normally be dealt with at federal level. However, since these residual competences of the federal state may not be exercised in order to intrude upon areas which are reserved to the regions or communities, they may not affect, in particular, the exclusive competence of the regions and communities to define the status of their personnel (public bodies and personnel of the governments); the exclusive competence of the communities to define the status of schoolteachers and other personnel in the educational sector; or the exclusive competence of the communities in the field of disability policy. All the federal entities – the Flemish Community/Region, the Region of Brussels-Capital, the Walloon Region, the French-speaking Community and the German-speaking Community – have taken various initiatives in the above mentioned areas, but the general rules are nevertheless laid down at federal level (De Schutter, 2007).

Canada: main federal anti-discrimination law (federal jurisdiction). Canada is a federation and, under its Constitution, legislative and executive powers are conferred on two levels of government, which are each sovereign in their respective spheres. As a rule, labour law falls under the jurisdiction of the provinces and territories, except for certain sectors that belong to the federal jurisdiction. These sectors include the federal public service, the banking sector, the transportation sector and telecommunications. As a result, about 1.1 million of the roughly 15 million Canadian workers are covered by federal labour legislation, and the rest – roughly 93% – come under provincial and territorial jurisdiction, which each has their own labour and anti-discrimination laws and regimes. However, laws similar to the CHRA exist in all ten provinces and three territories. As a result, anti-discrimination provisions as established in the CHRA are fairly representative of the overall Canadian situation.

Czech Republic: legislation in force in 2007. An anti-discrimination law, implementing the EU Directives, is currently under preparation.

Switzerland: no specific equality bodies in charge of issues related to discrimination at the workplace against racial or ethnic minorities. However, the Federal Commission against Racism and the Service for Combating Racism may offer guidance and counselling to victims of discrimination. In addition, more specific equality bodies can be found in a small number of cantons.

United Kingdom: from 1 October 2007, the Commission for Equality and Human Rights (Equality and Human Rights Commission) takes on the role and functions of the Commission for Racial Equality (CRE), the Disability Rights Commission (DRC) and the Equal Opportunities Commission (EOC), with new responsibilities for sexual orientation, age, religion and belief, and human rights. The Arbitration, Conciliatory and Advisory Service is an independent service which impartially helps employers and employees to resolve disputes at work, through a formal procedure (form COT3), so that a hearing is not necessary. Typically, an ACAS conciliation officer's first involvement with a dispute will come after the complaint has already been made to the ET, although ACAS officers may be consulted earlier for advice with a view to achieving a resolution of the dispute. In addition, since the introduction of the Dispute Resolution Regulations which came into force on 1 October 2004, there are new compulsory procedures that all employers and employees must use in attempting to resolve issues of grievances (such as discrimination claims), disciplinary action and dismissal where a grievance is formalised. The purpose of their introduction was to encourage employment disputes to be resolved internally without the need for costly and time consuming employment tribunal claims.

United States: each of the 50 states, the District of Columbia, and Puerto Rico have separate laws addressing many of these same matters. Two states, Alabama and Mississippi, do not have EEO statutes covering gender or ethnicity. In addition, many counties, cities, and other local jurisdictions have laws or ordinances that prohibit gender and ethnicity discrimination. Some of these laws are similar to the federal law and some are different. Moreover, even where the laws are similar, state and local courts may interpret them differently from their federal counterpart.

Table 3.A2.2. **Selected studies estimating the impact of anti-discrimination laws in the United States**

	Laws and indentification strategy	Grounds, areas of concern and data	Estimation results
Beller (1982)	Title VII of the 1964 Civil Rights Act. Estimations rely on a legal variable defined as the expected costs of violating the law, which depend on the probability of apprehension for violating Title VII and the probability of paying a penalty if found violating it.	Gender, earnings and employment. CPS data, 1967, 1971 and 1974.	Title VII narrowed the sex differential in earnings by about 7 percentage points, and the sex differential in the probability of being employed in a male occupation by about 6 percentage points. The law's effect took time to meterialise: it was stronger over the 1971-74 period than over 1967-71. (note: when the Civil Rights Act was strengthen in 1972, the EEOC was given the authority to initiate litigation on its own – until 1972, the EEOC was limited to merely a passive role).
Leonard (1984)	Title VII of the 1964 Civil Rights Act. Estimations rely on a legal variable defined as the number of Title VII class action suits.	Ethnicity, employment. 555 state by two-digit SIC industry cells within manufacturing, with observations in both 1966 and 1978.	Over the 1966-78 period, Title VII litigation increased the share of black workers in total manufacturing employment by 3.4% (by 2.9% for black men and by 13% for black women) and the share of black workers in professional and managerial employment by 31.6%.
Chay (1998)	Equal Employment Opportunity Act of 1972, which extended Title VII coverage to employers with 15-24 employees (while leaving unaffected the civil rights protection for employees of larger firms).	Ethnicity, earnings and employment. CPS data aggregated into industry-by-region cells, 1973-79.	Over the 1973-79 period, black employment shares grew 0.5-1.1 points more per year and the black-white earnings gap narrowed, on average, 0.11-0.18 log points more at newly covered than at previously covered employers after the federal mandate.
Hahn *et al.* (1999)	Title VII of the 1964 Civil Rights Act. The estimation methodology takes advantage of the fact that firms with fewer than 15 emplo-yees are not covered under the law.	Ethnicity, earnings. National Youth Longitudinal Survey, 1979-1993.	For two years in the panel used (1987 and 1991), Title VII coverage has a statistically significant positive effect on the employment of black and Hispanic workers. The magnitude of the estimated effects varies from 3 to 11% (depending on estimation methodologies and specifications), meaning that minorities' share of employment is 3-11 percentage points higher in firms covered under Title VII than in smaller firms not covered under the law.
Neumark and Stock (2006)	Gender anti-discrimination laws in force before the enactment of Title VII, primarily concerning equal pay without employment protection provisions. Racial anti-discrimination laws in force before the enactment of Title VII, prohibiting discrimi-nation in hiring, dismissals, terms of employment, etc. The estimation methodology takes advantage of variation across states and time in the introduction of anti-discrimination law.	Gender, earnings and employment. CPS data, 1940-60.	Equal pay laws decreased (by 2-6%) the relative employment of women. This effect was immediate and persistent over time. They also had a positive effect on relative earnings, which took time to materialise (about six years, the relative earnings growing by 0.34-0.26% per year after an immediate decrease following the enactement of state laws).
		Ethnicity, earnings and employment. CPS data, 1940-60 (men).	Anti-discrimination laws increased the relative earnings of black workers. This effect took time to materialise: relative earnings grew by 0.28% per year following the passage of state laws barring racial discrimination. These laws had no impact on the relative employment of black workers.

EEOC: Equal Employment Opportunity Commission.

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Chapter 4

Are All Jobs Good for Your Health? The Impact of Work Status and Working Conditions on Mental Health

This chapter presents new evidence on the evolution of work-related mental illness in OECD countries and on the role that new work patterns have played in affecting it. Despite the steep rise in disability benefit receipt for mental illness in many countries, available indicators do not suggest an overall increase in mental health problems among the working-age population across the OECD area. However, mental health appears to have worsened in certain countries and for certain workforce groups, while the reported incidence of certain potentially stressful working conditions has increased in Europe. Longitudinal analysis for individual workers in five countries shows that non-employment generally is worse for mental health than working and that the mental-health payoff to employment varies depending on the type of job contract and working conditions, and pre-existing mental health problems. In particular, the mental health benefits for inactive individuals who obtain a "non-standard" job appear to be smaller than for those moving into standard employment arrangements, especially for persons with pre-existing mental health problems.

Introduction

Mental health problems among the working-age population constitute a major public health burden and are a leading cause of sickness leave and disability in OECD countries. Mental illness is the second biggest category of occupational ill-health after muscular-skeletal problems (Weiler, 2006), and mental health problems constitute five of the ten leading causes of disability worldwide (Gaston and Gabriel, 2002). The economic cost of mental health problems, including treatment and the indirect cost of lost productivity and days off work, is estimated at more than 2% of GDP in the United Kingdom (Layard, 2005) and at approximately 1.7% of GDP in Canada (Stephens and Joubert, 2001). These costs may also be growing since exit from employment to disability benefits due to mental health problems has been increasing in a number of OECD countries (OECD, 2003).

Although work can be beneficial to mental health, there is growing concern about whether employment patterns or working conditions are evolving in ways that may cause or aggravate mental illness. Changes in the demographic composition of the working population, which is ageing and includes a rising proportion of women, may also have an impact on how work affects mental health. In addition, work-related stress may have become more prevalent or more intense due to changes in the structure of employment associated with *e.g.* a greater use of ICT and just-in-time delivery, more service-oriented jobs and the diffusion of "non-standard" employment contracts which imply lower job security. Some of these trends may contribute to explaining why 22% of European workers report suffering from stress and fatigue due to their jobs, a share that has risen over the past decade (Parent-Thirion *et al.*, 2007).

The aims of this chapter are two-fold: *i)* to document recent trends in mental health among the working-age population in OECD countries; and *ii)* to assess how changes in the labour market and working conditions affect mental health. Section 1 documents the rise in disability due to mental illness in some OECD countries. It also surveys prior research showing that employment status and working conditions can have significant effects on mental health and that employment patterns and working conditions have changed in ways that might plausibly have increased work-related mental health problems. Section 2 then uses data from different national surveys to document the recent evolution of mental illness in the OECD countries for which these data are available. The analysis considers alternative measures of mental health problems and also takes account of the possibility that there has been an increase in the propensity to diagnose mental illness, especially when there are economic incentives to report mental health problems (*e.g.* in order to access disability benefits). Section 3 makes use of longitudinal micro-data for individual workers in five countries to estimate more precisely how employment status and different working conditions affect mental health. Care is taken to control for non-work-related factors that might affect mental health problems (*e.g.* family structures and community ties). The longitudinal analysis also investigates whether the generally beneficial impact of being employed (or of returning to work) on mental health also applies

to persons suffering from a longstanding illness or disability or to persons moving into nonstandard jobs, questions that are particularly salient for disability policy. The concluding section discusses the implications of the empirical analysis for labour market, health and social security policies.

Main findings

- *There is no uniform trend in mental health among the working-age population:*
  - Over the past decades, mental health of the working-age population has evolved differently across the sub-set of OECD countries for which data on mental health are available over time, but there is no sign of a significant deterioration across the board. Despite that, the number of workers who move to disability benefits because of mental illness has increased in many countries.
  - Mental health problems are more prevalent among unemployed and inactive persons, than among the employed. Among the latter, there are marked differences by sector and occupation. A higher incidence of mental illness is found among unskilled workers, for whom mental illness has also increased over time.
  - The European countries that have experienced the largest increases in the share of workers reporting work-related mental problems also tend to have seen the largest increases in the number of workers reporting stressful working conditions. In particular, increases in the incidence of long working hours, discrimination and low job satisfaction have been associated with increases in the incidence of mental health problems. Changes in other working conditions (*e.g.* working shifts) do not show any significant cross-country association with changes in mental health.
- *Mental health suffers when individuals move from employment to unemployment or inactivity.* The panel analysis for individual workers in five countries shows that non-employment is detrimental for mental health. The estimated impact of time spent in non-employment on mental health differs across countries and by gender. In some countries, individuals suffer in terms of mental health in case of long-term unemployment, while in others they do not, perhaps because of habituation to being unemployed or because of the structure of unemployment benefits.
- *The type of employment has a substantial impact on mental health, but overall, getting a job is more beneficial for mental health than staying out of work.*
  - Employees who change from a standard to a "non-standard" employment – measured by the type of contract or working hours – generally experience a decline in their mental well-being. Individuals who were previously not employed tend to experience a substantial improvement in their mental health when they get a job, but the effects tend to be smaller if they move into a "non-standard" job. These results hold for a variety of indicators capturing different dimensions of "non-standard" employment, such as the type of contract, working hours, shift work and low job security.
  - Current mental health is highly correlated with previous mental health and *when information on previous mental health is taken into account, the positive impact of work is reduced significantly but not eliminated*. This suggests that part of the association generally found between mental health and work is driven by the predisposition of certain individuals to develop a mental illness and to be non-employed, rather than by a strong effect of employment or certain working conditions on mental health.

- Overall, the chapter's analysis implies that *recent trends in employment patterns and working conditions do not appear to have been a major factor aggravating mental health problems among the working-age population*.
  - In particular, policies aimed at increasing employment flexibility and, especially, those leading to an increase in "non-standard" jobs do not appear to have lead to rising mental illness among the workforce, even though working conditions associated with these jobs can aggravate pre-existing mental health problems.
  - This finding suggests that the policy response to mental health problems in the working-age population should focus on providing direct assistance to the individuals experiencing mental health problems. Other OECD work (OECD, 2003) indicates that the goal of the more targeted policies should be both to support the retention of workers with mental health problems in employment and to reinforce activation programmes for those already out-of-work, where the avoidance or mitigation of stressful working conditions for these workers probably can play a significant role in supporting both retention and activation. Careful monitoring of sickness absence and early intervention in terms of both medical and vocational rehabilitation also appear to be a key to preventing workers from entering long-term inactivity, where their mental health tends to deteriorate.

1. Why study the link between work and mental health?

1.1. Poor mental health accounts for a rising share of disability

The share of the working-age population relying on disability and sickness benefits as their main source of income has tended to increase in many OECD countries. The average growth in benefit recipiency rates between 1980 and 1999 increased from 6.1% to 6.9% for sickness and disability combined (Carcillo and Grubb, 2006). In a majority of countries, the cost of disability benefits as a percentage of GDP increased during the same period and many OECD countries currently spend more on disability benefits than on unemployment benefits. Spending on disability benefits amounts to 3-4% of GDP in the Nordic countries and between 1% and 2% in the English-speaking countries (Carcillo and Grubb, 2006).

The limited available evidence suggests that many OECD governments have been confronted by a tendency for mental illness to account for a growing share of disability receipt. Mental problems were found to comprise between one-quarter to one-third of the stock and flow of disability recipiency rates in the 1990s, with the share of recipients with mental health problems appearing to be highest among young people (OECD, 2003). The share of inflows to disability rolls of those with mental health problems also has been increasing. Mental disease has become significantly more important as a reason for acquiring disability benefits in most of the countries for which disability data are available by health condition (see Table 4.1).

1.2. Prior research shows that work affects mental health

Might recent developments in the workplace be a driving factor behind the increase in disability recipiency due to poor mental health, observed in some OECD countries? A necessary precondition for this connection to be important is that work or the absence of it affects mental health significantly. This section briefly reviews prior research which shows this to be the case.

Table 4.1. **Share of inflows into disability due to mental diseases in selected OECD countries**[a]

Persons aged 15-64[b]

	First year (%)	Last year (%)	Percentage change
Australia	. .	29.1	. .
Austria	9.9	17.3	74.0
Denmark	26.2	43.4	65.4
Finland	32.8	31.8	–3.0
France	27.0	. .	. .
Germany	16.8	28.0	66.6
Norway	22.0	25.4	15.5
Poland	12.2	16.9	38.4
Spain	. .	9.7	. .
Sweden	15.8	24.2	53.3
Switzerland	28.6	41.0	43.6
United Kingdom	31.2	34.3	10.0
United States	20.8	22.4	7.7

StatLink http://dx.doi.org/10.1787/348405634742

. . Data not available.

a) 1990-1999 for Austria, Germany, Sweden and the United States; 1995-2004 for Norway, Poland and Switzerland; 1999 for France; 1999-2006 for Denmark; 2000-2005 for the United Kingdom; 2003-2006 for Finland; 2004 for Spain; and 2005 for Australia.

b) 16-66 for Norway; 20-64 for Australia, Finland, Poland, Spain, Switzerland and the United Kingdom; and 20-67 for Denmark.

Source: OECD (2003, 2006 and 2007).

Many studies have confirmed the association between unemployment and poor mental health (Clark, 2003; Shields and Wheatley Price, 2005), but there is still a debate about the mechanisms through which unemployment can lead to worse mental health. In particular, mental health deterioration might occur due to the stress related to the job loss itself or through other financial and psychosocial problems accompanying unemployment. Unemployment may constitute a negative income shock which can have negative consequences on mental health. A study from Sullivan and von Wachter (2006) focusing on mortality illustrates how unemployment may affect mental health: the impact of unemployment on mortality follows a U-shaped pattern, being relatively high in the years following a job loss and after a prolonged period of time spent unemployed. This is consistent with an initial peak in acute stress experienced after losing one's job and a long-term increase from chronic stress resulting from a lasting decrease in earnings associated with spells of long-term unemployment. Indeed, unemployment may lead not only to a lower current income but also to long-lasting declines in earnings and earnings instability. Lower future earnings can arise because unemployment increases the likelihood of future unemployment due to employers' belief that an unemployment spell is a signal of low ability. In addition, unemployment can lead to skill attrition and a further decrease in future wages because of lower human capital accumulation (Caroll, 2005).

There might also be large non-pecuniary costs of unemployment affecting mental health. Winkelman and Winkelman (1998) decompose the cost of both effects and conclude that pecuniary costs are small compared with the non-pecuniary costs. Non-pecuniary costs include for instance emotional damage to an individual's self-esteem because of the loss of categories of experience that are by-products associated with employment. Employment is expected to contribute to mental well-being by providing a

set of psychosocial assets such as time structure, opportunities for social contact and for defining social identity (Jahoda, 1982), and unemployed persons are deprived of these opportunities.

Two main theories describe the relevance of the psychosocial work environment for mental health: the demand-control model and the effort-reward model. The former identifies an elevated risk of stress from the imbalance between a high level of psychological demands and a low level of decision latitude, and the risk is further enhanced by a lack of support in the workplace (Karasek, 1979). Psychological demands may include features such as overwork or unrealistic deadlines and might be aggravated by job insecurity because uncertainty about the stability of one's job is also associated with stress (Ferrie *et al.*, 2002, 2005; Siegrist, 1996). Lack of support might go beyond receiving help from colleagues and include other factors such as discrimination and harassment. The second theoretical model predicts an elevated risk of stress-related diseases stemming from the imbalance between high effort and low rewards (Siegrist, 1996). Many studies from epidemiology and sociology have found evidence of both theories but they tend to rely on cross-sectional data or on specific industry examples which might be difficult to generalise. For instance, the "Whitehall II" study followed a cohort of British civil servants and found evidence that social support and control at work protect mental health while high job demands and effort-reward imbalance are risk factors for future psychiatric disorder (Stansfeld *et al.*, 1999). On the other hand, there is less work supporting the negative effect of low decision latitude (Plaisier *et al.*, 2007).

A limited number of economic studies find moderate effects of more tangible work characteristics (type of contract, hours) and of job satisfaction on mental health and well-being. The theoretical justification behind the studies relies on the unemployment literature and postulates that workers in "non-standard" employment may suffer from mental health problems because they might be at a higher risk of unemployment (particularly those with fixed-term contracts), or have less stable careers. Even if labour market instability is not a problem, they might be in jobs where there is less human capital accumulation, especially if they benefit less from training, or where non-pecuniary benefits are lower. Most studies have focused on a sample of employed individuals and there is thus limited empirical evidence on whether different types of working conditions have an impact on mental health for those previously out of work. A few studies have investigated the effect of length of contract and they find that an increase in job security improves mental health (Adam and Flatau, 2005; Dockery, 2006) and that temporary employment has lower positive effects on health than permanent employment (Gash *et al.*, 2006). In terms of working hours or patterns, there is less clear-cut evidence since some studies have found only modest effects (Bardasi and Francesconi, 2004; Ulker, 2006) while Dockery (2006) showed that working non-standard hours worsens mental health. Job satisfaction is highly correlated with better mental health (Datta Gupta and Kristensen 2008; Fischer and Sousa-Pouza; 2006).

1.3. Trends in employment rates and working conditions

Since a considerable body of research has shown that employment status and working conditions affect mental health, it is interesting to examine whether labour markets have evolved recently in ways to become a growing source of mental illness. This section briefly surveys recent trends in OECD countries in work patterns to assess whether they suggest increased exposure to conditions which prior research has identified as likely to have a

negative impact on mental health. In the interest of brevity, this discussion is limited to average trends in working patterns for the OECD area and provides no information about the considerable cross-country variation characterising these trends.

A striking feature of OECD labour markets during the past decade is that both employment and participation rates have increased significantly (see Figure 4.1). Perhaps most significantly in terms of mental health, unemployment rates have decreased, meaning that fewer workers are being exposed to this key economic stress factor which has been linked to poor mental health. While the overall rise in employment rates should be a positive factor for mental health, some of the increase in employment rates reflects higher participation rates by demographic groups for whom working might be relatively more stressful. In particular, participation rates have risen for women, who may have greater difficulty reconciling work and family responsibilities than men, and older workers, for whom work may become increasingly difficult to support as their physical capacities decline.

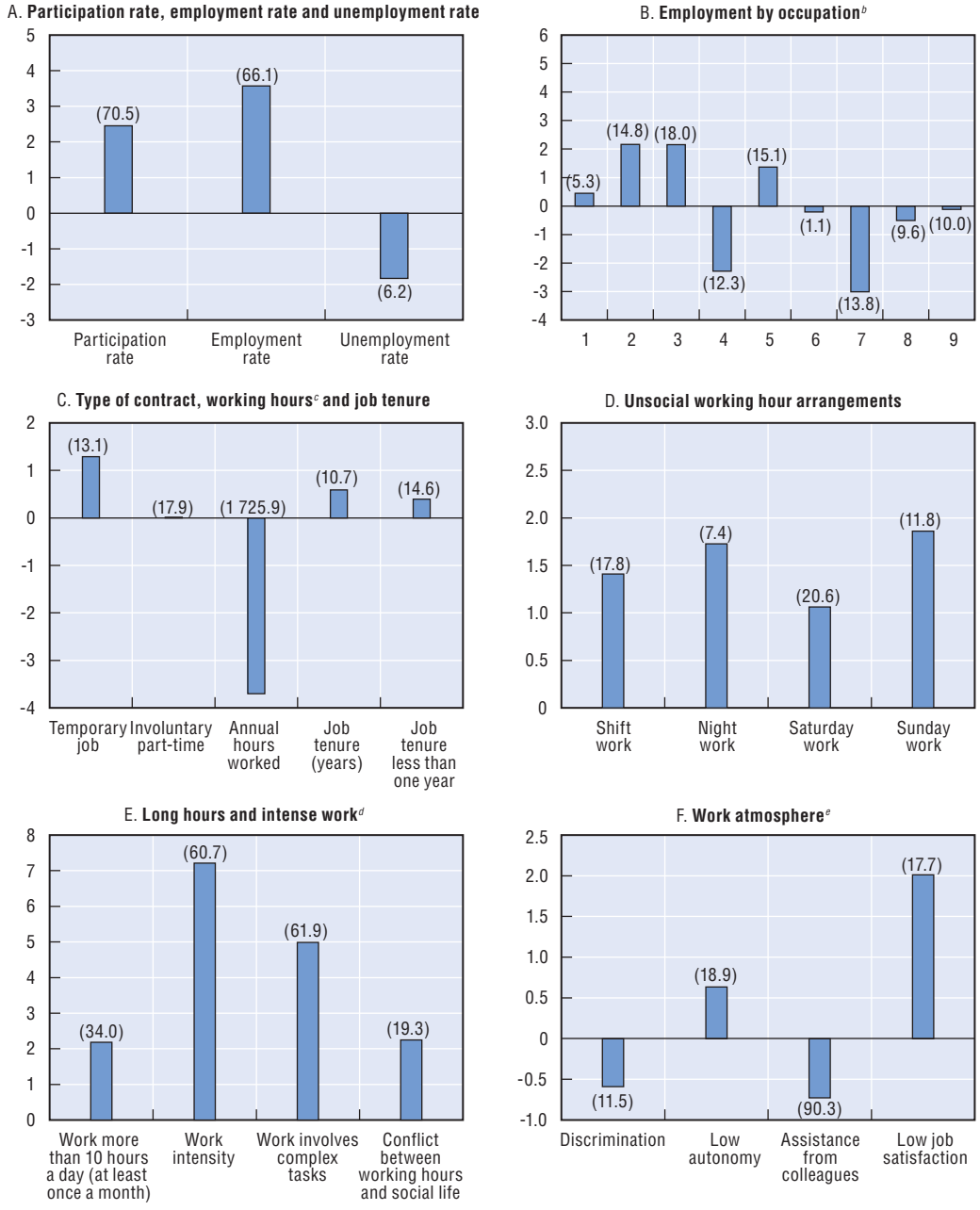
In terms of the sectoral composition of employment, the share of workers employed in manufacturing and other goods-producing industries has fallen, while the employment share in service industries has grown, especially in real estate and business services. The share of workers employed in professional and technical occupations has grown strongly, while that of less skilled white-collar workers (*e.g.* clerical and sales workers) has gone down. The percentage of workers with temporary contracts has risen across the OECD area, but job tenure data do not provide a clear indication of whether this has resulted in less employment security. Average job tenure has increased in the OECD area, suggestive of increased job stability. However, the share of employees with less than one-year tenure has also increased, indicating that total labour turnover has probably risen, but that this rise in turnover may be relatively concentrated among new entrants, rather than affecting the entire labour force more or less equally.

A rising share of workers regularly works evenings, nights or week-ends, or does shift work. Even though average annual hours per worker have trended downward, the share of workers reporting working ten or more hours in a day on a relatively frequent basis has increased. The self-reported exposure of European workers to a number of stressful working conditions suggests a trend increase in psychological demands or effort for workers. For example, there has been quite a large increase in the number of workers reporting that they have to work at high intensity (high speed and to tight deadlines).The number of employees reporting that their work does not fit their family life shows a smaller increase. Other working conditions reflecting decision latitude or work atmosphere show more mixed trends. The share of workers having low autonomy at work and experiencing discrimination has declined while the percentage of workers reporting low job satisfaction has increased quite sharply.

The evidence presented in this section suggests that certain working conditions likely to have a detrimental impact on mental health have become more common in recent years in many OECD countries. However, other labour market trends, especially generally decreasing unemployment rates, are likely to have been a source of improved mental health. Of course, OECD averages hide very different patterns across countries (see Annex 4.A1 for changes across OECD countries underlying the average changes in Figure 4.1). To investigate further whether changes at the workplace are behind the growth in disability recipients for mental illness, the next section tests whether an increase in the

Figure 4.1. **Change in selected labour market outcomes and working condition indicators in OECD countries, 1995-2006**

Percentage-point change, unweighted average of OECD countries[a]



StatLink http://dx.doi.org/10.1787/347773751850

a) Values within parenthesis are the OECD average in the last year.

b) Occupation based on ISCO-88, one-digit occupations: 1: Legislators, Senior Officials and Managers; 2: Professionals; 3: Technicians and Associate Professionals; 4: Clerks; 5: Service Workers and Shop and Market Sales Workers; 6: Skilled Agricultural and Fishery Workers; 7: Craft and Related Trades Workers; 8: Plant and Machine Operators and Assemblers; 9: Elementary Occupations.

c) Percentage change for average annual hours worked.

d) 2000-2005 for the share of employees working more than ten hours a day (at least once a month) and for those who experiencing difficulties in reconciling working hours and family or social commitments outside work; 1990-2005 for work intensity; and 1995-2005 for work involves complex tasks.

e) 1995-2005 instead of 1995-2006.

Source: OECD calculations based on the OECD database on Labour Force Statistics for Panels A and C; European Labour Force Survey (EULFS) for Panels B and D; and European Working Conditions Survey (EWCS) for Panels E and F. For further details on variables and definitions, see Annex Tables 4.A1.2 and 4.A1.3.

prevalence of mental illness is observed among the working-age population or certain of its sub-groups.

2. Has mental health worsened?

This section provides a descriptive analysis of trends in mental health and how their prevalence varies with labour force status and work characteristics. For this purpose, a certain definition of mental health is chosen and this definition is applied to representative samples of the working-age population. A series of mental health indicators based on register data, national health surveys and working conditions surveys are used to assess the state of mental health and its association with work status in OECD countries. Given the complexity of mental health, its definition and measurement presents significant challenges, especially in a study which attempts to make international comparisons (see Box 4.1).

Box 4.1. **Measuring mental health**

Mental health can be described in several dimensions. Positive mental health relates to well-being and the ability to cope with adversity. Measures for this dimension include self-esteem, mastery or optimism. Negative mental health comprises mental disorders as well as psychological distress. The former corresponds to a psychiatric diagnosis made by a specialist according to a definition of syndromes. The latter refers to the presence of symptoms (mainly depression or anxiety) that do not reach the threshold for a diagnosis according to psychiatric classification systems. This study focuses on the analysis of negative mental health.

Routinely-collected statistics, such as cause of death, do not fully reflect the reality of the majority of mental health problems, which do not lead to death or hospitalisation, but may be measured quite accurately and are available for most OECD countries (see Annex 4.A1 for coverage). Comparability of cause-of-death data has been made possible world-wide through the development and revisions of the International Statistical Classification of Diseases and Related Health Problems (ICD). Although the ICD is intended to provide a standard way of recording the underlying cause of death, comparison of cause-of-death data over time and across countries is subject to certain limitations. In particular, the procedures for recording a death as a suicide are not uniform and certain countries might require a suicide note or a coroner's investigation for the death to be classified as a suicide. Some degree of misattribution or miscoding might occur because of incorrect diagnosis, incorrect or incomplete death certificates, misinterpretation of ICD rules for selection of the underlying cause, and variations in the use of coding categories for unknown and ill-defined causes. Socio-cultural norms almost certainly play a role in the registration of suicides because varying degrees of stigma, and even criminality, are attached to suicide across countries and over time. For these reasons, one of the main difficulties for the reliability of the data may be the varying extent of suicide under-reporting. The evidence from studies suggests that these sources of error are randomised, at least to an extent that allows epidemiologists to compare rates between countries, between demographic groups, and over time (Sainsbury and Jenkins, 1982).

To assess morbidity across the working-age population, two types of self-reported data will be used: an index of psychological distress and an indicator of longstanding mental illness or disability. The first of these indicators captures general psychological distress and is therefore not a symptom-specific measure. It is evaluated based on a series of checklists and may include questions about anxiety, depression, anger, irritability and other mood alterations. In some countries a well-established screening instrument (such as the SF-36 or GHQ-12, see Annex 4.A1) is used and the scores of each question can easily be aggregated into an index in order to assess possible mental health

Box 4.1. **Measuring mental health** *(cont.)*

problems. The second self-reported indicator is often coded according to the International Classification of Diseases. These more comprehensive measures of the prevalence of mental health problems are often subject to potentially large measurement error– including under-reporting due to under-recognition of mental conditions, as well as over-reporting motivated by economic incentives. Furthermore, some of the diagnostic criteria have changed over the past decades, making comparisons over time problematic. Sample surveys may also be affected by non-random attrition problems which can bias estimates of the prevalence of mental health problems, since persons having mental health problems might drop out of the sample at a disproportionate rate. On the other hand, data using the most reliable instruments (*e.g.* professional diagnostic interviews for mental disorders) are often available only for clinical studies which are not representative of the general population, are only performed occasionally and are thus of limited value for trend analysis. Finally, the biggest challenges found in using these morbidity instruments are the lack of standard measures across countries and within countries over time. Such measures are collected in national health surveys but many OECD countries do not regularly perform such surveys or have incorporated mental health issues only recently. As a consequence, these instruments are only available for a limited set of countries and generally different countries use different definitions (see Annex 4.A1 for details).

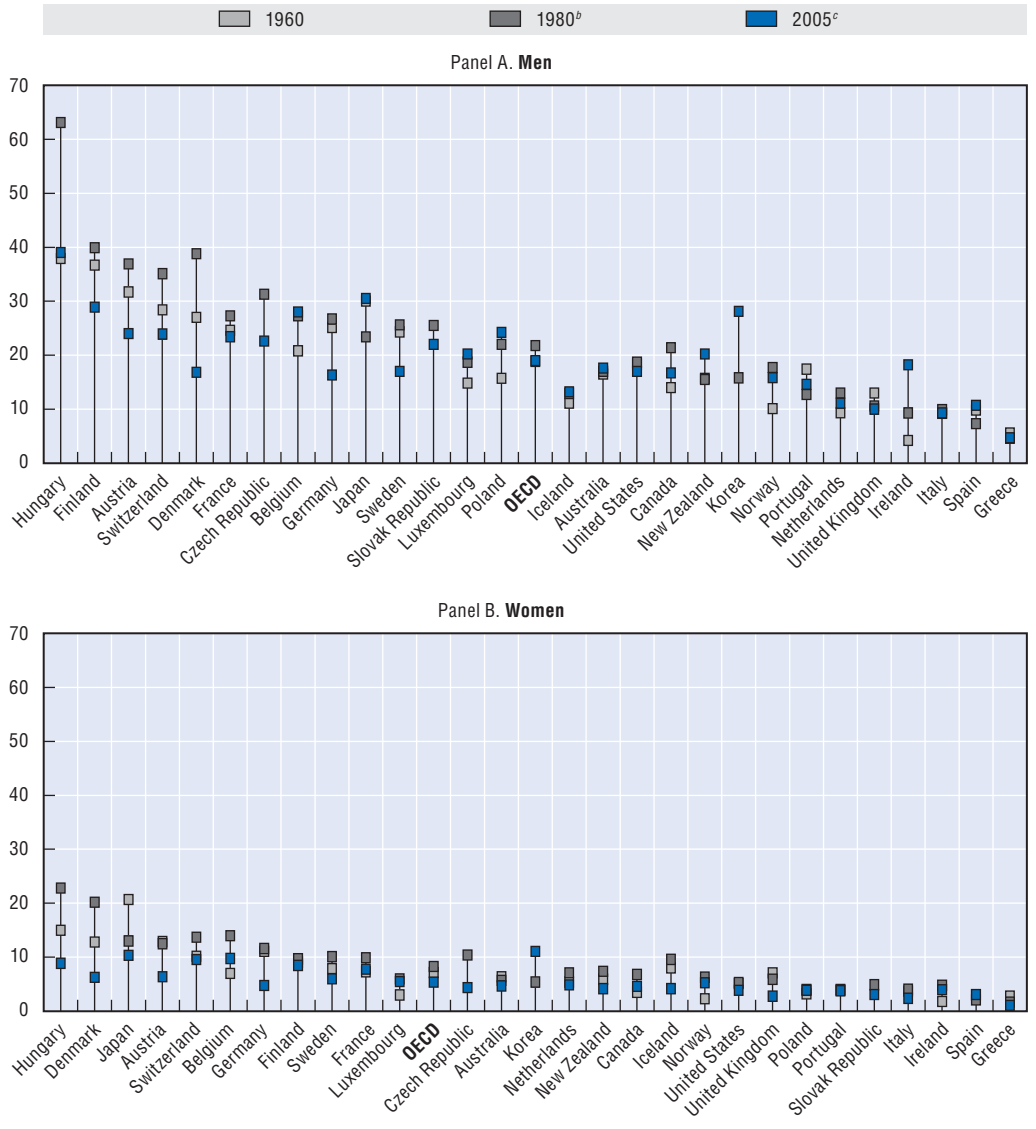
A final set of mental health indicators is based on employees' responses to questions about whether their work adversely affects their health. Those reporting such a link are then asked about specific symptoms which include stress, sleeping problems, anxiety and irritability. A composite indicator of work-related mental health problems will be calculated based on these self-reported symptoms. The advantage of such a measure is that it provides an easily comparable indicator of mental health morbidity across European countries and that data contain a high level of detail on working conditions. On the other hand, it does not constitute a well-validated instrument capturing the population at risk of mental illness such as the above-mentioned indexes.

2.1. Trends in suicide rates

Suicide trends over time do not seem to indicate an overall deterioration in mental health but there are marked differences across gender, countries and in their evolution over time (see Figure 4.2). To start with, reported suicide rates for males are almost four times as high as for females. Both rates appear to have increased in the 1970s and reached a peak at the beginning of the 1980s. In the case of males, the OECD average rate in the most recent year is roughly the same as in 1960, while for females the average rate is around 23% lower than in 1960. The country having the highest mortality rate over this 40-year span for both males and females is Hungary (53 per 100 000 males and 18 per 100 000 females). Finland, Austria, Switzerland and Denmark emerge as countries with high suicide rates for both sexes and Japan appears to have high rates for females only. At the other end of the spectrum are the Mediterranean countries (Portugal, Italy, Spain and particularly Greece) with very low suicide rates, as well as Ireland and the United Kingdom. A small group of countries exhibits an overall worsening over time, including Japan, Korea, Ireland, New Zealand and Poland. The data also reveal disparities in the changes in mortality across age groups for the different countries (see Annex Figure 4.A1.1). Most countries show a profile where mortality originally increased with age in the 1950s and 1960s. Since the 1970s and especially the 1980s, a small group of countries (Australia, Ireland and New Zealand) have experienced a sharp increase in suicide among the young 15-29.[1]

Figure 4.2. **Evolution of age-standardised suicide rate in OECD countries, 1960-2005**

Annual number of suicides per 100 000 persons[a]



StatLink http://dx.doi.org/10.1787/347817875784

a) OECD refers to the unweighted average of countries shown.

b) 1986 instead of 1980 for the Czech Republic; 1985 instead of 1980 for Korea; 1979 instead of 1980 for Poland; and 1992 instead of 1980 for the Slovak Republic.

c) 2005 corresponds to 2005 or the latest year available. Countries ranked by decreasing prevalence of suicide rates from right to left based on average suicide rates for the entire 1960-2005 period.

Source: *OECD Health Data 2006*, October 2006. For further details on definitions and method, see Annex 4.A1.

Suicide is strongly connected to a (family) history of mental health problems but it also responds to changes in economic circumstances, social factors such as divorce and demographic factors such as ageing (Becker and Posner, 2005). Because suicide remains a rare event, people who choose to commit suicide are assumed to be at one extreme of the utility distribution. For this reason, circumstances that affect mean utility are likely to push some people below the suicide threshold. An economic recession or an increase in unemployment rates lowers the future expected income of individuals or economic

opportunities in general and, as a result, could increase suicide rates. Older individuals should have a lower expected lifetime utility and should also be more prone to suicide.

Table 4.2 presents cross-country time-series regressions of suicide rates as a function of selected economic, social and labour market conditions. The regression analysis suggests that suicide rates are pro-cyclical, with lower economic growth and higher unemployment being associated with higher suicide rates, but that social variables matter as well. Divorce rates correlate with higher suicide rates, especially for those in their prime working age. The impact of economic growth on suicide is stronger for females and for the young. Higher unemployment is related with higher suicide for females only. It is also interesting to test whether suicide rates are affected not only by economic conditions that influence overall earnings or job possibilities but also by labour market duality. The percentage of temporary workers appears to have no impact on suicide rates for the older age-group (50 to 64) – nor for young women – while there is a small impact for young men. Temporary employment appears to matter for those in the prime working age: the group aged 30 to 49. Overall, suicide rates among women seem to be more sensitive to economic and labour market conditions: inequality, unemployment and incidence of temporary employment affect women more than men.

There appears to be some evidence that negative labour market conditions are linked to increased mental illness, but one must consider the strengths and weaknesses of using suicide as an indicator for mental illness before generalising these findings. Mortality statistics are available for most OECD countries for a substantial number of years and are recorded according to the ICD, allowing for a detailed international trend analysis. Nevertheless, differences remain in the recoding of suicides (see Box 4.1) which could explain some of the variation in suicide rates across countries and over time within a country. In addition, suicide remains a rare event and there is a risk of making priority assessments based on such a rare outcome. Morbidity indicators capturing the population having a mental illness or at risk of developing one are therefore also used below.

2.2. Trends in morbidity-related mental health

The description of morbidity-related mental health surveyed in this section includes three types of indicators: psychological distress, self-reported mental illness and self-reported work-related mental health problems. Psychological distress captures a series of emotional and mood-related problems using a series of checklists that are clinically validated and that indirectly reveal whether the person is at risk of a diagnosable disorder. Mental illness describes whether the person believes to have a longstanding or chronic illness that is of mental nature, such as depression for instance. The last indicator includes mental or emotional problems which the interviewee reports as being work-related (see Annex 4.A1 for further details).

Psychological distress

There is no uniform trend across selected OECD countries in psychological distress (see Figure 4.3). In Canada, Korea (using suicidal thoughts as a proxy) and New Zealand, the overall trend is negative with substantially less people suffering from psychological problems over time. Similarly, in the United Kingdom, there has been a decrease in prevalence of psychological distress, although smaller than in the previous countries and with fluctuations over time. In Australia, Italy and the United States, prevalence has

Table 4.2. **Impact of some socio-economic variables on the log of suicide rates in OECD countries**

Panel regression results

	Panel A. **Persons aged 20-29**			
	Men		Women	
	(1)	(2)	(1)	(2)
GDP per capita	0.000	0.000	0.000	0.000
GDP growth	–0.015***	–0.015**	–0.018***	–0.012*
Crude divorce rate	0.130***	0.145***	0.064	0.140***
Unemployment rate	0.001	0.002	0.015***	0.018***
Gini coefficient	0.010***	0.011***	0.005	0.007*
Incidence of temporary work	0.004*	0.002	0.004	0.000
Country	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Country-specific trend	No	Yes	No	Yes
Number of observations	482	482	482	482
	Panel B. **Persons aged 30-49**			
	Men		Women	
	(1)	(2)	(1)	(2)
GDP per capita	0.000	0.000	0.000	0.000
GDP growth	–0.016***	–0.010*	–0.014**	–0.006
Crude divorce rate	0.171***	0.261***	0.137***	0.261***
Unemployment rate	0.000	0.000	0.020***	0.025***
Gini coefficient	0.006**	0.006*	–0.001	–0.001
Incidence of temporary work	0.010*	0.015**	0.018**	0.014*
Country	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Country-specific trend	No	Yes	No	Yes
Number of observations	420	420	420	420
	Panel B. **Persons aged 50-64**			
	Men		Women	
	(1)	(2)	(1)	(2)
GDP per capita	0.000	0.000	0.000*	0.000**
GDP growth	–0.016**	–0.014**	–0.020***	–0.013**
Crude divorce rate	0.074*	0.121***	0.097*	0.181***
Unemployment rate	–0.003	–0.003	0.026***	0.035***
Gini coefficient	0.004	0.002	–0.002	–0.002
Incidence of temporary work	–0.008	–0.012	0.008	0.006
Country	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Country-specific trend	No	Yes	No	Yes
Number of observations	420	420	420	420

StatLink http://dx.doi.org/10.1787/348432860546

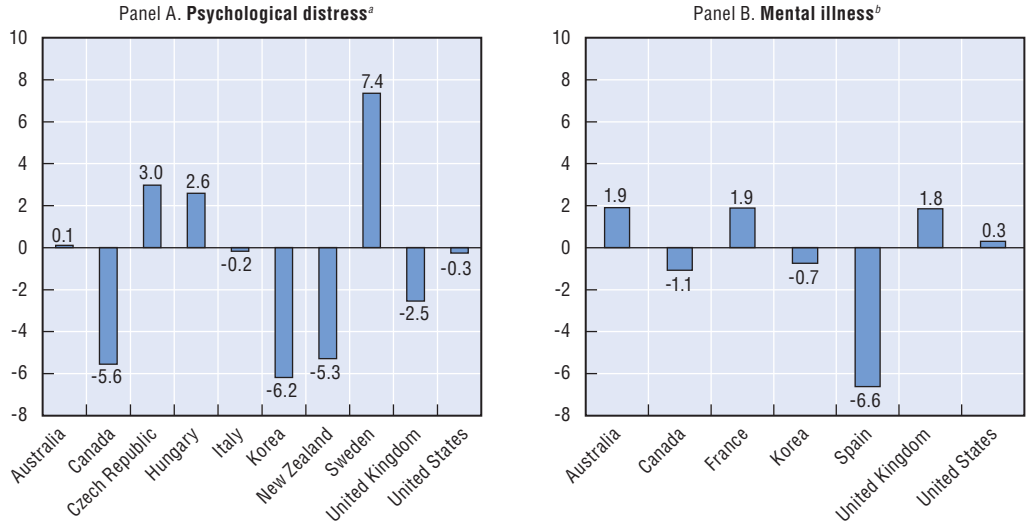
*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

Source: OECD estimates based on *OECD Health Data 2006*, October 2006. For further details on definitions and method, see Annex 4.A1.

remained fairly stable suggesting that the underlying rate of mental illness in the population has not changed over time. Countries where psychological distress has worsened include Sweden, Hungary and the Czech Republic.[2]

Figure 4.3. **Change in the prevalence of psychological distress and mental illness in selected OECD countries**

Percentage-point change



StatLink http://dx.doi.org/10.1787/347828886563

a) 2001-2004/05 for Australia; 1994/95-2004/05 for Canada; 1996-2002 for the Czech republic; 1996/97-2002/03 for New Zealand; 2000-2003 for Hungary; 2000-2005 for Italy; 1998-2005 for Korea; 1968-2001 for Sweden; 1991-2004 for the United Kingdom; 1997-2005 for the United States.

b) 2001-2004/05 for Australia; 1994/95-2004/05 for Canada; 1992-2003 for France; 1998-2001 for Korea; 1987-2003 for Spain; 1991-2004 for the United Kingdom; 1997-2005 for the United States.

Source: OECD calculations. See Annex 4.A1 for further details on sources, methods and calculations.

In addition to the overall trend in psychological distress, there has been concern about whether certain demographic and labour force groups may have experienced a worsening but the analysis does not confirm this hypothesis. Across countries, women are systematically reporting a higher level of psychological distress, but the relative prevalence of distress among women has declined over time except in Korea and the United States, where it has increased, and in Canada and New Zealand, where there has been little change over time (see Figure 4.A1.2 in Annex 4.A.1). There is still considerable questioning about whether this reflects higher levels of distress or reporting differences between men and women. In addition, the results show that in many countries, except in a group of four Anglo-Saxon countries (Australia, Canada, New Zealand and the United Kingdom) distress is more prevalent among older age groups and there are no particular signs of worsening for younger individuals (see Figure 4.4). A notable exception is Sweden: in the 1970s older age groups suffered more from distress but in 2000 prevalence is highest among those in the prime working age. The youngest age group (15-24) has experienced the largest relative increase in Sweden. A similar trend is observed in Hungary: the relative prevalence among young people has increased while that among the older group has diminished.

There are notable differences in the prevalence of psychological distress by activity status,[3] indicating that those employed enjoy better mental health. A deterioration of psychological distress for the non-employed is not observed across all countries, but in a significant number of them since it has occurred in half of the countries. The difference in prevalence of distress between those inactive and those employed is highest in the United States. Likewise, the ratio between the unemployed and employed is highest in the United States while Korea has the lowest difference between those working and those not working.

Figure 4.4. **Relative prevalence of psychological distress by socio-economic variables in selected OECD countries**[a]



StatLink http://dx.doi.org/10.1787/347883132571

a) The years considered for each country are the following: 2001-2004/05 for Australia; 1994/95-2004/05 for Canada; 1996-2002 for the Czech republic; 2003 for France; 2000 for Hungary; 2000-2005 for Italy; 1998-2005 for Korea; 1968-2001 for Sweden; 1991-2004 for the United Kingdom; 1997-2005 for the United States. For Panel C, 2003 only for France; 1981-2001 instead of 1968-2001 for Sweden; and 1997-2003 instead of 1997-2005 for the United States.

b) Three broad occupational groupings were defined in terms of the nine one-digit occupations of the ISCO-88: white-collar occupations correspond to occupations 1-5 (*i.e.* legislators, senior officials and managers; professionals; technicians and associate professionals; clerks; and service workers and shop and market sales workers); blue-collar occupations correspond to occupations 6-8 (*i.e.* skilled agricultural and fishery workers; craft and related trades workers; and plant and machine operators and assemblers); and elementary occupations correspond to occupation 9.

Source: OECD calculations. See Annex 4.A1 for further details on sources, methods and calculations.

In all countries distress is more prevalent among unskilled occupations (elementary occupation) and workers in the personal services and/or social sectors. Relative prevalence among unskilled workers has risen substantially in most countries except in Australia, New Zealand and Sweden. On the contrary, over time there are relatively fewer workers suffering from distress within the personal and social services sectors (see Figure 4.A1.2 in Annex 4.A1).

Mental illness

As for psychological distress, analysis of mental illness over time shows a mixed pattern across selected OECD countries. In the United Kingdom and France, the proportion of persons suffering from a mental illness has more than doubled since 1991 (Figure 4.3). A similar increase has been observed in Australia between 2001 and 2005 while in the United States, the increase has been less dramatic. At the other end are Spain, Canada and Korea where overall prevalence of mental illness has decreased significantly.[4]

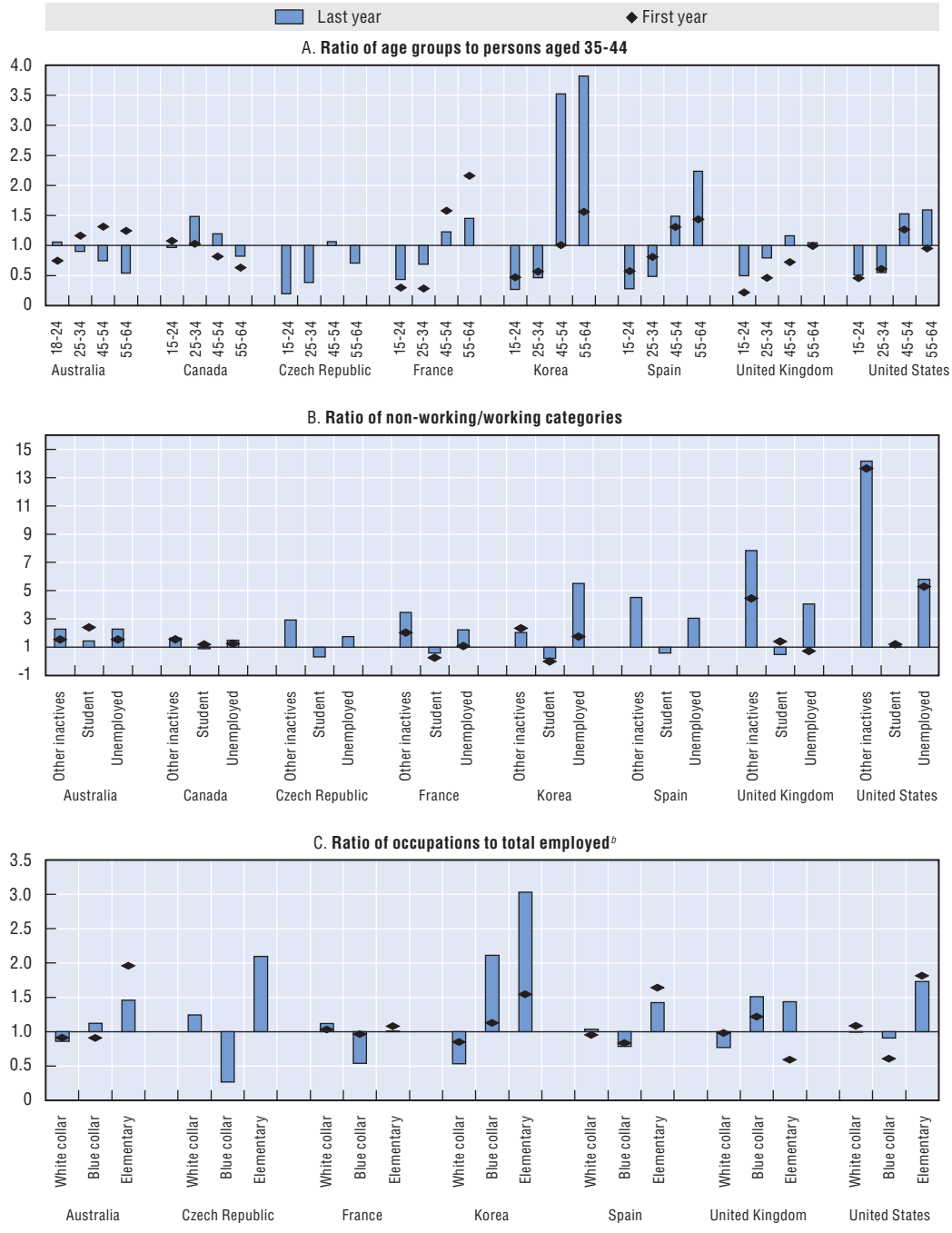
Females are at higher risk of suffering from mental illness, as are older people. In particular, compared to men prevalence among females is almost four times higher in Korea in 1998 while in Australia and the United Kingdom, differences are less marked by gender (see Figure 4.A1.3 in Annex 4.A1). In addition, the prevalence of mental illness among females has shown a more rapid increase than among males in half of the countries surveyed (France, Spain and the United Kingdom), while the reverse has occurred in the other countries (Australia, Canada, Korea and the United States). The evolution of mental illness by age groups shows a steeper increase at older ages (45-54 and 55-64) for all countries except Australia and France (see Figure 4.5). In Spain and Korea, decrease in mental illness has been more rapid among the young population.

As in the case of psychological distress, labour market differences emerge in terms of the prevalence of mental illness. Non-employed individuals have a higher rate of mental illness and the relative prevalence compared to the employed has increased among the unemployed and the inactive in all countries studied. There is a higher prevalence among the elementary occupations and in the sectors of activity where more direct contact with the public is required, such as personal services and social services. Changes in prevalence for both occupation and industry do not reflect a consistent pattern across countries.

Like for suicide rates, different patterns of mental-related morbidity across countries might be related to changes in the relative weights of demographic groups and structural changes in employment which are counterbalanced by lifestyle or other factors. Using information on the actual change of characteristics (ageing, change in health behaviour, labour market composition) observed in the Health Surveys, a decomposition technique is used to predict mental health changes that should have occurred over time and to quantify the relative impact of each variable (see Box 4.2). Predictions based on this decomposition rely on observed characteristics and it is therefore possible that actual changes go in an opposite direction due to changes in other characteristics for which there is no information available.

Across all countries included in the analysis, the impact of changes in household composition and in health behaviour on psychological distress is similar while changes in the labor market have diverse effects on mental health (see Figure 4.6). Indeed, changes in household composition – with an increase in the proportion of divorcees and singles at the expense of married couples – are contributing to a worsening of psychological distress.

Figure 4.5. **Relative prevalence of mental illness by socio-economic variables in selected OECD countries**[a]



StatLink http://dx.doi.org/10.1787/348004873147

a) The years considered for each country are the following: 2001-2004/05 for Australia; 1994/95-2004/05 for Canada; 2002 for the Czech Republic; 1992-2003 for France; 1998-2001 for Korea; 1987-2003 for Spain; 1968-2001 for Sweden; 1991-2004 for the United Kingdom; and 1997-2005 for the United States. For Panel C, 2001-2003 instead of 1978-2003 for Spain; and 1997-2003 instead of 1997-2005 for the United States.

b) Three broad occupational groupings were defined in terms of the nine one-digit occupations of the ISCO-88: white-collar occupations correspond to occupations 1-5 (*i.e.* legislators, senior officials and managers; professionals; technicians and associate professionals; clerks; and service workers and shop and market sales workers); blue-collar occupations correspond to occupations 6-8 (*i.e.* skilled agricultural and fishery workers; craft and related trades workers; and plant and machine operators and assemblers); and elementary occupations correspond to occupation 9.

Source: OECD calculations. See Annex 4.A1 for further details on sources, methods and calculations.

Box 4.2. **Decomposing the total change in health status**

A multivariate decomposition procedure, the so-called Blinder-Oaxaca decomposition, is used to quantify the relative importance of the various characteristics in the change in psychological distress (or mental illness).The Blinder-Oaxaca decomposition is used to quantify the separate contributions of the change in health status over time into two components: *i)* change due to changes in measurable characteristics such as age, education, household composition, labour force characteristics, etc.; and *ii)* change due to changes in the impact that those characteristics have on health status.

The average change in mental health between period 1 and 2 can be decomposed as follows:

$$\bar{y}_2 - \bar{y}_1 = \beta^*(\bar{x}_2 - \bar{x}_1) + \bar{x}_2(\beta_2 - \beta^*) - \bar{x}_1(\beta_1 - \beta^*)$$

where x is a vector of average characteristics and β^* is a weighted sum average of both coefficient vectors. The first term on the right hand side is the component due to changes between period 1 and 2 in the average characteristics of the population (the explained component). This corresponds to the results presented here for each characteristic and for the overall change.

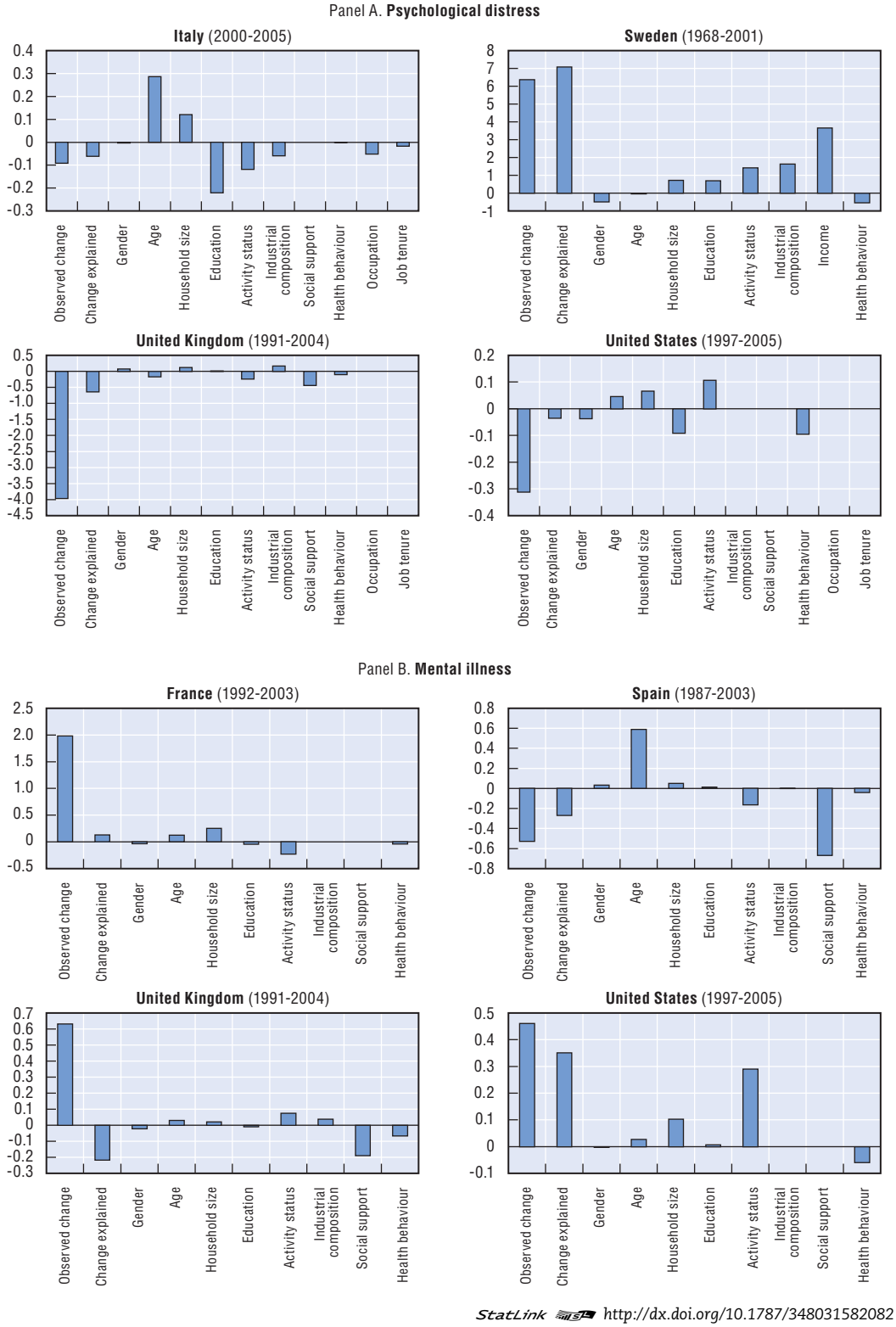
Changes in health behaviour were beneficial in all countries mainly due to a lower percentage of smokers over time. Labour market developments have contributed to a lower prevalence of psychological distress in Italy and the United Kingdom (due to less people being unemployed) and have had an opposite effect in Sweden and the United States (due to an increase of the unemployed in Sweden and other inactives in the United States). On the other hand, changes in the industrial composition contributed to worsening distress in the United Kingdom while the opposite was found in Italy. Overall, it appears that mental health improvements in the United Kingdom and the United States reflect to a larger extent changes outside the labour market such as health improvements or better social support.

With respect to mental illness, the decomposition analysis shows that changes in observable socio-economic characteristics account for a large part of the increase in prevalence in the United States and of the decrease in Spain, while it would predict a decrease in the United Kingdom (contrary to the observed increase). For the United States, the largest part of the increase is accounted for by changes in activity status, followed by an increase in the number of divorcees and an increase in average age. Improvement in health behaviour tends to offset this by contributing to a decrease in mental illness. In France, on the other hand, the increase is mostly accounted by ageing and a change in marital composition while changes in activity status should have contributed to a decrease in mental illness. The most important factor contributing to the decrease in mental illness in Spain is the improvement in social support, followed by increasing employment and health behaviour, which offset the worsening effects of ageing.

The data show very diverse patterns of morbidity across the working-age population, which are explained in turn by diverse changes in different socio-demographic characteristics. There is still a possibility that, even though mental illness has not worsened, with increased employment rates, there are more people with mental illness in the workforce who are then more likely to seek disability pensions. This is quite likely since an increase in employment

Figure 4.6. **Changes in mental health by socio-economic variables in selected OECD countries**

Oaxaca-Blinder decomposition coefficients multiplied by 100



StatLink http://dx.doi.org/10.1787/348031582082

Source: OECD calculations. See Annex 4.A1 for further details on sources and methods, and Box 4.2 for details on calculations.

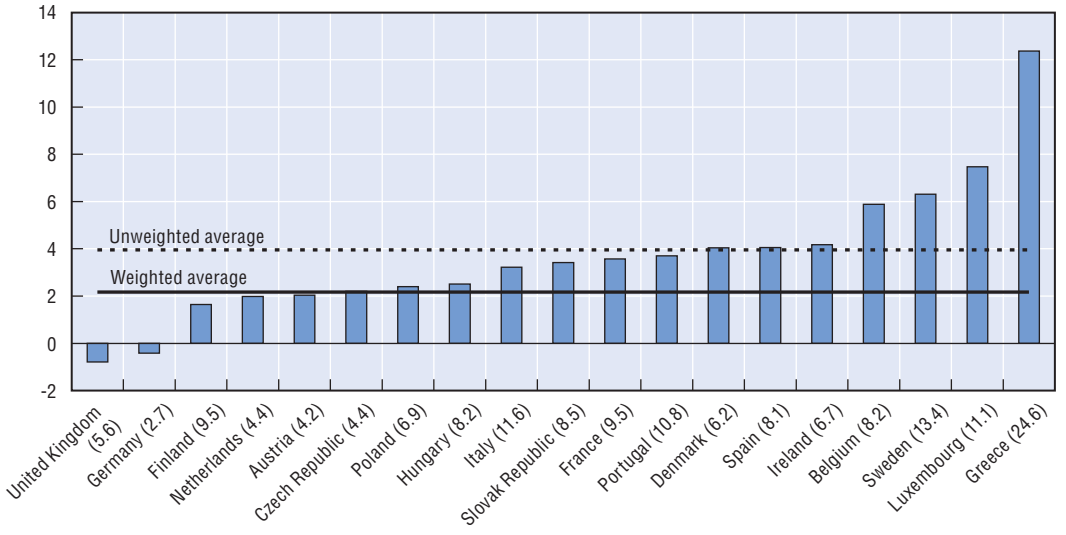
rates may also mean that certain groups with different social and health backgrounds are also entering the labour market. To complete the analysis of indicators, the next section surveys the rate of mental-health related problems among workers.

2.3. Trends in work-related mental problems

Work-related mental problems are on average on the rise among the employed population across European countries and happen more often for those with detrimental working conditions. The increase in the share of workers reporting a high number of mental problems is highest in Greece and Luxembourg (Figure 4.7). By contrast, in two countries (the United Kingdom and Germany), there has been a reduction over time (1995-2005) in the number of workers suffering from mental problems. Comparison of mental problems by working conditions shows very marked patterns across European countries: the share of employees with work-related mental problems in difficult working conditions is higher (see Table 4.3). For instance, employees with high work intensity have a prevalence rate more than two times higher compared to those not having to work at high intensity. On the other hand, relative work-related mental problems prevalence has increased only for individuals working shifts and those with low autonomy.

Figure 4.7. **Change in the share of employees reporting three or more work-related mental health problems in Europe, 1995-2005**[a, b]

Percentage-point change[c]



StatLink http://dx.doi.org/10.1787/348042381344

a) The mental or emotional problems considered are: stress, sleeping problems, anxiety and irritability. Values within parenthesis after the country labels are the share in 2005.

b) 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

c) Weighted and unweighted average changes are shown as solid and dashed lines, respectively. These averages are for the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. Average weighted and unweighted shares in 2005 were 7.3 and 9.1, respectively.

Source: OECD calculations based on the European Working Conditions Survey (EWCS), 1995-2005. See Annex 4.A1 for further details on definitions and calculations.

Are changes in working conditions moving in the same direction as work-related mental problems? Figure 4.8 (Panel A) shows that across countries there is a fairly strong positive correlation between increases in the percentage of people working more than

Table 4.3. **Work-related mental health problems are often associated with poor working conditions and low job satisfaction in Europe**

Relative incidence of work-related mental problems reported by workers encountering selected working conditions, 1995-2005[a]

	1995	2000	2005
Working at least one day more than 10 hours (at least once a month)	. .	1.89	1.89
Discrimination at workplace	3.76	4.16	3.80
Low work autonomy	0.85	1.10	1.22
Conflict between work and family or social commitments	. .	3.22	2.78
Assistance from colleagues	0.49	0.83	0.70
Job involves complex tasks	2.07	2.48	2.14
Work at night (at least once a month)	1.94	2.02	2.09
Shift work	1.53	1.68	1.60
Saturday work	1.38	1.67	1.52
Sunday work	1.68	2.12	1.94
Low job satisfaction	3.20	3.87	4.03
High work intensity	2.38	2.12	2.19

StatLink http://dx.doi.org/10.1787/348445755456

. . Data not available.

a) Ratio of the share of employees reporting the working condition who also report three or more work-related mental problems to the corresponding share for workers not reporting that working condition. Unweighted averages for the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

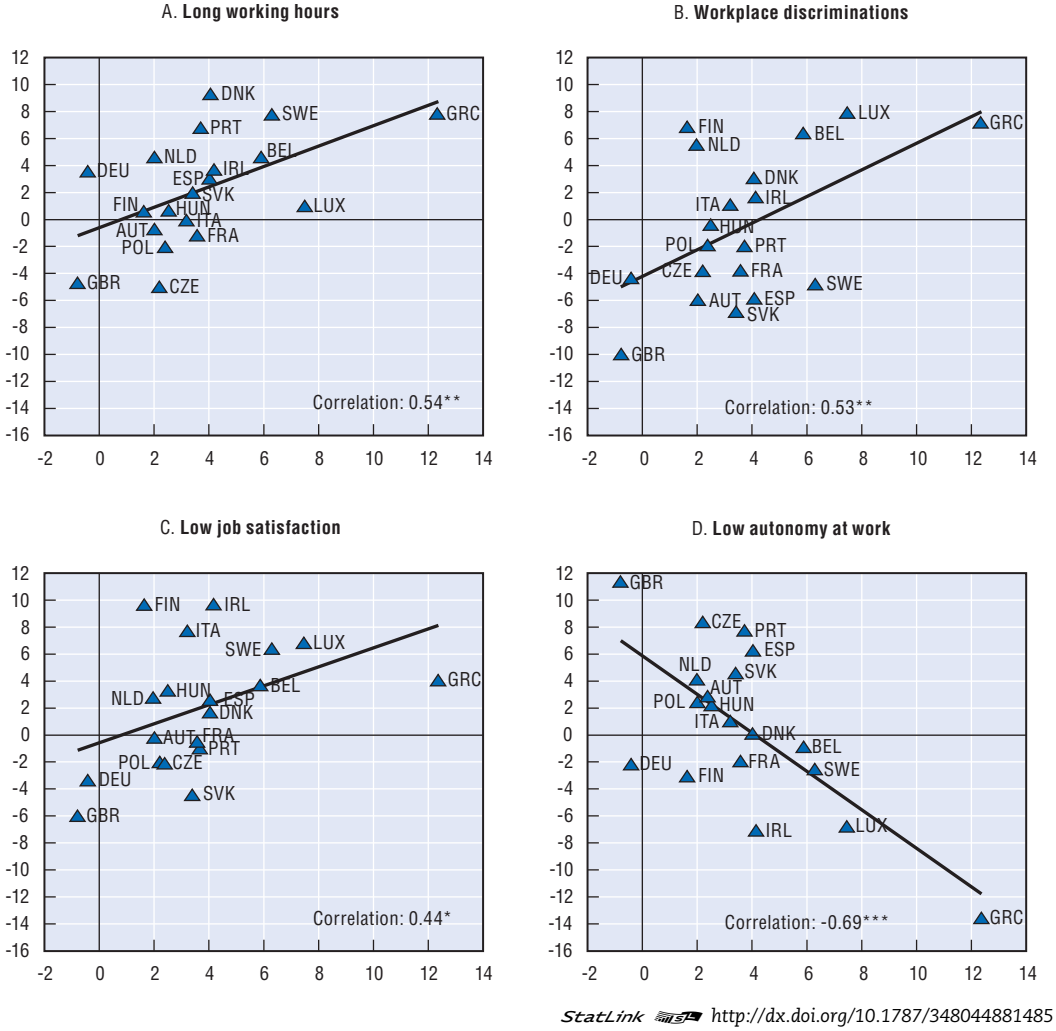
Source: OECD calculations based on the European Working Conditions Survey (EWCS), 1995-2005. See Annex 4.A1 and Annex Table 4.A1.4 for further details on definitions and calculations.

ten hours per day at least once a month and increases in work-related mental problems. The same is true for changes in the level of workplace discrimination (Panel B). The positive association between changes in work-related mental problems and low job satisfaction is somewhat weaker (Panel C). Increases over time in the number of workers having low autonomy are, on the other hand, associated with lower prevalence of work-related mental health problems (Panel D). Changes in other work characteristics such as work not fitting family life, performing complex tasks, receiving assistance from colleagues or working on Sunday do not reveal a statistically significant correlation with changes in mental problems. Of course, one must avoid drawing inferences about individual behavior from these cross-country correlations between the reported incidence of mental problems at work and workplace arrangements.

There is therefore mixed evidence of trends in mental health across the selected OECD countries for which data were available. Neither suicide nor psychological distress has increased on average, but the situation has worsened in certain countries (Korea and New Zealand) and for certain groups (elementary occupations). Self-reported mental illness displays different trends across countries but is rising for the older age group and the non-employed. Work-related mental problems have become more pronounced among those working longer hours or whose work does not fit family commitments, those working at high intensity, and those dissatisfied with their job. Both the decomposition and correlation analysis suggest partial evidence of workplace changes and mental health changes moving in the same direction. Indeed, in countries where certain working conditions have reportedly worsened, work-related illnesses have gone up. There are nevertheless many other factors changing in opposite directions, both within the

Figure 4.8. **Increased exposure to some stressful working conditions was associated with increased prevalence of work-related mental problems in Europe, 1995-2005**[a, b]

Percentage-point change



StatLink http://dx.doi.org/10.1787/348044881485

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) The following mental or emotional problems are considered: stress, sleeping problems, anxiety and irritability. The graphs display the cross-country association between changes in the share of employees reporting three or more work-related mental health problems (horizontal axis) and changes in the share of employees experiencing the indicated working conditions (vertical axis).

b) 2000-2005 for Panel A. 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

Source: OECD calculations based on the European Working Conditions Survey (EWCS), 1995-2005.

workforce but also at other levels such as changes in health behaviour. It remains therefore difficult to assess the effects of work on mental health without using individual-level data.

3. What is the impact of labour force status and workplace on mental health?

The descriptive analysis has shown some degree of correlation between not working, certain working conditions and worsening mental health but assessing the effect of work choices on mental health remains nevertheless a difficult empirical issue because causality can go both ways and other factors might be at play. A higher incidence of mental

health problems among the unemployed or a particular type of job could thus be attributed to a selection effect: people with poorer mental health may be more likely to enter unemployment or particular type of jobs. It is also possible that those whose well-being is most affected by inactivity or certain working conditions exit that state faster. Alternatively, some people might choose certain types of employment such as part-time work because they are an efficient way of coping with family demands. On the other hand, certain aspects of work may cause health to deteriorate faster because of stressful conditions. A further complication arises if there are unobservable characteristics such as genetic factors, time prevalence and the attitude towards risk, which may be correlated with both health status and employment.

Surveys following individuals over time provide the opportunity to distinguish whether the correlation between work (characteristics) and mental health is caused by the negative effect of unemployment (or being in certain type of jobs) on health or whether individuals with poor mental health are more likely to be found in certain jobs (or be unemployed) – see Box 4.3 for a description of the methods. The first part of the longitudinal analysis will evaluate whether becoming unemployed or moving out of the labour force is harmful for well-being and whether there are positive effects to being re-employed. The second part will include a disaggregated analysis of the health effects for employed individuals when they change between standard and "non-standard" type of jobs, comparing the effects of non-standard type of contracts (fixed-time or temporary), non-standard hours of work (part time, overtime), non-standard work arrangements (shifts, week-end work, night work) and other working conditions.[5] Finally, it will be evaluated whether moving into non-standard employment has a negative impact on mental health for people who were not working (unemployed and inactive for health reasons). The analysis is performed for a reduced number of countries (Australia, Canada, Korea, Switzerland and the United Kingdom) for which longitudinal surveys are available with sufficient information on mental health and work history (see Annex 4.A2 for further details).

The analysis confirms the theoretical hypothesis on the negative effects on mental health of not having a job: the detrimental effect of unemployment and inactivity persists after individual unobserved characteristics are controlled for (see Figure 4.9). The estimation captures the effect of changes in labour force status on changes in mental health and the analysis controls for other life events that might affect an individual psychological distress such as changes in marital status, births or accidents. This means that the coefficient for unemployment (or inactivity) is not measuring the effect of being unemployed but rather by how much mental health changes when an individual previously employed becomes unemployed (or inactive). A positive coefficient reflects that the change is associated with a higher psychological distress index and thus with worse mental health. The results from the regression analysis show therefore that when individuals change status and they are no longer employed, any other labour force status results in a worse psychological distress index. The detrimental effect of either unemployment or inactivity due to illness on mental health is large: both situations increase distress by more than any other life changes such as accidents, moves or changes in household situations (loss of a partner, etc.). Overall, men suffer more from being out of work than women. In Australia, Canada, the United Kingdom and Switzerland, a change from employment into sickness-related inactivity results in the worst effect on psychological distress;[6] with the second largest negative change being a movement into unemployment. In Korea by contrast, the largest negative effect is observed for

Box 4.3. **The impact of labour market conditions on mental health**

The effect of labour force status and working conditions on health status is estimated by fitting the following reduced-form model:

$$H_{it} = X'_{it}\beta + L'_{it}\gamma + \delta_i + u_{it} \quad [1]$$

where i and t are individual and time suffices, δ are individual time fixed-effects and u are idiosyncratic shocks. X contains a range of socio-demographic and lifestyle variables. L contains measures of labour market behaviour (labour market history, occupation, working conditions, etc.). H is the mental health measure available and will vary by country. H is based on a psychological distress scale which indicates worse mental health for higher scores. The scale corresponds to the SF-36 in Australia, the distress index in Canada, inverse life satisfaction in Korea, frequency of blues, depression and anxiety in Switzerland and the GHQ-12 in the United Kingdom (see Annexes 4.A1 and 4.A2 for more details on the definition). While different indicators of mental health are considered for the different countries and this might raise comparability challenges, the main idea of the analysis is to provide an overview of the impact of work and working conditions on mental health rather than to compare across countries the differential effect of working conditions on mental health. Annex 4.A2 provides more details on the specific controls for each country.

The unobserved individual component δ contains elements of the initial stock of health and other omitted individual variation. As a result, L and X may be correlated with δ.

Having individual data over time permits to perform the analysis focusing on mental health changes, conditional on the values of the individual fixed effects. This involves taking first differences of the equation [1] to obtain:

$$\Delta H = \Delta X'\beta + \Delta L'\gamma + \Delta u \quad [2]$$

where Δ is the first difference operator *i.e.*

$$\Delta y = y_t - y_{t-1} \quad [3]$$

for any time-varying variable $y = H, L, X$ and u.

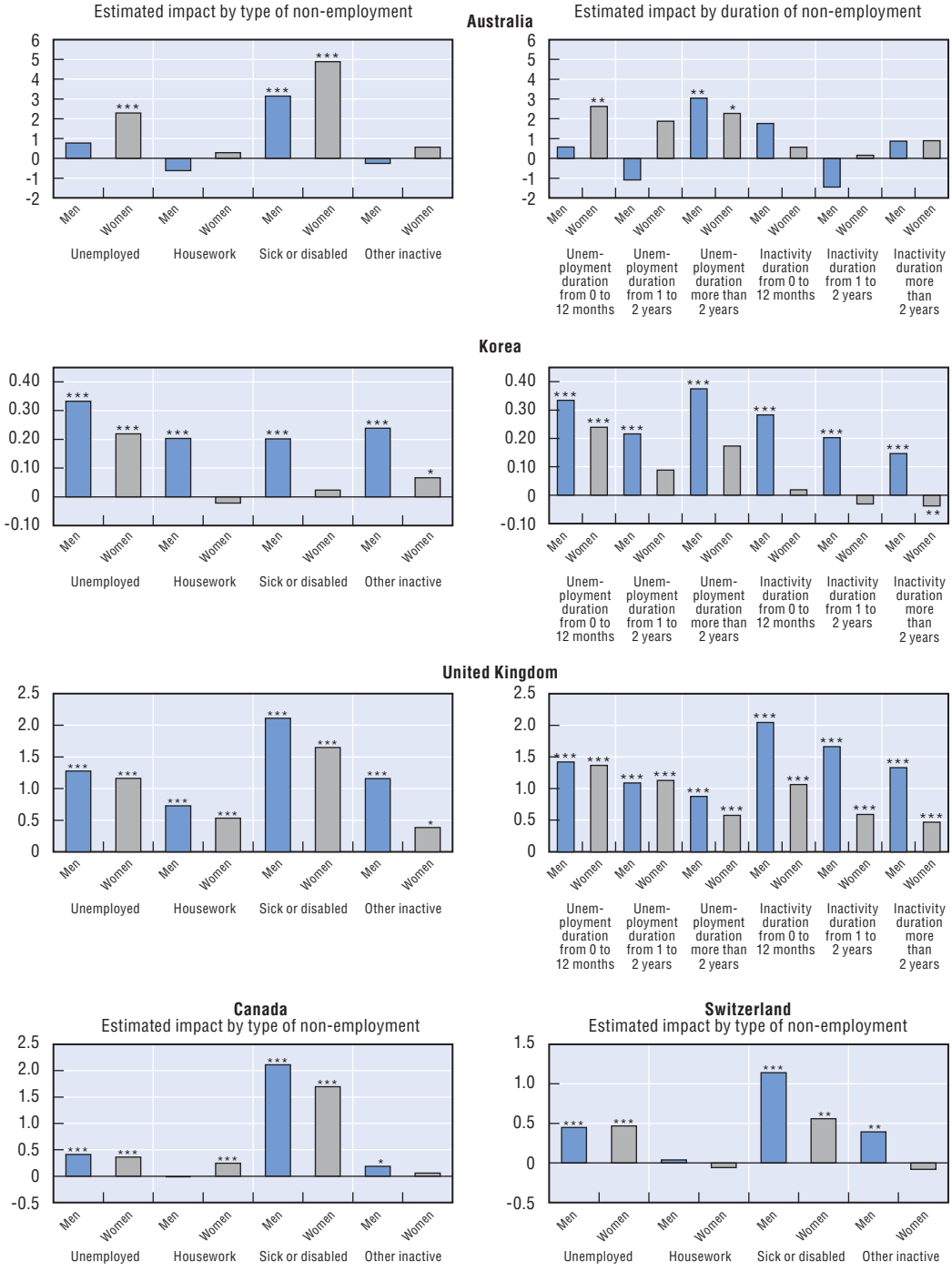
With the differencing, the permanent component δ is purged and the resulting estimates of equation [2] yield consistent estimates of the coefficients. This depends on the assumption that δ is constant within the relevant time frame. It also relies on the assumption that X and L are orthogonal to the error term u. Note that X also includes indicators for life events (accidents, deaths, breakdowns in partnership, etc.) in order to capture some possible correlation between u and the included regressors that could violate that assumption. In addition, first-differencing resolves endogenous selection and non-random attrition problems as long as they are related to the time-invariant individual components (see Annex 4.A2 for more details).

unemployment.[7] In Australia, on the other hand, unemployment does not result in worse mental health for men but it does for women. For men, only inactivity due to sickness results in a significant detrimental effect in Australia. Unemployment for Australian men is associated with a worse mental health only if physical health is not controlled for.

In addition to exploring the effect of labour force status changes, it is also interesting from a policy point of view to examine whether the psychological impact of inactivity persists. In terms of unemployment, a common assumption is that long-term unemployment is worse for mental health. On the other hand, individuals who are

Figure 4.9. **Effect of leaving employment on mental health distress**[a]

Fixed-effect regressions[b]



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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) Sample includes persons aged 15-64 who are never enroled in school or retired during the period analysed of the survey.

b) Regressions including controls for life events excepted for Korea.

Source: OECD estimates based on the HILDA for Australia (calculations were provided by Paul Swaim, OECD); the NPHS for Canada; the KLIPS for Korea; the SHP for Switzerland; and the BHPS for the United Kingdom. See Annex 4.A2 for details on the dependent and control variables.

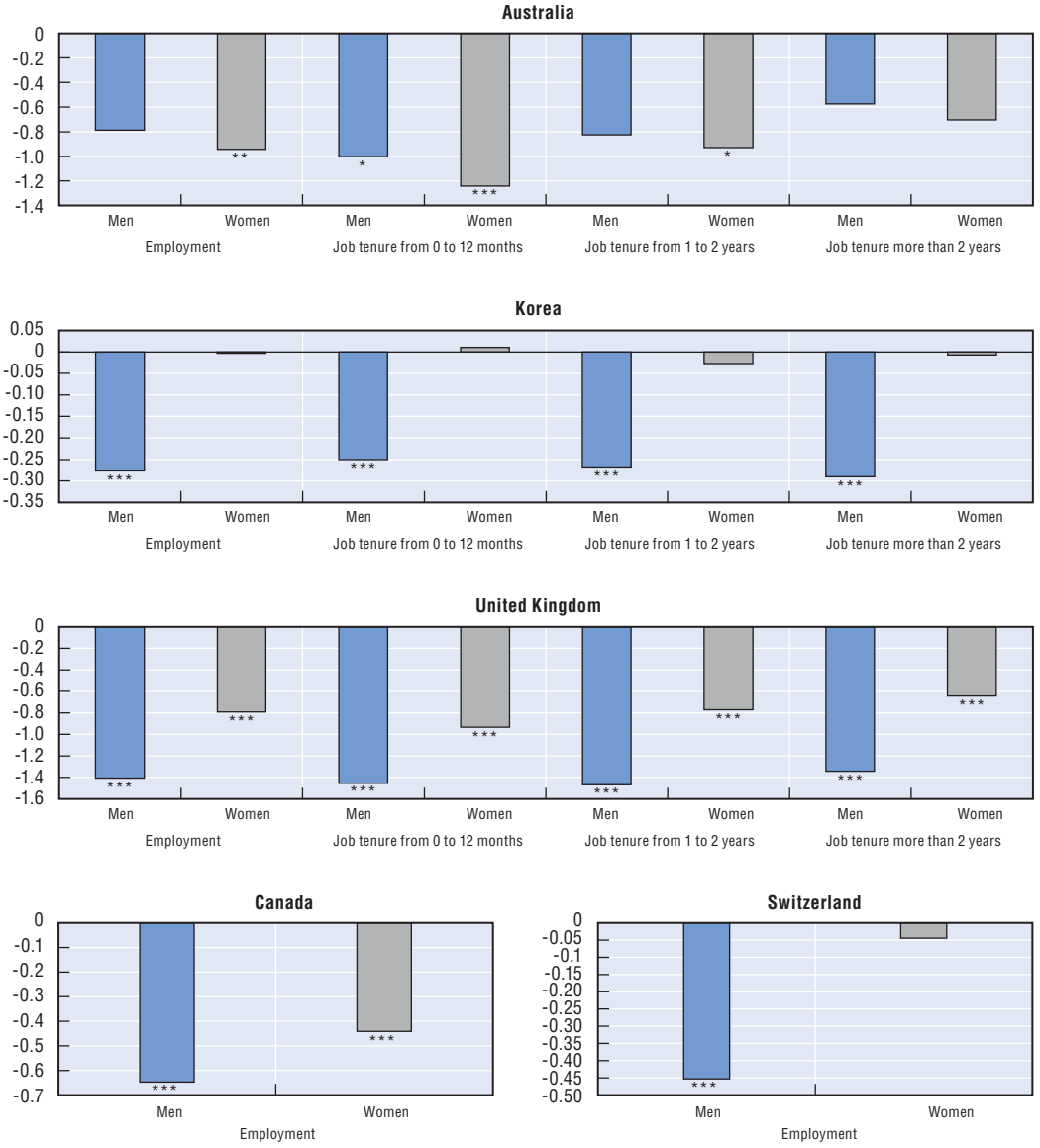
unemployed or inactive might become used to their situation, that is, there might be habituation effects (Clark *et al.*, 2001). The regressions reported in Figure 4.9 reveal that duration matters but the size of the impact is different across countries. Results from the United Kingdom confirm the presence of habituation effects for unemployment and for inactivity. Indeed, for both men and women the increase in psychological distress is worse for people who just moved into unemployment or inactivity than for those being in that state for more than two years. Habituation does happen for inactivity in Korea for men. On the other hand, Korean men do not get used to unemployment over time; their well-being is affected by unemployment whether they just got unemployed or whether they have been unemployed for more than two years. For women on the other hand, the negative impact of unemployment is only felt immediately after unemployment and disappears in the long-term. In Australia, long-term unemployment is significantly detrimental for mental health in males. In the case of women, there is no evidence that the impact of unemployment diminishes with duration.

To understand the full relation between work and mental health, it is also important to verify the health effect of the reverse change, *i.e.* a status shift from non-employment into employment. A movement to non-employment leads to a deterioration of mental health but is it the case that when individuals return to employment, their mental health improves? The regression analysis does confirm a health-improving effect of employment, but only partially so in certain countries (see Figure 4.10). Mental health improvements can be seen from the negative coefficients on a change to employment in all countries except Australia for men, and in Korea and Switzerland for women.[8] The results from the United Kingdom show an improvement for both men and women but the improvement tends to be higher for men, suggesting again that work is associated with more benefits for their mental health. The United Kingdom's findings also suggest that positive well-being effects of employment do diminish over time since, when looking at the effect of employment by duration, the coefficient for long-term employment (more than two years) is smaller than the one for recent employment. In Australia, a move into employment has a positive effect but it is only transitory, particularly for males.

Having found that individuals' mental health is often influenced by their activity status, the next question is to see whether changes within employment, *i.e.* across different types of jobs also matter. When comparing employed individuals who change from standard into non-standard employment, the analysis suggests that this change tends to result in a deterioration of mental health (see Table 4.4, Panel A). For this purpose, moving to non-standard employment is defined as a change to a job with either of the following characteristics: a non-standard type of contract (temporary), working other hours than full time (either overtime or shorter hours) or working irregular hours (shifts). In addition, the definition encompasses other changes which are not necessarily easily classified as non-standard employment characteristics per se but rather as having a job where individuals are less satisfied with the content or with certain working conditions, and thus, potentially having a negative impact on mental health. Changes in the type of contract (to non-permanent contracts) and in working hours appear to matter more than the patterns of hours worked. Across all countries, relatively more subjective indicators of working conditions appear to have a stronger impact on mental health. This is the case of job security, satisfaction with autonomy and with the balance between work and family and social commitments.

Figure 4.10. **Effect of transition from non-employment to employment on mental health distress**[a]

Fixed-effect regressions[b]



StatLink http://dx.doi.org/10.1787/348180007345

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) Sample includes persons aged 15-64 who are never enroled in school or retired during the period analysed of the survey.

b) Regressions including controls for life events excepted for Korea.

Source: OECD estimates based on the HILDA for Australia (calculations were provided by Paul Swaim, OECD); the NPHS for Canada; the KLIPS for Korea; the SHP for Switzerland; and the BHPS for the United Kingdom. See Annex 4.A2 for details on the dependent and control variables.

Many indicators of non-standard employment affect well-being substantially, but the evidence of the impact on mental health for Australia, Canada and Switzerland is less sizeable for certain characteristics. In Korea, Switzerland and the United Kingdom obtaining a seasonal or a temporary job leads to a significant deterioration in psychological distress. In terms of working non-standard hours, when men in Canada, the United

Table 4.4. **Effect of changes in the type of employment on mental health distress**[a]

Fixed-effect regressions

	Panel A. **Transitions to non-standard employment**									
	Australia		Canada		Korea		Switzerland		United Kingdom	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Type of contract										
Temporary worker	–0.181	–0.039			0.066 **	0.067 **	0.313 ***	0.128	0.202 **	0.180 *
Working hours										
Mini-job	1.040	–0.579	0.202	0.166 *	0.129 **	0.119 **	0.184	0.008	–0.285 *	0.166 *
Part-time	0.827	–0.700 *	0.162	0.018	0.249 ***	0.028	0.092	0.073	–0.044	0.093
Overtime	0.619 *	–1.006 **	0.142 **	0.110	0.013	0.009	0.039	–0.197	0.131 **	0.107
Shift work										
Yes	0.577 *	–0.321			0.076 ***	0.060 **	–0.028	–0.110	0.050	0.109 **
Work schedule										
Rotating or split shift			–0.004	0.044						
Irregular schedule or on-call			–0.013	–0.009						
Other irregular schedule			0.956 ***	–0.378						
Job security										
Quite secure	1.120 ***	0.804 **	0.372 **	0.350 **	0.204 ***	0.177 ***	0.074	–0.217 ***	0.132 ***	0.140 ***
Very insecure	2.701 ***	1.005 **	0.519 ***	0.516 ***	0.164 ***	0.145 ***	0.279 **	0.611 ***	0.624 ***	0.383 ***
Job satisfaction										
Satisfied	0.883 **	1.691 ***			0.069 ***	0.051 ***	–0.426 ***	–0.291 **	0.385 ***	0.480 ***
Not satisfied	2.651 ***	0.699			0.170 ***	0.179 ***	0.377 ***	0.301 **	1.399 ***	1.084 ***
Job strain										
Medium low			–0.146	0.095						
Medium high			0.064	0.335 ***						
High			0.074	0.423 ***						
Psychological demands										
Medium			–0.101	0.265 **						
High			0.007	0.559 ***						
Work organisation										
Job opportunities										
No									0.204 ***	0.090 **
Work-stress										
Medium-low			0.015	0.216 **						
Medium-high			0.206 **	0.295 **						
High			0.255 **	0.745 ***						
Decision latitude										
Medium			0.003	0.315 **						
Low			0.132	0.429 ***						
Job autonomy										
Not satisfied	0.206	0.706 *								
Satisfied	0.699 **	–0.097								
Working hours and social commitments										
Not satisfied	1.487 ***	1.101 **								
Satisfied	–0.140	0.504								
Personal achievment										
Not satisfied					0.173 ***	0.129 ***				
Satisfied					–0.026 **	–0.006				
Management										
Not satisfied					0.102 ***	0.104 ***				
Satisfied					0.046 ***	0.019				
Control for life events	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Number of observations	11 063	10 628	7 087	7 600	18 052	12 146	6 637	6 228	29 925	27 777

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Table 4.4. **Effect of changes in the type of employment on mental health distress**[a] *(cont.)*
Fixed-effect regressions

	Panel B. **Transitions to standard employment**									
	Australia		Canada		Korea		Switzerland		United Kingdom	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Type of contract										
Permanent workers	0.181	0.039			–0.066 **	–0.067 **	–0.313 ***	–0.128	–0.035	–0.014
Working hours										
Full-time	–0.680 **	0.780 **	–0.149 ***	–0.081	–0.030 *	–0.021	–0.052	0.006	–0.093 **	–0.125 **
Shift work										
No	–0.577 *	0.321			–0.076 ***	–0.060 **	0.028	0.110	–0.050	–0.109 **
Work schedule										
Regular schedule or shift			–0.018	–0.005						
Job security										
Very secure	–1.634 ***	–0.885 ***	–0.492 ***	–0.488 ***	–0.155 ***	–0.133 ***	–0.122 *	–0.197 **	–0.332 ***	–0.242 ***
Job satisfaction										
Very satisfied	–1.670 ***	–2.183 ***			–0.194 ***	–0.175 ***	–0.365 ***	–0.303 **	–0.654 ***	–0.647 ***
Job strain										
Low			0.042	–0.245 **						
Psychological demands										
Low			0.079	–0.336 ***						
Work organisation										
Job opportunities										
Yes									–0.253 ***	–0.198 ***
Work-stress										
Low			–0.100	–0.316 ***						
Decision latitude										
High			–0.047	–0.352 ***						
Job autonomy										
Very satisfied	–1.179 ***	–0.271								
Working hours and social commitments										
Very satisfied	–0.321	–1.017 **								
Personal achievment										
Very satisfied					–0.154 ***	–0.154 ***				
Management										
Very satisfied					–0.221 ***	–0.187 ***				
Control for life events	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Number of observations	11 063	10 628	7 101	7 600	18 052	12 146	6 637	6 228	29 925	27 777

StatLink http://dx.doi.org/10.1787/348465720085

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.
a) Sample includes persons aged 15-64.
Source: OECD estimates based on the HILDA for Australia (calculations were provided by Paul Swaim, OECD); the NPHS for Canada; the KLIPS for Korea; the SHP for Switzerland; and the BHPS for the United Kingdom. See Annex 4.A2 for details on the dependent and control variables.

Kingdom and Australia move from a full-time job into one where they work overtime their mental health worsens.[9] In Korea, moving to a job where individuals have to work overtime, has no significant effect on well-being. This could be explained by the fact that a large fraction of both men and women work more than 48 hours per week. On the other hand, both appear to suffer from working less hours (this is also the case for women in Canada and the United Kingdom). In all countries, a transition to a job where people are not satisfied with job security or their job content is followed by worse mental health for

both men and women. More detailed information on work characteristics is only available for certain countries. Results for the United Kingdom reveal that changing to a job lacking opportunities for career advancement leads to lower well-being. In Korea, changes in working conditions related to work organisation such as opportunities for personal achievement and fair management are also highly influential on well being for both men and women. Dissatisfaction with job autonomy and the opportunities to balance work and non-work commitments are associated with lower mental well-being in Australia. Higher job strain and psychological demands lead to worse mental health for women only in Canada, similarly to low decision latitude. Both men and women experience deterioration in their mental health if there are high levels of stress at their workplace.

Movements from standard to non-standard employment or to relatively worse working conditions may seldom occur and it might therefore be more relevant to test the health effects of reverse changes. Indeed, the longitudinal data shows that roughly only 2-3% of individuals with a permanent contract change in the subsequent year to a temporary or short-term contract, while 52% of those with a fixed-term contract get a permanent contract the next year (71% for those with a short-term contract in Korea). There is slightly more mobility towards non-standard employment in Australia, with roughly 9% of individuals changing from a permanent towards either a fixed-term or a casual contract the next year.

Panel B of Table 4.4 presents estimated effects on mental health distress from transitions from non-standard to standard jobs. Significant improvements in mental health are found for many characteristics of standard employment but not in all five countries. In the case of Korea and the United Kingdom, most "standard" work characteristics are associated with significant increases in well-being. Only the type of contract does not appear to matter in the United Kingdom as no significant impact on well-being is associated with the acquisition of a permanent contract. Significant effects on better mental health are found for full-time work and the absence of shift work in Australia and for permanent contracts in Switzerland (for men only in both countries). In Canada, mental health improvements for men are observed only for changes to full-time regular hours and when acquiring a very secure job. Women in Canada do not experience improvements in mental health after changing their working hours. Significant mental health improvements for Canadian women do occur, on the other hand, with changes in the psycho-social work characteristics such as getting a job with low job strain, low psychological demands, low work-stress and high decision latitude. As was the case for the opposite change, more important improvements in mental health are observed when individuals move to jobs where they are more satisfied with subjective indicators such as job security.

For workers, movements to non-standard types of jobs have a negative impact on their mental health, but is employment, regardless of the type, better than inactivity? Regression analysis results reported in Table 4.5 show that when individuals move from non-employment to different types of employment, mental health improves but the improvement is less pronounced for non-standard employment. This result is confirmed for three different types of transitions to employment: for all persons previously non-employed, for those previously unemployed and for those previously absent from work due to sickness (as a particular case of inactivity). The type of contract matters when individuals get a job only in the case of Korea and Switzerland. Indeed, for Switzerland significant increases in well-being after employment are observed only for permanent contracts (the coefficient for temporary contracts is not significant). In Korea, changing to

Table 4.5. **Effect of changes from non-employment to different types of employment on mental health distress**[a]

Fixed-effect regressions

Panel A. **Men**

	Australia			Canada			Korea			Switzerland			United Kingdom		
	From…			From…			From…			From…			From…		
… To …	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick
Type of contract															
Permanent workers	−1.226 *	−1.252	−3.349 ***				−0.226 ***	−0.209 ***	−0.142 ***	−0.186 ***	−0.167 ***	−0.144 ***	−1.299 ***	−1.210 ***	−1.768 ***
Temporary worker	−1.309 **	−1.340 *	−3.436 ***				−0.156 ***	−0.138 ***	−0.070 ***	0.031	0.064	0.096	−1.206 ***	−1.124 ***	−1.681 ***
Working hours															
Mini-job	−0.333	−0.338	−2.731 **	−0.463 ***	−0.224	−1.934 ***	−0.104 *	−0.086	−0.019	−0.384 **	−0.379 *	−0.969 **	−1.238 ***	−1.127 ***	−1.272 ***
Part-time	−0.631	−0.608	−3.001 **	−0.571 ***	−0.328 **	−2.039 ***	0.009	0.027	0.091 *	−0.435 ***	−0.435 **	−1.024 ***	−1.145 ***	−1.009 ***	−1.178 ***
Full-time	−1.083 *	−1.064	−3.457 ***	−0.710 ***	−0.468 ***	−2.179 ***	−0.225 ***	−0.207 ***	−0.139 ***	−0.410 ***	−0.421 ***	−1.010 ***	−1.125 ***	−0.985 ***	−1.157 ***
Overtime	−0.532	−0.508	−2.901 ***	−0.571 ***	−0.342 ***	−2.053 ***	−0.211 ***	−0.193 ***	−0.127 ***	−0.427 ***	−0.438 ***	−1.027 ***	−0.960 ***	−0.824 ***	−0.992 ***
Shift work															
Yes	−0.459	−0.437	−2.832 **	−0.656 ***	−0.420 ***	−2.121 ***	−0.123 ***	−0.106 ***	−0.043 *	−0.437 ***	−0.447 ***	−1.146	−1.403 ***	−1.275 ***	−2.094 ***
No	−0.948 *	−0.920	−3.315 ***	−0.615 ***	−0.378 ***	−2.079 ***	−0.234 ***	−0.217 ***	−0.150 ***	−0.430 ***	−0.439 ***	−1.138	−1.398 ***	−1.267 ***	−2.086 ***
Job security															
Very secure	−1.569 ***	−1.487 ***	−1.930 ***	−0.722 ***	−0.716 ***	−2.204 ***	−0.392 ***	−0.373 ***	−0.300 ***	−0.546 ***	−0.546 ***	−1.225 ***	−1.461 ***	−1.323 ***	−1.599 ***
Quite secure	−0.457	−0.381	−0.819	−0.574 ***	−0.557 ***	−2.046 ***	−0.233 ***	−0.215 ***	−0.141 ***	−0.499 ***	−0.499 ***	−1.177 ***	−1.142 ***	−1.006 ***	−1.280 ***
Very insecure	1.163 **	1.259 **	0.796	−0.238 *	−0.220	−1.708 ***	−0.071 ***	−0.052 ***	0.023	−0.224	−0.227	−0.905 **	−0.523 ***	−0.388 ***	−0.661 ***
Job satisfaction															
Very satisfied	−1.328 **	−1.318 *	−3.800 ***				−0.298 ***	−0.276 ***	−0.215 ***	−0.463 ***	−0.460 ***	−1.146 ***	−1.779 ***	−1.646 ***	−2.339 ***
Satisfied	0.140	0.152	−2.330 **				−0.115 ***	−0.092 ***	−0.030 *	−0.480 ***	−0.477 ***	−1.163 ***	−1.137 ***	−1.005 ***	−1.698 ***
Not satisfied	2.549 ***	2.584 ***	0.102				0.053 ***	0.076 ***	0.139 ***	−0.306 **	−0.304 *	−0.990 ***	0.223 ***	0.358 ***	−0.336 ***
Job strain															
Low				−0.602 ***	−0.558 ***	−2.084 ***									
Medium low				−0.728 ***	−0.684 ***	−2.210 ***									
Medium high				−0.589 ***	−0.555 ***	−2.081 ***									
High				−0.495 ***	−0.450 ***	−1.976 ***									
Psychological demands															
Low				−0.593 ***	−0.550 ***	−2.059 ***									
Medium				−0.686 ***	−0.656 ***	−2.164 ***									
High				−0.521 ***	−0.495 ***	−2.003 ***									
Work organisation															
Job opportunities															
No													−0.515 ***	−0.443 ***	−0.379 ***
Yes													−0.273 ***	−0.192 ***	−0.128 ***

Table 4.5. **Effect of changes from non-employment to different types of employment on mental health distress**[a] *(cont.)*

Fixed-effect regressions

Panel A. **Men**

	Australia			Canada			Korea			Switzerland			United Kingdom		
	From…			From…			From…			From…			From…		
	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick
Work-stress															
Low				–0.706 ***	–0.692 ***	–2.199 ***									
Medium-low				–0.690 ***	–0.665 ***	–2.171 ***									
Medium-high				–0.563 ***	–0.540 ***	–2.047 ***									
High				–0.501 ***	–0.460 ***	–1.966 ***									
Decision latitude															
High				–0.672 ***	–0.652 ***	–2.154 ***									
Medium				–0.560 ***	–0.527 ***	–2.029 ***									
Low				–0.465 ***	–0.434 **	–1.936 ***									
Job autonomy															
Not satisfied	–0.021	–0.106	–2.317 **												
Satisfied	–0.366	–0.460	–2.671 **												
Very satisfied	–1.458 **	–1.550 **	–3.762 ***												
Working hours and social commitments															
Not satisfied	0.660	0.712	–1.668												
Satisfied	–0.901	–0.855	–3.236 ***												
Very satisfied	–1.207 ***	–1.159	–3.540 ***												
Personal achievment															
Not satisfied							–0.064 ***	–0.045 **	0.024						
Satisfied							–0.235 ***	–0.216 ***	–0.148 ***						
Very satisfied							–0.388 ***	–0.370 ***	–0.302 ***						
Management															
Not satisfied							–0.105 ***	–0.086 ***	–0.017						
Satisfied							–0.207 ***	–0.188 ***	–0.120 ***						
Very satisfied							–0.428 ***	–0.410 ***	–0.342 ***						
Control for life events	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	2 517	2 517	2 517	20 535	20 535	20 535	19 268	19 268	19 268	7 996	7 996	7 996	36 560	36 560	36 560

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Table 4.5. **Effect of changes from non-employment to different types of employment on mental health distress**[a] *(cont.)*

Fixed-effect regressions

Panel B. **Women**

	Australia			Canada			Korea			Switzerland			United Kingdom		
	From…			From…			From…			From…			From…		
	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick
… To …															
Type of contract															
Permanent workers	–0.236	–1.803 **	–4.390 ***				–0.048 ***	–0.116 ***	–0.074 ***	–0.087 *	–0.166 ***	–0.105 *	–0.731 ***	–1.123 ***	–1.440 ***
Temporary worker	–0.607	–2.203 ***	–4.790 ***				0.021	–0.050 **	–0.010	0.046	–0.045	0.031	–0.769 ***	–1.175 ***	–1.491 ***
Working hours															
Mini-job	–1.153 **	–2.654 ***	–5.266 ***	–0.208 **	–0.133	–1.486 ***	0.052	–0.015	0.021	–0.033	–0.456 ***	–0.432	–0.589 ***	–0.793 ***	–1.014 ***
Part-time	–1.095 **	–2.519 ***	–5.130 ***	–0.402 ***	–0.322 ***	–1.675 ***	–0.003	–0.073 *	–0.035	–0.035	–0.430 ***	–0.406	–0.697 ***	–0.863 ***	–1.087 ***
Full-time	–0.376	–1.724 **	–4.335 ***	–0.523 ***	–0.439 ***	–1.792 ***	–0.036 **	–0.103 ***	–0.061 ***	–0.149 *	–0.533 ***	–0.509 *	–0.859 ***	–0.999 ***	–1.214 ***
Overtime	–1.134 *	–2.500 ***	–5.111 ***	–0.419 ***	–0.345 ***	–1.698 ***	–0.012	–0.077 ***	–0.034	–0.261 **	–0.649 ***	–0.625 **	–0.686 ***	–0.823 ***	–1.024 ***
Shift work															
Yes	–1.127 **	–2.486 ***	–5.081 ***	–0.447 ***	–0.373 ***	–1.714 ***	0.032	–0.039	0.000	–0.094	–0.521 ***	–0.611 **	–0.749 ***	–1.119 ***	–1.608 ***
No	–0.843 **	–2.192 ***	–4.786 ***	–0.423 ***	–0.337 ***	–1.679 ***	–0.041 ***	–0.111 ***	–0.068 ***	–0.034	–0.462 ***	–0.552 *	–0.827 ***	–1.190 ***	–1.679 ***
Job security															
Very secure	–0.434	–0.429	–0.041	–0.610 ***	–0.430 ***	–2.374 ***	–0.170 ***	–0.232 ***	–0.188 ***	–0.102	–0.553 ***	–0.623 **	–0.856 ***	–1.057 ***	–1.283 ***
Quite secure	0.301	0.312	0.706	–0.541 ***	–0.349 *	–2.294 ***	–0.020	–0.083 ***	–0.039 *	–0.073	–0.519 ***	–0.588 **	–0.628 ***	–0.829 ***	–1.053 ***
Very insecure	0.484	0.516	0.908	–0.195	–0.043	–1.987 ***	0.127 ***	0.062 **	0.107 ***	0.358 ***	–0.074	–0.143	–0.332 ***	–0.531 ***	–0.754 ***
Job satisfaction															
Very satisfied	–1.450 ***	–2.824 ***	–5.440 ***				–0.150 ***	–0.188 ***	–0.155 ***	–0.045	–0.471 ***	–0.573 **	–1.047 ***	–1.411 ***	–1.847 ***
Satisfied	0.774	–0.593	–3.209 **				0.018	–0.020	0.013	–0.033	–0.450 ***	–0.552 *	–0.452 ***	–0.809 ***	–1.246 ***
Not satisfied	1.622 ***	0.267	–2.349 *				0.211 ***	0.174 ***	0.205 ***	0.152	–0.262 *	–0.364	0.596 ***	0.251 **	–0.187
Job strain															
Low				–0.690 ***	–0.510 ***	–2.510 ***									
Medium low				–0.648 ***	–0.456 ***	–2.456 ***									
Medium high				–0.443 ***	–0.246	–2.246 ***									
High				–0.357 ***	–0.147	–2.147 ***									
Psychological demands															
Low				–0.734 ***	–0.546 ***	–2.535 ***									
Medium				–0.607 ***	–0.406 **	–2.395 ***									
High				–0.289 ***	–0.081	–2.070 ***									
Work organisation															
Job opportunities															
No													–0.321 ***	–0.227 ***	–0.230 ***
Yes													–0.497 ***	–0.406 ***	–0.405 ***

Table 4.5. **Effect of changes from non-employment to different types of employment on mental health distress**[a] *(cont.)*

Fixed-effect regressions

Panel B. **Women**

	Australia			Canada			Korea			Switzerland			United Kingdom		
	From…			From…			From…			From…			From…		
	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick	Non-employment	Unemployed	Sick
Work-stress															
Low				–0.738 ***	–0.593 ***	–2.577 ***									
Medium-low				–0.654 ***	–0.490 ***	–2.474 ***									
Medium-high				–0.603 ***	–0.407 **	–2.391 ***									
High				–0.199 *	–0.001	–1.985 ***									
Decision latitude															
High				–0.589 ***	–0.406 **	–2.388 ***									
Medium				–0.535 ***	–0.343 **	–2.325 ***									
Low				–0.218	–0.002	–1.985 ***									
Job autonomy															
Not satisfied	–0.331	–1.777 **	–4.403 ***												
Satisfied	–1.028 **	–2.492 ***	–5.118 ***												
Very satisfied	–1.289 ***	–2.776 ***	–5.402 ***												
Working hours and social commitments															
Not satisfied	0.841	–0.518	–3.134 **												
Satisfied	–0.316	–1.687 **	–4.302 ***												
Very satisfied	–1.224 ***	–2.619 ***	–5.235 ***												
Personal achievment															
Not satisfied							0.106 ***	0.037	0.078 ***						
Satisfied							–0.041 ***	–0.109 ***	–0.068 ***						
Very satisfied							–0.185 ***	–0.252 ***	–0.212 ***						
Management															
Not satisfied							0.093 ***	0.022	0.061 **						
Satisfied							–0.034 **	–0.102 ***	–0.063 ***						
Very satisfied							–0.217 ***	–0.286 ***	–0.247 ***						
Control for life events	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	3 638	3 638	3 638	23 334	23 334	23 334	21 909	21 909	21 909	10 146	10 146	10 146	40 474	40 474	40 474

StatLink http://dx.doi.org/10.1787/348475454374

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) Sample includes persons aged 15-64.

Source: OECD estimates based on the HILDA for Australia (calculations were provided by Paul Swaim, OECD); the NPHS for Canada; the KLIPS for Korea; the SHP for Switzerland; and the BHPS for the United Kingdom. See Annex 4.A2 for details on the dependent and control variables.

a temporary job leads to a significantly lower increase in mental health than in the case of a change to a permanent contract. The type of hours worked does provide a significantly different impact on well-being improvements across countries and gender. Overtime is associated with significantly lower increases in well-being than a regular full-time job in Australia and the United Kingdom while in Korea, working small hours (part time or mini-jobs) provides lower improvements in mental health or no significant improvements. In Canada, both types of non-standard working hours (overtime and part time) reflect lower mental health improvements than regular full-time hours. Certain jobs do show detrimental health effects for those previously not employed: this is the case of those with low job satisfaction in Korea and Australia, and also very insecure jobs in Australia.

An additional question is whether these findings hold for all workforce groups, including persons already suffering from health problems. An individual's mental well-being probably exhibits path-dependence, that is, it is likely that current mental health depends to a large extent on previous mental health status. Indeed, based on the datasets used for the analysis, between 85% and 97% of those without mental health problems in a given year do not experience them the following year. More variation exists for those with mental health problems; yet, 35% to 50% of those suffering from them still have problems within a year. To account for this state-dependence, a dynamic model is estimated, which includes previous mental health as a determinant of current mental health. The estimation results confirm that previous mental health problems have a very large impact on the probability of having a current negative mental health outcome (see Table 4.6). The detrimental effect of previous mental health is much larger than the beneficial effect of work-related variables in many of the countries analysed. Additionally, taking into account previous health reduces the significance of work variables, confirming the hypothesis that some of the estimated effects of work changes on mental distress are driven by a pre-existing condition. This is particularly the case for Switzerland and for men in Australia, where most of the work-related coefficients become insignificant once previous mental health values are controlled for. Only permanent employment and very secure employment for Swiss and Australian men, respectively, result in beneficial effects for mental health once prior mental health values are taken into account. The main conclusions still hold, however: either standard employment results in better mental health than non-standard employment or only standard employment results in significant beneficial mental health effects.

Conclusion

Over the past two decades, mental illness has been a driving force behind the rise in inflows into disability in many OECD countries. The evidence provided in this chapter suggests that this is not due to a parallel increase in the share of working-age people with mental health problems nor to a deterioration in labour market conditions. The changes in the prevalence of mental health problems among the working-age population observed in the survey data analysed here simply do not reveal sufficiently large and general increases across OECD countries to account for trends in disability receipt. However, the limitations of the available data for analysing trends in mental health and their relationship to labour market trends need to be emphasised. The trend analysis in this chapter has made use of a variety of different measures of mental health problems, which are available for different combinations of countries and years. Further efforts to collect harmonised data on mental

Table 4.6. **Effect of changes from sick leave to different types of employment on mental health, taking into account previous mental health distress**

Pooled probit regressions[a]

	Australia		Canada		Korea		Switzerland		United Kingdom	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Previous mental health distress	1.087***	0.826***	0.499***	0.457***	0.511***	0.600***	1.089***	0.859***	0.892***	0.774***
Type of contract										
Permanent workers	–0.200	–0.582***			–0.493***	–0.236***	–0.343**	–0.305	–0.611***	–0.387***
Temporary worker	–0.237	–0.486***			–0.211***	–0.065	–0.180	–0.038	–0.613***	–0.438***
Working hours										
Mini-job	0.324	–0.496**	–0.491***	–0.311***	–0.187	–0.058	–0.521	–0.441	–0.584***	–0.303***
Part-time	–0.101	–0.454**	–0.605***	–0.370***	0.103	–0.171	0.232	–0.291	–0.521***	–0.269***
Full-time	0.016	–0.491**	–0.681***	–0.381***	–0.424***	–0.180***	–0.053	–0.399	–0.414***	–0.340***
Overtime	0.068	–0.420*	–0.622***	–0.312***	–0.417***	–0.136**	0.071	–0.752*	–0.344***	–0.267***
Shift work										
Yes	0.048	–0.497**	–0.257***	–0.113**	–0.240***	–0.102	0.234	–0.225	–0.698***	–0.473***
No	0.075	–0.493**	–0.328***	–0.116*	–0.443***	–0.179***	–0.107	–0.509	–0.729***	–0.460***
Job security										
Very secure	–0.426***	–0.029	–0.821***	–0.617***	–0.830***	–0.359***	–0.176	–0.484	–0.632***	–0.417***
Quite secure	–0.201	0.014	–0.785***	–0.466***	–0.645***	–0.257***	–0.179	–0.254	–0.453***	–0.334***
Very insecure	–0.015	–0.116	–0.711***	–0.438***	–0.070	0.129**	0.054	0.220	–0.136**	–0.191***
Job satisfaction										
Very satisfied	–0.027	–0.574***			–0.710***	–0.319***	–0.041	–0.186	–0.965***	–0.604***
Satisfied	0.098	–0.298			–0.476***	–0.189***	–0.015	–0.277	–0.547***	–0.290***
Not satisfied	0.387	–0.151			0.010	0.189***	–0.024	–0.137	0.022***	0.000***
Job strain										
Low			–0.763***	–0.680***						
Medium low			–0.831***	–0.628***						
Medium high			–0.834***	–0.528***						
High			–0.711***	–0.465***						
Psychological demands										
Low			–0.764***	–0.710***						
Medium			–0.838***	–0.593***						
High			–0.741***	–0.485***						
Work organisation										
Job opportunities										
No									–0.104***	–0.107***
Yes									–0.240***	–0.158***
Work-stress										
Low			–0.805***	–0.723***						
Medium-low			–0.814***	–0.644***						
Medium-high			–0.794***	–0.559***						
High			–0.669***	–0.397***						
Decision latitude										
High			–0.813***	–0.639***						
Medium			–0.781***	–0.519***						
Low			–0.620***	–0.443***						
Job autonomy										
Not satisfied	0.008	–0.462**								
Satisfied	–0.018	–0.575***								
Very satisfied	–0.068	–0.522***								
Working hours and social commitments										
Not satisfied	0.246	–0.273								
Satisfied	–0.050	–0.271								
Very satisfied	0.022	–0.547***								

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Table 4.6. **Effect of changes from sick leave to different types of employment on mental health, taking into account previous mental health distress** *(cont.)*

Pooled probit regressions[a]

	Australia		Canada		Korea		Switzerland		United Kingdom	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Personal achievment										
Not satisfied					–0.073	0.149 **				
Satisfied					–0.569 ***	–0.308 ***				
Very satisfied					–0.728 ***	–0.505 ***				
Management										
Not satisfied					–0.095	0.146 *				
Satisfied					–0.512 ***	–0.271 ***				
Very satisfied					–0.647 ***	–0.361 ***				
Control for life events	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Number of observations	8 785	9 700	15 320	18 288	17 144	19 009	6 297	8 253	31 046	34 399

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) Sample includes persons aged 15-64.

Source: OECD estimates based on the HILDA for Australia (calculations were provided by Paul Swaim, OECD); the NPHS for Canada; the KLIPS for Korea; the SHP for Switzerland; and the BHPS for the United Kingdom. See Annex 4.A2 for details on the dependent and control variables.

health trends and the association of mental health and employment status could make an important contribution to understanding the issues addressed here.

A more detailed longitudinal analysis for five OECD countries suggests that the risk of developing a mental health problem is higher among the inactive working-age population than among the employed, even after controlling for individual characteristics. Moreover, individuals previously not working tend to experience an improvement in mental health when they enter employment, regardless of the type of job. However, a return to work tends to be more beneficial in the case of standard employment. Individuals in non-standard employment tend to have worse mental health than workers in standard jobs, but this chapter's analysis suggests that this association primarily reflects a tendency for persons with a predisposition to develop a mental illness to hold such jobs, rather than a causal effect of stressful working conditions in undermining mental health. These findings apply to a variety of working conditions, but there is still a possibility that some working conditions not analysed in this chapter may have a detrimental impact on mental health. The longitudinal analysis is limited to five countries and its findings may not generalize to other OECD countries. Nonetheless, it concords with the descriptive analysis for a larger number of countries in suggesting that labour market trends, such as increased use of non-standard employment contracts, probably have not been a major source of rising disability for mental health reasons.

The chapter's findings highlight the potential importance of prevention and activation policies, since inactivity appears to be detrimental for mental health.[10] Prevention measures are meant to retain the link to work for workers falling ill by promoting early intervention and treatment. Workers with health problems are also more likely to stay in work when they are supported by their employers. This support can take many forms, including the alteration of job duties, provision for more frequent breaks, and changes in work schedules or reduced job demands (Daly and Bound, 1995). For mentally ill persons who are already out of work but capable of working, activation programs should be offered in order to motivate them to seek work. Individual case management is required to identify

suitable jobs and provide the necessary supports. The analysis in this chapter confirms that attention should be paid to the type of job since not all jobs have been found to be beneficial for workers with mental health problems. Possibilities for a gradual return to work with some initial part-time work or with vocational rehabilitation measures to prepare individuals to another type of work might also be beneficial.

Notes

1. A comparison of the behaviour of young and older cohort is also useful to throw more light in patterns of suicide over time. For this purpose, age-specific fertility rates for various birth cohorts were calculated constructing synthetic cohorts for five years intervals. From suicide cohort analysis, we see that irrespective of the cohort, suicide rates increased in the 1970s in many countries. In Australia, Ireland and New Zealand, it is shown that cohorts born from 1950 onwards had much higher suicide rates for youth and a less steep gradient with age for higher ages. Korea and Japan depict the opposite picture with the younger cohorts having a much steeper age-gradient in suicide (figures not shown).
2. Care should be taken when interpreting the results from the Czech Republic since the indicator measuring psychological distress has changed over time. The deterioration in Sweden occurred between 1991 and the year 2000 only.
3. This classification does not take into account individuals working and studying at the same time.
4. The dates for Korea correspond to the aftermath of the economic crisis and might point to an improvement in mental health going hand-in-hand with economic recovery.
5. The definition of non-standard employment follows the description from Bardasi and Francesconi (2004).
6. It is possible that the large effect associated with departure from work for health reasons is picking up the severity of the illness which will not be captured by the dummy control variable illness/injury.
7. Mental heath in Korea is measured using life satisfaction as a proxy for mental well-being. Clark and Oswald (2006) describe that life satisfaction represent an inverted scale of mental well-being while movements of life-satisfaction over the life cycle exhibit a similar behaviour.
8. Although the analysis controls for selection related to individual observed and unobserved characteristics, there might still be a selection effect for those who return to work since (re)-employment might be influenced by treatment sought in the last year.
9. A surprising result is found for women in Australia where changes to either part time or overtime appear to lead to mental health improvements. Likewise, a transition from non-standard to standard employment is associated with worse mental health.
10. In this sense, the analysis in this chapter reinforces the main recommendations from the OECD's on-going *Sickness and Disability Review* (OECD, 2006 and 2007).

ANNEX 4.A1

Presentation of Data Sources

Health trends

Variables common to suicide regressions

Suicide rates

Annual age-specific number of suicides and self-inflicted injury codified using the International Classification of Disease (ICD) for males and females. The data include all OECD countries over the 1960-2005 period, except for Korea (since 1985), the Czech Republic (since 1986), Mexico (since 1969 until 1995 but with gaps), the Slovak Republic (since 1992) and Turkey (no data available). Mexico and Turkey are excluded from the analysis because of lack of suitable data.

Suicide rates are converted into age-standardised rates per 100 000 using the OECD population of 1980 as the reference population. To compare average mortality rates across countries, age-standardised rates per 100 000 population (total, males or females) are used. An age-standardised rate is an adjusted rate which represents what the crude rate would have been in the study population if that population had the same age distribution as the standard population. In this case, the OECD 1980 population is used as the reference population. The reason to perform this standardisation is that two populations with the same average age-specific mortality rates for a cause of death will have different overall death rates if the age distributions of their populations are different. When looking at specific age groups, the standardisation is no longer necessary.

Source: OECD database on Health.

GDP per capita

Source: OECD Economic Outlook database.

Divorce rates

Total number of divorces per 1 000 inhabitants.

Source: OECD database on Social Indicators.

Unemployment rate

Source: OECD database on Labour Force Statistics.

Gini index

Measure of inequality of income distribution defined as a ratio with values between 0 and 1: 0 corresponds to perfect income equality and 1 corresponds to perfect income inequality.

Source: United Nations University's World Income Inequality Database (available at *www.wider.unu.edu/research/Database/en_GB/database*).

Estimation of suicide regressions (see Figure 4.A1.1)

Linear regression is used to estimate the relationship between labour market conditions, social indicators and suicide rates. Using the subscripts *i* and *t* to index the country and year, the basic specification is:

$$SR_{it} = \alpha_t + U_{it}\chi + G_{it}\beta + S_{it}\theta + C_i + \varepsilon_{it}$$

where *SR* is the natural log of suicide rates by gender and three age-groups (20-29, 30-49 and 50-64), U is the unemployment rate (current or lagged), *G* is a vector of explanatory variables reflecting economic conditions including GDP per capita and economic growth, *S* is a set of social indicators (Gini index and divorce rates), α a year-specific intercept, *C* a country fixed-effect, and ε a disturbance term. The year effect includes constant determinants of mortality that vary uniformly across countries over time and the country fixed-effect accounts for factors that differ across countries but are time-invariant.

An additional specification includes a vector of country-specific linear time trends to control for factors that vary over time within countries:

$$SR_{it} = \alpha_t + U_{it}\chi + G_{it}\beta + S_{it}\theta + C_i + C_i \times T + \varepsilon_{it}$$

Sensitivity analyses are performed including several periods lagged unemployment and employment rates, excluding any given country and different periods of time. In addition, labour market duality effects are tested by including the percentage of temporary workers.

Morbidity indicators (see Table 4.A1.1)

Psychological distress

- General Health Questionnaire (GHQ)

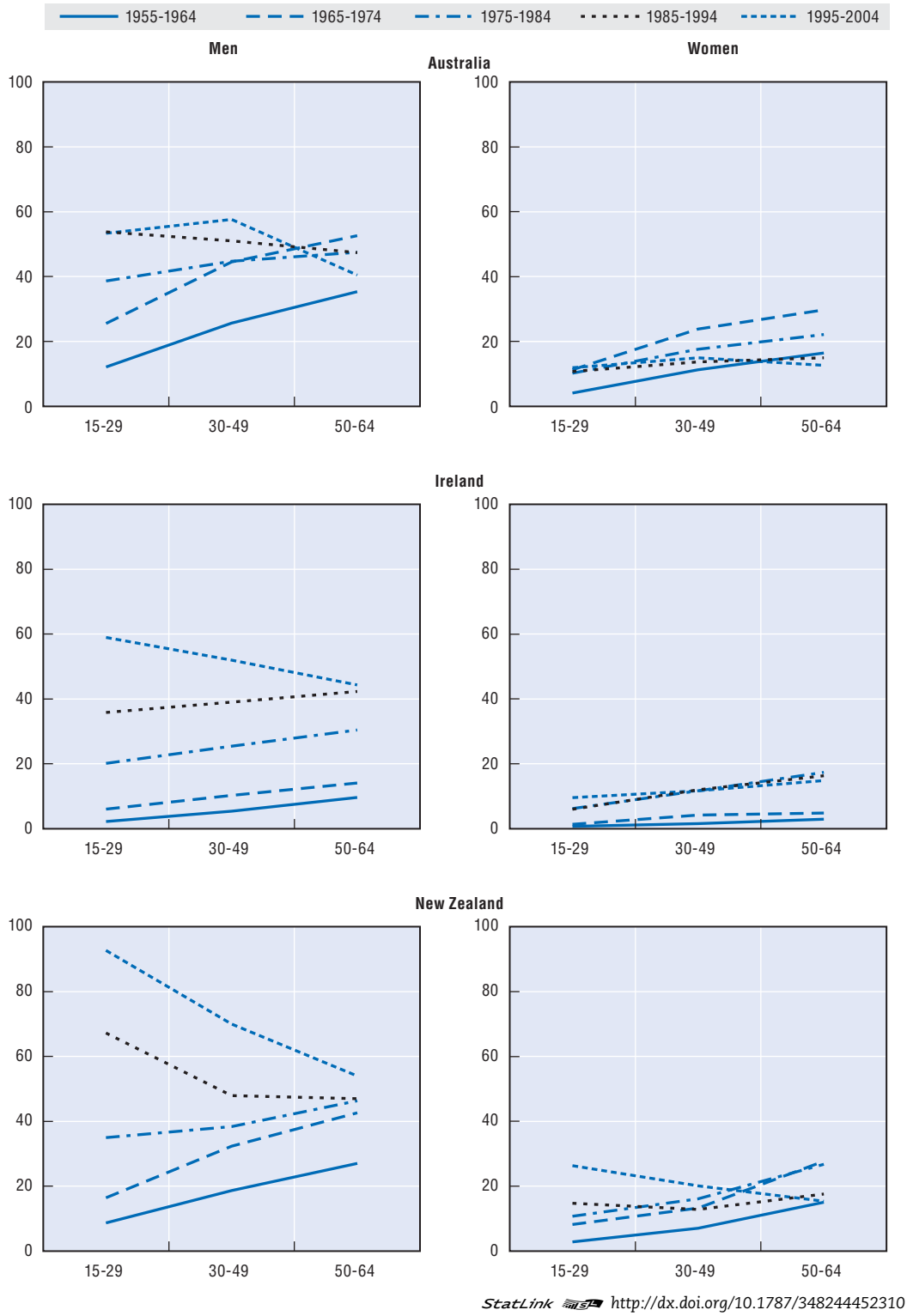
The GHQ is a multidimensional, self-reported screening instrument to detect current, diagnosable psychiatric disorders. It focuses on the inability to carry out normal activities and measures the appearance of psychological distress through four elements: depression, anxiety, social impairment, and hypochondriasis. It has 60-, 30-, 28-, 20- and 12-item versions. All items of the shorter versions are included in the longer versions. Items ask whether a particular symptom or behaviour has been recently experienced. Responses are indicated using one of the two four-point scales depending on the nature of the question: either "Better than usual; Same as usual; Worse than usual; Much worse than usual", or "Not at all; Not more than usual; Rather more than usual; Much more than usual."

- K6 (and K10) scale

The K6 scale constitutes a short screening scale for non-specific psychological distress which was developed as a tool to detect serious mental illness. Questions refer to the past

Figure 4.A1.1. **Age-profile of suicide rates in selected OECD countries, 1950-2004**

Annual number of suicides per 100 000 persons, ten-year average



StatLink http://dx.doi.org/10.1787/348244452310

Source: OECD Health Data 2006, October 2006.

Table 4.A1.1. **Data sources for morbidity**

	Period covered	Source	Mental health definition
Australia	2001, 2004-05	National Health Survey	K10, longstanding illness (mental)
Canada	1994/95, 2004/05	National Population Health Survey	Depression (as a proxy for mental illness), psychological distress scale
Czech Republic	1996, 2002	Sample Survey of the Health Status of the Czech Population	GHQ12 in 96, WHO(5) in 2002
France	1990/91, 2002/03	ES, Enquête Santé (INSEE)	SF-36 in 2003, Chronic illness (mental)
Hungary	2000, 2003	National Health Interview survey	GHQ-12
Italy	1999/00,2004/05	Condizioni di salute e ricorso ai servizi sanitari	SF-12
Korea	1998, 2001, 2005	Korean National Health and Nutrition Examination Survey	Suicidal thoughts as a proxy for psychological distress, Chronic illness (mental)
New Zealand	1996, 2003	Health Survey	SF-36
Spain	1987, 2001, 2003	National Health Survey	Chronic illness (depression)
Sweden	1968, 1974, 1981, 1991, 2000	Swedish Level of Living Survey (LNU)	Psychological distress
United Kingdom	1991-2004	Heath Survey of England	GHQ-12, longstanding illness (mental)
United States	1997-2005	National Health Interview Survey	K-6, longstanding illness (mental)

30 days and the interviewee answers six questions capturing feelings of anxiety and depression. Answers to items are rated based on five-point scales ranging from 0 ("none of the time") to 4 ("all the time"). The total score ranges thus from 0 to 24. Individuals with scores of 13 and above are in the upper 10% of the general population in terms of symptoms of psychological distress that are strongly associated with having a serious mental illness. A ten-item scale version also exists for Australia.

- The Short-Form Health Survey (SF-36, SF-20, SF-12)

The Short-Form Health Survey index is a multi-purpose health survey that can be self-administered or used in interviews and covers both physical and mental health. The most frequently used version consists of 36 questions and is the SF-36. SF-36 covers eight main health domains as well as the summary measures of physical and mental health. The eight domains are divided into four physical health scales (physical functioning, role-physical, bodily pain, and general health) and four mental health scales (vitality, social functioning, role-emotional, and mental health). The range of scores possible on each of the eight scales is from 0 to 100, with 100 representing optimal functioning as measured by the SF-36. Norm-based scoring algorithms were introduced for all eight scales in 1998, making it possible to compare meaningfully scores for the eight-scale profile and the physical and mental summary measures in the same graph. SF-12 is a part of the SF-36 that reproduces the physical and mental health summary measures with fewer items.

Note that for New Zealand, the comparisons should be interpreted with caution, as the 1996/97 SF-36 instrument was a self-administered paper and pen questionnaire, while the 2002/03 instrument was interviewer-administered.

- Mental health indicators for Canada (Stephens *et al.*, 2000)

Depression was measured by a set of 27 questions about such symptoms, taken from the Composite International Diagnostic Interview. The total score was an estimate of the probability that the individual had a major depressive episode in the previous 12 months, stated in six levels with 90% as the definition of "probable" depression.

Amount of distress was assessed by a six-item symptom checklist yielding a score of 0-24. On the basis of the distribution, high distress was arbitrarily defined as a score of five

or greater. The impact of distress on life and activities was measured with a single question: "How much do these experiences usually interfere with your life or activities?" and a response of either "a lot" or "some" was used to define a life affected by distress.

- Psychological distress in Sweden

Psychological distress is based on an index calculated by the Swedish Institute of Social Research which includes whether the person during the past 12 months had a least one or a combination of the following illness: general tiredness, nervous problems or anxiety, sleeping problems and/or depression (Figure 4.A1.2).

Mental illness

- Chronic or longstanding illness or disability (mental)

A longstanding illness or disability is a health problem lasting for at least a year and that might limit daily activities and/or work. The type of illness is classified according to the ICD, which contains a category of mental illness. For the purposes of investigating the relation between work and mental health, mental illnesses that arise at birth or during childhood/adolescence such as congenital mental problems, mental retardation and problems of psychological development are excluded. Likewise, it also excludes organic degenerative mental diseases that are not likely to be influenced by work such as dementia and Alzheimer. Mental illness contains therefore mood (affective) problems such as depression, anxiety problems, stress-related problems and behavioural problems related to psychoactive substance abuse.

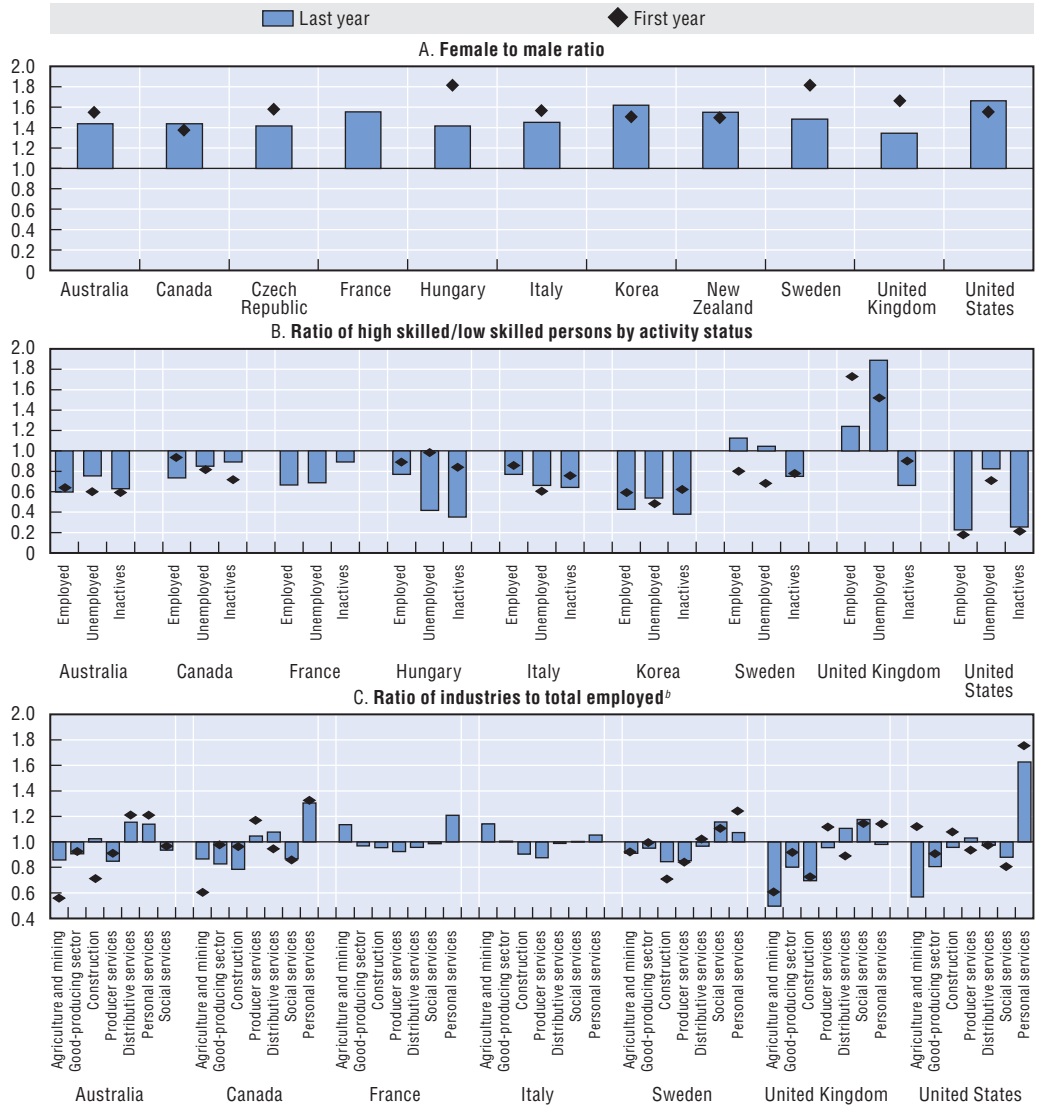
In the case of Canada and Spain, the analysis is limited to prevalence of depression due to data limitations (Figure 4.A1.3).

Work-related mental problems

Prevalence of persons having at least three mental or emotional problems caused by work among the following: stress, sleeping problems, anxiety and irritability.

Source: European Working Conditions Survey (EWCS).

Figure 4.A1.2. **Relative prevalence of psychological distress by socio-economic variables in selected OECD countries**[a]



StatLink http://dx.doi.org/10.1787/348288556016

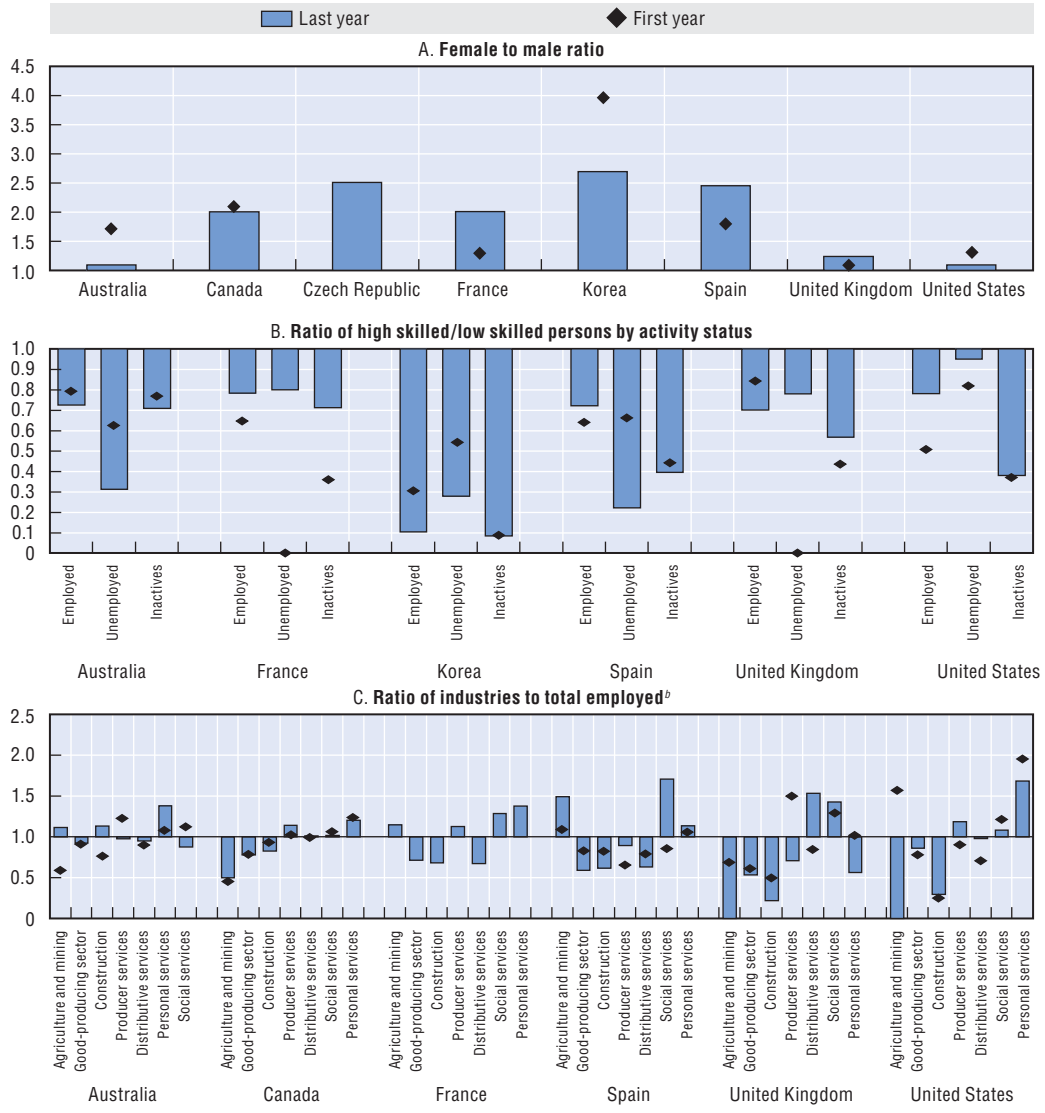
a) The years considered for each country are the following: 2001-2004/05 for Australia; 1994/95-2004/05 for Canada; 1996-2002 for the Czech republic; 2003 for France; 2000-2003 for Hungary; 2000-2005 for Italy; 1998-2005 for Korea; 1968-2001 for Sweden; 1991-2004 for the United Kingdom; 1997-2005 for the United States. For Panel C, 2005 only for Italy; 1968-1991 instead of 1968-2001 for Sweden; and 1994-2004 instead of 1991-2004 for the United Kingdom.

b) Seven broad industry groupings were defined in terms of the 17 one-digit industries of the ISIC rev. 3: agriculture and mining corresponds to industries A, B and C (*i.e.* agriculture, hunting and forestry; fishing; and mining and quarrying); good-producing sector corresponds to industries D and E (*i.e.* manufacturing; and electricity, gas and water supply); construction corresponds to industry F (*i.e.* construction); producer services corresponds to industries J and K (*i.e.* financial intermediation; and real estate, renting and business activities); distributive services corresponds to industries G and I (*i.e.* wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; and transport, storage and communications); social services corresponds to industries L, M, N and Q (*i.e.* public administration and defence; compulsory social security; education; health and social work; and extra-territorial organisations and bodies); and personal services corresponds to industries H, O and P (*i.e.* hotels and restaurants; other community, social and personal service activities; and private households with employed persons).

Source: OECD calculations. See Annex 4.A1 for further details on sources, methods and calculations.

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Figure 4.A1.3. **Relative prevalence of mental illness by socio-economic variables in selected OECD countries**[a]



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a) The years considered for each country are the following: 2001-2004/05 for Australia; 1994/95-2004/05 for Canada; 2002 for the Czech Republic; 1992-2003 for France; 1998-2001 for Korea; 1987-2003 for Spain; 1968-2001 for Sweden; 1991-2004 for the United Kingdom; and 1997-2005 for the United States. For Panel C, 2003 only for France; 2001-2003 instead of 1987-2003 for Spain; and 1994-2004 instead of 1991-2004 for the United Kingdom.

b) Seven broad industry groupings were defined in terms of the 17 one-digit industries of the ISIC rev. 3: agriculture and mining corresponds to industries A, B and C (*i.e.* agriculture, hunting and forestry; fishing; and mining and quarrying); good-producing sector corresponds to industries D and E (*i.e.* manufacturing; and electricity, gas and water supply); construction corresponds to industry F (*i.e.* construction); producer services corresponds to industries J and K (*i.e.* financial intermediation; and real estate, renting and business activities); distributive services corresponds to industries G and I (*i.e.* wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; and transport, storage and communications); social services corresponds to industries L, M, N and Q (*i.e.* public administration and defence; compulsory social security; education; health and social work; and extra-territorial organisations and bodies); and personal services corresponds to industries H, O and P (i.e. hotels and restaurants; other community, social and personal service activities; and private households with employed persons).

Source: OECD calculations. See Annex 4.A1 for further details on sources, methods and calculations.

Labour force statistics

General employment trends (Table 4.A1.2)

Average age of employed persons

Female employment share

Source: OECD database on Labour Force Statistics.

Distribution of employment by industry

Source: OECD STructural ANalysis database (STAN).

Distribution of employment by occupation

Source: European Labour Force Survey (EULFS).

Type of employment contract

Share of temporary employment

Involuntary part-time employment

Source: OECD database on Labour Force Statistics.

Working hours

Average annual hours of work per employed person

Source: OECD database on Labour Force Statistics.

Atypical working hours arrangements

Shift work and night work

Saturday and Sunday work

Source: European Labour Force Statistics (EULFS).

Job instability and security

Average job tenure

Share of workers with less than a year of job tenure

Source: OECD database on Labour Force Statistics.

Working conditions (Tables 4.A1.3 and 4.A1.4)

Variable definitions

Working time and work-life balance

Working more than ten hours per day at least once a month.

Difficulties to fit working hours and family or social commitments outside work.

Nature of work

Cognitive demands of work (meeting quality standards, assessing quality of own work, solving unforeseen problems, complex tasks, learning new things, monotonous tasks, short repetitive tasks).

Work organisation

Composite indicator of autonomy at work (in terms of order of tasks, methods or work, speed of work, choice of working partners, take a break).

Index of intensity of work (working at very high speed and working to tight deadlines at least around half of the time).

Support at work (support from colleagues, support from superiors, external assistance).

Job satisfaction

Overall job satisfaction.

Violence and discrimination

Index based on intimidation, sexual discrimination, unwanted sexual attention, age discrimination, ethnic discrimination, disability discrimination and nationality discrimination.

Source: European Working Conditions Survey (EWCS).

Table 4.A1.2. **Change in selected labour market outcomes in OECD countries, 1995-2006**

Percentage-point change[a]

	Participation rate[b]	Employment rate[b]	Unemployment rate[b]	Average age in employment[b]	Average age in labour force[b]	Average share of female[b]	Distribution of employment by industry[c]										
							A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Australia	1.83	4.42	–3.60	1.89	1.98	1.99	–0.09	–3.50	–0.27	1.37	–0.42	0.31	–0.21	–0.30	2.24	0.19	0.69
Austria	2.44	1.55	1.07	1.97	1.81	2.98	–0.20	–2.45	–0.31	–0.68	0.09	0.82	–0.31	–0.18	2.14	0.10	0.97
Belgium	3.78	4.10	–1.02	1.78	1.86	4.11	–0.12	–3.48	–0.09	–0.77	–0.48	0.32	0.22	–0.38	1.26	3.10	0.42
Canada	3.20	5.42	–3.22	1.87	1.90	1.69	–0.46	–0.84	–0.18	0.81	0.50	0.05	–0.44	–0.20	2.00	–1.18	–0.07
Czech Rep.	–2.01	–4.16	3.17	2.37	2.34	–0.67	–2.75	–1.89	–0.42	–1.20	1.03	0.71	–0.13	–0.05	0.80	2.08	1.83
Denmark	0.60	2.99	–3.04	2.27	2.21	2.10	–0.64	–4.13	–0.17	0.44	1.67	0.09	–0.61	–0.15	1.89	0.11	1.50
Finland	2.43	7.85	–7.75	1.46	1.48	0.40	–0.77	–3.06	–0.50	0.74	1.36	0.27	–0.81	–0.62	3.29	–1.12	1.24
France	2.20	3.18	–1.78	1.27	1.29	2.07	–0.13	–3.91	–0.14	–0.18	0.56	0.67	0.05	–0.20	3.15	–0.11	0.25
Germany	4.61	2.61	2.17	1.61	1.48	3.21	–0.28	–3.16	–0.12	–3.41	0.57	0.65	–0.41	–0.13	3.01	–0.90	4.18
Greece	6.89	6.53	–0.43	0.08	0.33	2.88	–0.57	–4.58	–0.65	1.23	2.66	1.17	–1.55	–0.54	2.53	–0.91	1.21
Hungary	3.03	4.40	–2.71	2.06	2.17	1.37	–1.40	–1.43	–1.26	1.90	3.12	0.87	–1.80	0.34	1.90	0.81	–3.05
Iceland	3.20	4.82	–1.97	1.05	1.01	–0.94	–1.94	–4.02	–0.14	1.20	1.13	0.04	0.88	0.54	3.58	–0.09	–1.19
Ireland	9.50	14.01	–7.98	1.02	1.24	4.57	–1.12	–7.27	–0.51	4.39	0.69	0.60	1.23	0.40	2.64	–0.40	–0.64
Italy	4.81	7.25	–4.79	1.49	2.05	4.92	–1.06	–3.82	–0.42	0.22	2.17	1.52	0.36	–0.69	4.37	–3.61	0.98
Japan	1.57	0.77	1.02	0.98	0.93	1.22	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Korea	1.36	0.34	1.48	2.52	2.47	1.47	–0.31	–8.06	–0.08	–3.31	–0.47	1.41	–0.15	–0.81	5.64	0.17	5.96
Luxembourg	6.30	5.08	1.56	2.24	2.21	6.38	–0.22	–5.05	–0.19	–1.46	–1.59	–0.63	1.31	0.92	6.71	–0.40	0.59
Mexico	1.49	3.80	–3.83	2.42	2.56	4.87	–2.38	–0.09	0.27	2.00	–0.61	0.64	–0.72	–0.49	1.93	0.13	–0.68
Netherlands	5.56	7.26	–2.72	2.24	2.44	4.48	–0.30	–3.03	–0.18	–0.57	–0.59	0.17	–0.55	0.08	2.52	–0.24	2.69
New Zealand	3.36	5.08	–2.50	2.38	2.41	1.76	–0.63	–5.28	–0.48	1.80	1.33	0.42	–0.37	–0.43	3.06	0.43	0.15
Norway	0.84	1.98	–1.51	1.02	1.08	1.26	–0.62	–3.64	–0.39	1.29	0.25	–0.05	–1.46	–0.52	3.10	–0.34	2.38
Poland	–4.01	–3.67	0.34	0.06	0.26	–0.53	–0.43	–5.98	–0.38	–1.13	3.14	0.57	–0.47	–0.22	3.54	2.43	–1.06
Portugal	5.46	4.65	0.54	1.50	1.63	1.83	0.30	–4.57	–0.48	2.71	2.03	0.94	–0.10	–1.52	1.54	–0.88	0.04
Slovak Rep.	–0.74	–0.79	0.20	1.93	2.23	–0.54	–4.79	0.48	–0.20	–0.67	1.96	1.40	–1.08	0.51	1.05	1.20	0.14
Spain	9.34	17.47	–14.27	0.61	1.63	6.92	–0.79	–4.71	–0.37	2.45	–0.08	1.10	–0.22	–0.67	3.05	–0.90	1.14
Sweden	0.72	2.31	–2.14	1.19	1.08	–0.68	–0.96	–3.75	–0.17	0.20	–0.06	0.02	–0.47	–0.11	4.12	–0.10	1.30
Switzerland	2.12	1.51	0.68	1.02	0.95	2.55	–0.61	–3.31	–0.07	–1.57	–1.14	–0.44	0.22	–0.04	3.02	0.46	3.48
Turkey	–5.75	–6.47	2.25	1.28	1.34	–2.93	0.28	1.30	–0.20	–3.71	1.20	0.79	–0.27	–0.67	1.19	–0.82	0.90
United Kingdom	0.90	3.33	–3.27	1.58	1.50	1.30	–0.30	–6.71	–0.29	1.18	0.21	–0.01	0.44	–0.44	1.76	1.09	3.06
United States	–1.33	–0.54	–0.95	2.01	2.04	0.29	0.08	–3.41	–0.10	0.73	–0.40	0.40	–0.14	0.14	0.98	–0.37	2.08
Unweighted average	**2.46**	**3.57**	**–1.83**	**1.57**	**1.66**	**2.08**	**–0.80**	**–3.56**	**–0.29**	**0.21**	**0.68**	**0.51**	**–0.26**	**–0.22**	**2.69**	**0.00**	**1.05**

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Table 4.A1.2. **Change in selected labour market outcomes in OECD countries, 1995-2006** *(cont.)*

Percentage-point change[a]

	Share of temporary employment[a]	Share of involuntary part-time employment[e]	Average annual hours per employed persons[f]	Average job tenure[g]	Share of job tenure less than one year[g]	Distribution of employment by occupation[h]								
						1	2	3	4	5	6	7	8	9
Australia	. .	0.15	–3.73	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Austria	3.12	4.80	0.49	0.41	3.70	–0.08	0.80	7.21	–1.68	2.39	0.43	–6.73	–3.14	0.80
Belgium	3.57	–8.58	–6.15	0.90	1.65	2.12	2.52	2.04	–2.54	1.24	0.16	–4.26	–1.03	–0.25
Canada	1.72	–7.54	–2.08	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Czech Rep.	–0.55	–0.78	–3.27	1.67	–2.58	0.72	0.75	3.55	–0.89	0.63	–0.80	–4.71	4.06	–3.32
Denmark	–2.49	–1.76	5.20	0.19	1.15	0.52	3.18	4.63	–3.42	0.08	–0.49	–1.94	–2.20	–0.36
Finland	–1.97	. .	–3.13	–0.15	6.10	1.91	–1.75	1.03	–3.34	3.63	–0.11	–0.49	–1.44	0.55
France	0.52	–3.38	–5.22	1.32	0.15	0.96	2.66	0.41	–3.43	0.51	0.13	–1.59	–2.01	2.38
Germany	3.74	11.66	–6.37	1.16	3.35	–0.15	2.55	2.53	–0.73	1.15	–0.01	–4.75	–0.73	0.15
Greece	1.90	13.25	–1.39	0.34	–1.98	0.46	1.22	2.61	–0.66	1.92	–0.30	–3.95	–0.13	–1.17
Hungary	0.13	–7.24	–2.42	1.43	–1.65	3.01	0.55	–1.76	–4.20	–0.86	0.03	0.95	5.01	–2.73
Iceland	–3.11	–4.24	–2.07	0.68	–0.30	–0.82	4.30	2.09	–1.56	1.24	–1.46	–3.33	–0.51	0.06
Ireland	–6.08	–12.63	–12.53	–1.19	3.26	1.37	0.72	2.17	–3.09	0.32	0.01	–0.54	–1.20	0.23
Italy	5.80	12.12	–3.15	0.19	4.93	0.05	–2.00	7.87	–3.81	1.98	–0.08	–3.28	–0.65	–0.09
Japan	3.55	11.71	–5.29	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Korea	. .	. .	–13.28	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Luxembourg	2.64	5.50	–6.69	1.13	–0.02	0.40	8.28	3.72	–0.01	–0.45	–0.26	–6.39	–3.20	–2.07
Mexico	–1.66	. .	1.39	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Netherlands	5.34	–1.87	0.00	2.33	–6.40	–0.93	3.95	–0.84	–0.95	0.33	–0.04	–2.62	–1.97	3.06
New Zealand	. .	–10.26	–2.99	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Norway	–2.87	–10.25	–5.42	–0.87	0.64	–4.35	3.56	4.81	–3.30	3.94	–0.85	–0.64	–1.42	–1.74
Poland	15.61	1.04	–0.15	0.01	–1.11	0.39	6.12	–1.99	–0.91	2.78	–0.56	–5.89	1.65	–1.58
Portugal	10.15	9.08	–7.33	0.56	0.71	1.01	1.89	–3.13	–2.40	0.90	0.80	–2.32	0.72	2.53
Slovak Rep.	1.55	10.01	–6.94	. .	. .	0.60	1.31	2.51	–2.37	2.38	–0.91	–4.62	2.52	–1.42
Spain	–0.62	11.93	–2.85	0.01	–6.17	0.24	1.25	3.64	–2.06	1.57	–0.83	–0.99	–2.20	–0.64
Sweden	2.17	–18.79	–2.69	0.37	5.16	0.18	3.58	–0.71	–2.44	1.71	0.31	–2.24	–1.05	0.66
Switzerland	0.58	1.49	–2.58	1.23	–1.41	1.69	3.08	0.41	–3.20	0.32	0.35	–2.57	–0.15	0.08
Turkey	–7.77	–0.85	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
United Kingdom	–1.42	–4.25	–4.24	0.68	–0.86	0.58	–0.98	4.52	–3.25	2.29	–0.05	–3.35	–2.14	2.38
United States	. .	. .	–2.43	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Unweighted average	**1.29**	**0.01**	**–3.70**	**0.59**	**0.40**	**0.45**	**2.16**	**2.15**	**–2.28**	**1.36**	**–0.21**	**–3.01**	**–0.51**	**–0.11**

StatLink http://dx.doi.org/10.1787/348552137023

. . Data not available.

a) Change expressed in number of years for the average age in employment and in the labour force, and for the average job tenure.

b) 2005 for Luxembourg.

c) 1995-2005 instead of 1995-2006. 1998-2005 for Australia; 1995-2004 for Luxembourg; 1995-2003 for the Netherlands; 2000-2005 for Turkey; and 1995-2003 for the United States. Industry based on ISIC rev. 3.1, one-digit: A-B: agriculture, hunting, fishing and forestry; C-D: mining and quarrying, and manufacturing; E: electricity, gas and water supply; F: construction; G: wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; H: hotels and restaurants; I: transport, storage and communication; J: financial intermediation; K: real estate and business activities; L: public administration and defence, compulsory social security; M-Q: education, health and social work, other community, social and personal service activities, private households with employed persons and extra-territorial organisations and bodies.

d) 1995-2005 for Austria, Greece and Japan; 1997-2006 for Canada, Finland, Hungary and Sweden; 1995-2002 for Iceland; 1996-2005 for Luxembourg; 1995-2004 for Mexico; 2001-2006 for Poland.

e) 1998-2006 for Hungary; 1995-2002 for Iceland; 1995-2004 for Ireland and Turkey; 2001-2006 for Poland.

f) 1995-2005 for Greece, Iceland and Switzerland; 2000-2006 for Poland.

g) 1997-2006 for the Czech Republic, Hungary and Norway; 1995-2001 for Greece; 1995-2005 for Iceland and Luxembourg; 1996-2005 for Switzerland.

h) 1995-2005 for Iceland and Ireland; 1996-2006 for Hungary, Norway and Switzerland; 1997-2006 for the Czech Republic, Finland, Poland and Sweden; and 1998-2006 for the Slovak Republic. Occupation based on ISCO-88, one-digit: 1: Legislators, Senior Officials and Managers; 2: Professionals; 3: Technicians and Associate Professionals; 4: Clerks; 5: Craft and Related Trades Workers; 6: Skilled Agricultural and Fishery Workers; 7: Service Workers and Shop and Market Sales Workers; 8: Plant and Machine Operators and Assemblers; 9: Elementary Occupations.

Source: OECD database on Labour Force Statistics and OECD calculations based on the European Labour Force Survey (EULFS) and OECD STructural ANalysis (STAN) database.

Table 4.A1.3. **Change in selected working conditions indicators in European countries, 1995-2005**

Percentage-point change

	Shift work[a]	Night work[a]	Saturday work[a]	Sunday work[a]	Working more than 10 hours a day[b]	Work intensity[c]	Work involve complex tasks[d]	Conflict between working hours and social life[e]	Discrimination at workplace[f]	Low autonomy[g]	Assistance from colleagues[h]	Low job satisfaction[i]
Austria	2.13	–1.20	5.14	3.06	–0.70	–9.56	6.21	–1.96	–6.07	2.41	1.83	–0.17
Belgium	–7.10	–0.46	2.65	1.71	4.66	10.93	4.97	5.56	6.30	–0.91	–4.08	3.68
Czech Rep.	3.43	2.56	10.98	7.65	–5.00	7.81	15.51	3.62	–3.83	8.30	1.75	–2.06
Denmark	–3.63	–0.35	–2.75	–0.78	9.26	15.73	13.92	2.62	2.99	0.05	3.47	1.63
Finland	1.53	–0.49	–3.53	–2.19	0.54	2.05	6.90	–2.12	6.80	–3.18	0.43	9.55
France	0.06	3.58	8.02	6.29	–1.18	9.69	3.22	–0.12	–3.85	–2.02	–4.00	–0.40
Germany	5.90	2.09	5.16	3.30	3.55	5.34	10.97	–1.16	–4.43	–2.18	0.24	–3.34
Greece	7.13	–0.58	1.90	–1.14	7.76	9.18	9.31	1.11	7.05	–13.63	–2.43	4.00
Hungary	–0.91	–3.90	–5.40	–1.77	0.60	4.05	0.71	8.01	–0.40	2.18	0.50	3.25
Iceland	0.65	–0.76	1.03	1.76	. .	. .	. .	. .	. .	. .	. .	. .
Ireland	4.71	–0.98	–7.02	–2.27	3.62	9.91	0.38	5.52	1.65	–7.20	1.02	9.62
Italy	–0.09	3.27	–2.60	5.18	–0.03	27.98	5.92	4.88	1.09	0.95	–9.23	7.66
Luxembourg	–2.43	3.00	1.98	5.39	1.05	18.13	2.36	3.83	7.84	–6.83	–0.51	6.80
Netherlands	0.12	7.32	3.50	3.75	4.64	–0.39	0.97	2.14	5.50	4.10	–0.69	2.72
Norway	4.09	1.18	–0.27	–0.12	. .	. .	. .	. .	. .	. .	. .	. .
Poland	–7.95	1.28	2.85	1.15	–1.97	–16.70	4.20	10.05	–1.98	2.80	0.45	–2.19
Portugal	10.46	7.00	–2.27	–0.87	6.76	12.51	13.59	1.25	–2.04	7.68	–3.35	–0.99
Slovak Rep.	–5.50	8.50	9.78	8.39	1.98	–3.12	13.38	0.89	–6.91	4.59	–0.03	–4.46
Spain	10.18	0.54	–8.78	–1.67	2.99	18.32	0.35	–4.97	–5.97	6.24	1.84	2.58
Sweden	–2.34	–1.43	–5.14	–4.73	7.72	12.33	–5.93	3.11	–4.84	–2.61	3.09	6.36
Switzerland	8.61	3.48	12.33	9.29	. .	. .	. .	. .	. .	. .	. .	. .
United Kingdom	1.95	4.34	–4.18	–0.44	–4.74	2.81	–12.24	0.49	–10.09	11.32	–4.08	–6.04
Unweighted average	**1.41**	**1.73**	**1.06**	**1.86**	**2.18**	**7.21**	**4.98**	**2.25**	**–0.59**	**0.64**	**–0.73**	**2.01**

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. . Data not available.

a) 1995-2006 instead of 1995-2005. 2001-2006 for the Czech Republic, Poland and the Slovak Republic; 1997-2006 for Hungary; 1995-2005 for Iceland and Ireland; 1996-2006 for Switzerland.

b) 2000-2005 instead of 1995-2006. Change in share of employees working at least once per month more than ten hours a day.

c) 1990-2005 instead of 1995-2006. Share of persons working at very high speed and/or with tight deadlines at least half of their working time. 1995-2005 for Austria, Finland and Sweden; 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

d) 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

e) Change in share of employees who experiencing difficulties to fit working hours and family or social commitments outside work. 2000-2005 instead of 1995-2005.

f) Change in share of employees experiencing intimidation, sexual discrimination, unwanted sexual attention, age discrimination, ethnic discrimination, disability discrimination and nationality discrimination. 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

g) Change in share of employees who can't choose the order of tasks, the rate of speed and the method of work. 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

h) Change in share of employees getting assistance from colleagues. 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

i) Change in share of employees being not very satisfied and not at all satisfied by their job. 2000-2005 for the Czech Republic, Hungary, Poland and the Slovak Republic.

Source: OECD calculations based on the European Labour Force Survey (EULFS) and on the European Working Conditions Survey (EWCS).

Table 4.A1.4. **Work-related mental health problems are often associated with poor working conditions and low job satisfaction in Europe**

Relative incidence of work-related mental problems reported by workers encountering selected working conditions, 1995-2005[a]

	A. **Working more than 10 hours a day (at least once a month)**[b]			B. **Discrimination at workplace**[c]			C. **Low job autonomy**[d]			D. **Conflict between working hours and social life**[e]		
	1995	2000	2005	1995	2000	2005	1995	2000	2005	1995	2000	2005
Austria	. .	2.20	3.32	7.13	6.75	3.47	1.94	1.35	0.98	. .	8.22	7.92
Belgium	. .	1.43	1.86	7.22	4.28	7.20	0.26	1.13	2.12	. .	2.77	3.95
Czech Republic	. .	1.88	2.77	. .	3.49	1.25	. .	0.41	0.79	. .	2.78	1.14
Denmark	. .	2.17	2.31	4.91	2.83	5.13	3.04	1.93	2.12	. .	5.41	1.65
Finland	. .	1.69	1.54	3.60	2.97	3.47	0.92	1.54	1.86	. .	2.65	3.55
France	. .	1.98	1.52	4.24	5.01	3.17	0.66	0.79	1.25	. .	2.82	2.90
Germany	. .	1.91	2.23	4.34	3.70	16.89	0.98	1.01	1.78	. .	4.60	4.16
Greece	. .	2.94	1.47	4.39	2.96	2.57	0.92	1.34	1.40	. .	2.92	2.19
Hungary	. .	1.89	3.47	. .	3.24	2.72	. .	0.60	0.77	. .	1.96	2.69
Ireland	. .	2.52	2.39	5.48	12.94	3.87	1.06	0.54	0.58	. .	3.40	2.70
Italy	. .	2.54	2.32	3.44	7.17	3.33	0.68	0.38	0.51	. .	1.92	1.93
Luxembourg	. .	1.08	1.53	8.50	4.66	3.67	0.31	1.00	1.21	. .	6.72	3.57
Netherlands	. .	1.43	0.61	3.00	6.99	5.42	0.43	1.34	0.38	. .	10.14	2.64
Poland	. .	0.52	2.06	. .	1.98	4.43	. .	0.53	0.75	. .	1.30	3.40
Portugal	. .	2.18	1.57	1.34	6.26	3.54	0.72	1.01	1.33	. .	2.10	2.90
Slovak Republic	. .	1.14	2.86	. .	4.50	3.68	. .	1.57	0.97	. .	1.65	3.25
Spain	. .	2.37	2.43	2.96	3.06	5.12	1.63	1.48	0.85	. .	2.86	1.90
Sweden	. .	1.52	1.54	2.21	3.15	1.71	0.40	1.43	1.28	. .	2.54	1.87
United Kingdom	. .	4.63	2.26	3.80	3.86	9.59	0.98	0.58	0.70	. .	2.98	4.45
Unweighted average[a]	**. .**	**2.08**	**1.75**	**3.76**	**4.16**	**3.80**	**0.85**	**1.10**	**1.22**	**. .**	**3.22**	**2.78**

	E. **Assistance from colleagues**			F. **Work involves complex tasks**			G. **Night work (at least once a month)**			H. **Shift work**		
	1995	2000	2005	1995	2000	2005	1995	2000	2005	1995	2000	2005
Austria	0.19	2.11	1.57	1.14	1.05	2.17	4.25	4.10	4.26	5.46	3.14	2.67
Belgium	1.12	0.64	1.49	3.70	2.49	3.51	1.21	1.18	2.91	. .	0.90	1.20
Czech Republic	. .	–	0.66	. .	3.41	1.71	. .	2.31	1.55	. .	2.43	1.38
Denmark	0.29	–	0.71	6.76	1.22	4.79	2.24	3.97	1.75	3.14	1.33	0.83
Finland	0.79	0.62	0.32	1.60	2.22	2.16	1.52	1.35	1.91	1.44	0.97	1.41
France	0.64	1.08	0.84	2.16	2.73	1.16	2.17	1.48	2.25	1.27	1.07	1.96
Germany	0.51	1.24	0.29	1.90	1.92	1.28	1.86	1.26	1.63	1.81	1.32	1.51
Greece	0.38	0.94	0.58	1.56	2.03	1.95	1.41	2.73	1.84	0.99	1.44	1.47
Hungary	. .	0.38	0.64	. .	1.51	1.30	. .	2.00	1.49	. .	0.90	1.57
Ireland	1.09	7.44	0.51	1.67	5.23	2.74	0.93	2.59	1.73	1.49	2.12	0.85
Italy	0.47	0.69	1.01	2.23	2.02	2.84	1.71	2.03	3.03	1.13	1.20	1.96
Luxembourg	0.51	1.26	0.31	2.15	3.76	0.86	5.10	3.58	1.74	2.11	4.65	2.45
Netherlands	1.11	1.62	0.55	2.30	2.40	2.13	1.07	3.47	1.25	0.48	7.19	1.35
Poland	. .	1.34	0.99	. .	3.97	2.45	. .	2.72	1.71	. .	2.62	1.45
Portugal	1.27	0.60	0.99	3.41	6.87	2.53	1.81	5.64	2.50	1.71	2.77	3.04
Slovak Republic	. .	0.56	0.27	. .	2.74	2.32	. .	1.70	1.68	. .	1.74	1.73
Spain	0.43	1.77	1.25	2.46	2.73	4.37	5.81	1.99	2.52	1.71	2.73	1.03
Sweden	0.57	0.84	3.30	1.69	2.16	2.44	2.14	1.39	1.67	1.66	1.60	1.16
United Kingdom	0.24	0.47	1.42	2.27	5.33	2.49	1.58	2.46	1.41	1.16	2.13	1.65
Unweighted average[a]	**0.49**	**0.83**	**0.70**	**2.07**	**2.48**	**2.14**	**1.94**	**2.02**	**2.09**	**1.53**	**1.68**	**1.60**

Table 4.A1.4. **Work-related mental health problems are often associated with poor working conditions and low job satisfaction in Europe** *(cont.)*

Relative incidence of work-related mental problems reported by workers encountering selected working conditions, 1995-2005[a]

	I. **Saturday work (at least once a month)**			J. **Sunday work (at least once a month)**			K. **Low job satisfaction**			L. **High work intensity**[f]		
	1995	2000	2005	1995	2000	2005	1995	2000	2005	1995	2000	2005
Austria	5.17	3.30	3.54	2.37	4.55	5.64	3.78	8.42	4.91	2.11	5.05	1.81
Belgium	1.77	1.23	1.42	0.59	2.01	2.85	11.52	6.10	4.43	2.26	1.66	1.82
Czech Republic	. .	2.31	1.29	. .	3.71	2.92	. .	1.39	1.04	. .	1.13	4.06
Denmark	1.13	2.74	1.67	2.16	1.99	1.32	5.57	7.07	5.25	1.53	5.90	2.13
Finland	1.39	2.11	1.35	1.86	2.07	1.75	1.76	4.38	3.48	1.24	1.56	2.53
France	1.07	1.56	2.06	1.15	1.55	2.03	2.68	3.08	5.73	1.47	1.84	2.20
Germany	1.41	1.60	1.48	2.25	2.06	1.53	3.70	2.68	14.44	5.85	1.35	1.78
Greece	1.45	1.65	1.44	2.10	2.41	1.42	2.48	3.69	2.48	2.54	2.88	2.90
Hungary	. .	1.59	1.26	. .	1.63	1.48	. .	2.85	2.66	. .	2.44	2.48
Ireland	0.38	1.40	1.38	1.03	3.40	1.53	10.95	3.57	5.36	1.58	1.53	2.31
Italy	1.53	0.94	1.41	1.22	1.47	2.50	2.58	3.45	2.39	2.38	2.67	2.25
Luxembourg	1.39	2.17	2.39	2.34	2.61	2.02	4.11	5.37	2.03	2.98	3.45	2.46
Netherlands	1.09	2.05	0.71	1.80	2.82	1.58	3.05	5.55	10.95	1.60	2.11	2.29
Poland	. .	1.04	0.79	. .	1.21	1.95	. .	2.62	2.22	. .	3.60	3.52
Portugal	0.94	1.49	1.59	1.47	2.03	3.30	2.08	3.32	4.17	2.66	2.88	1.40
Slovak Republic	. .	1.51	2.10	. .	1.51	1.98	. .	3.91	4.37	. .	2.48	5.08
Spain	2.71	1.98	2.00	1.71	2.50	2.46	1.39	1.89	2.52	6.86	1.29	1.63
Sweden	1.71	1.60	1.01	2.19	1.64	1.30	3.98	2.91	4.66	3.85	3.21	2.32
United Kingdom	1.36	2.08	1.22	1.64	3.13	0.97	3.14	4.61	7.65	3.34	1.93	2.77
Unweighted average[a]	**1.38**	**1.67**	**1.52**	**1.68**	**2.12**	**1.94**	**3.20**	**3.87**	**4.03**	**2.38**	**2.12**	**2.19**

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. . Data not available.
– Not enough observations to be reported.
a) Ratio of the share of employees reporting the working condition who also report three or more work-related mental problems to the corresponding share for workers not reporting that working condition. Unweighted averages for the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.
b) Employees working at least once per month more than ten hours a day.
c) Employees experiencing intimidation, sexual discrimination, unwanted sexual attention, age discrimination, ethnic discrimination, disability discrimination and nationality discrimination.
d) Employees who can't choose the order of tasks, the rate of speed and the method of work.
e) Share of employees who experiencing difficulties to fit working hours and family or social commitments outside work.
f) Employees working at very high speed and/or with tight deadlines at least half of their working time.
Source: OECD calculations based on the European Working Conditions Survey (EWCS), 1995-2005.

ANNEX 4.A2

Analysis of the Effects of Work on Health

The following longitudinal household surveys are used for the analysis in Section 2.

British Household Panel Survey (BHPS) – United Kingdom

The British Household Panel Survey (BHPS) is a nationally representative household-based yearly survey which began in 1991, interviewing every adult member of sampled households. The wave 1 of the panel consists of some 5 500 households and 10 300 individuals. Additional samples of 1 500 households in both Scotland and Wales were added to the main sample in 1999, and in 2001, a sample of 2 000 households was added in Northern Ireland. These same individuals are re-interviewed each successive year and, if they split-off from original households to form new households, they are followed and all adult members of these households are also interviewed. The mental health measure available is the GHQ-12.

Household, Income, Labour Dynamics in Australia (HILDA)

Household, Income, Labour Dynamics in Australia (HILDA) is an ongoing household-based panel survey funded by the Department of Families, Community Services and Indigenous Affairs. The survey started in 2001 and contains at the moment five waves. Wave 1 of the panel consisted of 7 682 households and 19 914 individuals. The mental health measure available is the SF-36.

Korean Labor and Income Panel Study (KLIPS)

The Korean Labor and Income Panel Study (KLIPS) is an ongoing household survey which is conducted annually since 1998 and consists of 5 000 households and 13 000 individuals. The survey is focused on the study of labor market characteristics but a question about life satisfaction is included. This variable is used as a proxy of psychological well-being.

National Population Health Survey (NPHS) – Canada

The National Population Health Survey (NPHS) is a longitudinal survey on the health of Canadians. Conducted by Statistics Canada since 1994-95, the survey is designed to measure the health status of Canadians and to add to the existing body of knowledge about the determinants of health. The NPHS, which relies on respondents' self-reported health information, surveys the same group of respondents every two years for up to 20 years. The mental health measure available is the amount of distress index and the indicator for depression.

Swiss Household Panel (SHP)

The Swiss Household Panel is an ongoing household panel designed to investigate trends in social dynamics among the Swiss population. The survey started in 1999 and is financed by the Swiss national science foundation, the Swiss federal statistical office and the University of Neuchatel. It was designed from the start to be compatible with various national and international surveys. A national representative sample of households was selected containing around 5 000 households in 1999. Data are collected annually at both the household and the individual level. The mental health measure available is the frequency at which the individual suffered from blues, anxiety or depression.

All longitudinal datasets cover a wide range of subjects including personality traits, occupational and family biographies, employment, participation and professional, mobility, earnings and health. We construct complete labour market histories of the individuals. We considered three possible labour market states: *i)* employment; *ii)* unemployment; *iii)* and out of the labour force. In addition, we disaggregate employment states by the type of employment contract and the different working conditions.

Panel data estimation methods

As described in Section 3 (Box 4.3), the effect of labour force status and working conditions on mental health status is first estimated by fitting the following reduced-form model:

$$H_{it} = X'_{it}\beta + L'_{it}\gamma + \delta_i + u_{it} \quad [1]$$

where *i* and *t* are individual and time suffices, δ_i are individual time fixed effects and u_{it} are idiosyncratic shocks. X_{it} contains a range of socio-demographic variables, but also includes lifestyle variables, as well as indicators for life events (accidents, deaths, breakdowns in partnership, etc.) in order to capture some possible correlation between U_{it} and the included regressors. L_{it} contains measures of labour market behaviour (labour market history, occupation, working conditions, etc.).

Effect of changes in labour market activity on mental health distress

For the estimation on the effect of labour force status on mental health, the labour market behavior variable corresponds to 4 dummies for non-employment for Figure 4.9 and Panel A, Table 4.A2.1: a dummy for unemployment, for housework, for inactivity because of sickness or disability and a dummy for other type of inactivity. A sensitivity analysis is performed with unemployment and inactivity dummies by duration. In Figure 4.10 and Panel B, Table 4.A2.1, the labour market variable is a dummy for employment. Additional sensitivity estimates include 3 dummies for duration in employment. The following variables correspond to *H* and *X*, the controls, for each country:

Australia

The dependent variable is the SF-36 mental health score. All regressions include the following control variables: age, age squared, a set of dummies for marital status, and region of residence, the log of total household income, number of children (aged 14 or less) in the household, social support score and the physical functioning score (SF-36 questionnaire). Life events in past year include: birth/adoption of new child, death of close friend, death of close relative/family member, death of spouse or child, major improvement in finances, major worsening in finances, fired or made redundant, serious

injury/illness to family member, serious personal injury/illness, close family member detained in jail, detained in jail, changed job, got married, changed residence, victim of property crime, pregnancy, promoted at work, got back together with spouse, retired from the workforce, separated from spouse, victim of physical violence.

Canada

The dependent variable is the amount of psychological distress scale. All regressions include the following control variables: age, age squared, a set of dummies for marital status, and region of residence, the log of total household income, number of children (aged 12 or less) in the household and an indicator of health behaviour. Life events correspond to injuries in the past year.

Korea

The dependent variable is the life satisfaction score. All regressions include the following control variables: Age, age squared, a set of dummies for marital status, and region of residence, the log of total household income, and the number of children (aged 14 or less) in the household. No life events variable is included.

Switzerland

The dependent variable is the frequency of depression, blues or anxiety. All regressions include the following control variables: age, age squared, a set of dummies for marital status, and region of residence, the log of total household income, number of children (aged 17 or less) in the household, and a dummy for low and high emotional support. Life events correspond to illness or accident, illness or accident (closely related person), death of closely related person, termination of close relationship, conflicts with or among related persons and problems with children.

United Kingdom

The dependent variable is the GHQ-12 mental health score. All regressions include the following control variables: age, age squared, a set of dummies for marital status, and region of residence, the log of total household income, number of children (aged 14 or less) in the household, and a dummy for smoking habits. Life events correspond to an accident in past year that required hospitalization.

Effect of changes in the type of employment on mental health distress

For the estimation corresponding to Table 4.4, Panel A on the effect of the type of employment on mental health, the labour market behavior variable corresponds to different dummies for the type of non-standard employment: non-standard type of contract (temporary), working other hours than full time (either overtime or shorter hours), working irregular hours (shifts), low job security, low job satisfaction and other indicators of work characteristics available on certain countries only. In Panel B, the labour market variables correspond to dummies for the characteristics of standard employment (reverse of Panel A). Variables for H are the same as in Figure 4.9 (see above) and the controls as well, except for the fact that they also include additional controls for industry and occupation. The sample is limited to the employed population only.

Effect of changes from non-employment to different type of employment on mental health distress

For the estimation corresponding to Table 4.5, the variables are as in Table 4.4. The difference is that the sample is not limited to employed individuals only and includes, in addition, the corresponding labour market dummies.

Fixed-effects methods and attrition

In panel surveys, some of the individuals leave the sample after the first wave, creating problems of attrition. The fixed-effect approach may take these possibly endogenous selection into account. This would be the case, if d_{it}, the indicator variable equal to one if the *i*th observation is observed and equal to zero otherwise, is governed by a latent index:

$$d^*_{it} = \upsilon_i \quad [4]$$

In this case, selection is only due to time-invariant characteristics of the individual which may be observed or unobserved, and the mean of the mental health if $d_{it} = 1$ is

$$E[H_{it} \mid d^*_{it} > 0\ ] = X'_{it}\beta + L'_{it}\gamma + E[\delta_i \mid d^*_{it} > 0] \quad [5]$$

since $E[\delta_i \mid d^*_{it} > 0]$ does not vary over time, first difference regressions of mental health only depend on differences in X_{it}, L_{it}, and u_{it}.

Dynamic panel data methods

In addition, there might be a state dependence whereby past mental health affects current mental health. The dependent variable is collapsed into a dichotomous indicator of poor mental health. A dynamic panel probit is specified, where the probability of observing poor mental health for an individual *i* at time *t* conditional on the regressors and the individual effect is:

$$Pr(H_{it} = 1 \mid H_{it-1}, X_{it}, \delta_i) = \Phi(H'_{it-1}\phi + X'_{it}\beta + L'_{it}\gamma + \delta_i) \quad [6]$$

This equation corresponds to the estimates presented in Table 4.6 for the effect of changes from sick leave to different types of employment on mental health, taking into account previous mental health. The variables corresponding to this estimation are the same as for Table 4.5, except that the dependent variable is a 0/1 variable corresponding to the mental health index and that previous mental health is also included as an additional control.

In estimating the dynamic model, the problem of initial conditions needs to be taken into account: an individual's health at the start of the panel is not randomly distributed and will be influenced by unobservable individual heterogeneity. Following Wooldridge (2002), the distribution of the individual effects is parameterised as a linear function of the initial health at the first wave of the panel and of the time means of the regressors, assuming that it has a conditional normal distribution:

$$\delta_i = c_0 + H'_{i0}\,\rho + \bar{X}'_i\,\upsilon + \xi_i \quad [7]$$

Therefore the probability of observing poor mental health conditions on the regressors and the individual effect becomes:

$$\Pr(H_{it} = 1 \mid H_{it-1}, X_{it}, \delta_i) = \Phi(H'_{it-1}\phi + X'_{it}\beta + L'_{it}\gamma + c_0 + H'_{i0}\,\rho + \bar{X}'_i\,\upsilon + \xi_i) \quad [8]$$

The dynamic random effects estimation relies on the assumption of strict exogeneity of the explanatory variables conditional on δi. There might be a problem of reverse causality with current mental health affecting future work status. Using a pooled dynamic probit model, consistent (yet inefficient) estimates are obtained because it only relies on contemporaneous exogeneity.

Table 4.A2.1. **Effect of changes in labour market activity on mental health distress**[a]

Fixed-effects regressions

	Panel A. **Transitions to non-employment**									
	Australia		Canada		Korea	Switzerland		United Kingdom	
Men									
Unemployed	1.084	0.773	0.416 ***	0.413 ***	0.333 ***	0.386 ***	0.449 ***	1.275 ***	1.276 ***
Housework	–0.517	–0.623	–0.035	–0.026	0.203 ***	0.246	0.040	0.732 ***	0.728 ***
Sick or disabled	3.811 ***	3.150 ***	2.138 ***	2.112 ***	0.202 ***	1.117 ***	1.141 ***	2.112 ***	2.110 ***
Other inactive	–0.246	–0.253	0.186 *	0.186 *	0.239 ***	0.463 **	0.393 **	1.157 ***	1.156 ***
Unemployment duration from 0 to 12 months	0.913	0.577			0.334 ***			1.422 ***	1.422 ***
Unemployment duration from 1 to 2 years	–0.657	–1.091			0.216 ***			1.090 ***	1.090 ***
Unemployment duration more than 2 years	3.198 **	3.042 **			0.375 ***			0.878 ***	0.878 ***
Inactivity duration from 0 to 12 months	2.145 **	1.767			0.283 ***			2.047 ***	2.044 ***
Inactivity duration from 1 to 2 years	–1.309	–1.454			0.203 ***			1.665 ***	1.662 ***
Inactivity duration more than 2 years	1.054	0.873			0.147 ***			1.337 ***	1.332 ***
Control for life events	No	Yes	No	Yes	No	No	Yes	No	Yes
Number of observations	12 985	12 985	20 577	20 575	20 672	8 690	8 098	36 650	36 634
Women									
Unemployed	2.414 ***	2.292 ***	0.363 ***	0.363 ***	0.219 ***	0.396 ***	0.468 ***	1.159 ***	1.161 ***
Housework	0.208	0.283	0.237 ***	0.246 ***	–0.022	–0.057	–0.057	0.531 ***	0.532 ***
Sick or disabled	5.398 ***	4.883 ***	1.718 ***	1.698 ***	0.023	0.599 **	0.559 **	1.647 ***	1.649 ***
Other inactive	0.601	0.557	0.062	0.060	0.066 *	–0.095	–0.081	0.384 *	0.385 *
Unemployment duration from 0 to 12 months	2.863 ***	2.627 **			0.239 ***			1.365 ***	1.366 ***
Unemployment duration from 1 to 2 years	1.819	1.878			0.088			1.129 ***	1.130 ***
Unemployment duration more than 2 years	2.428 *	2.272 *			0.173			0.575 ***	0.577 ***
Inactivity duration from 0 to 12 months	0.697	0.566			0.019			1.063 ***	1.063 ***
Inactivity duration from 1 to 2 years	–0.005	0.152			–0.031			0.591 ***	0.592 ***
Inactivity duration more than 2 years	0.859	0.889			–0.038 **			0.466 ***	0.468 ***
Control for life events	No	Yes	No	Yes	No	No	Yes	No	Yes
Number of observations	14 500	14 500	23 372	23 372	22 893	11 021	10 467	40 639	40 617
	Panel B. **Transition to employment**								
Men									
Employment	–1.074 **	–0.786	–0.654 ***	–0.648 ***	–0.276 ***	–0.440 ***	–0.453 ***	–1.405 ***	–1.404 ***
Job tenure from 0 to 12 months	–1.438 **	–1.003 *			–0.250 ***			–1.454 ***	–1.453 ***
Job tenure from 1 to 2 years	–1.050	–0.825			–0.267 ***			–1.467 ***	–1.466 ***
Job tenure more than 2 years	–0.701	–0.572			–0.290 ***			–1.341 ***	–1.340 ***
Control for life events	No	Yes	No	Yes	No	No	Yes	No	Yes
Number of observations	12 985	12 985	20 577	20 575	20 672	8 690	8 098	36 650	36 634
Women									
Employment	–0.934 **	–0.942 **	–0.441 ***	–0.441 ***	–0.003	–0.026	–0.044	–0.788 ***	–0.790 ***
Job tenure from 0 to 12 months	–1.357 ***	–1.243 ***			0.011			–0.932 ***	–0.933 ***
Job tenure from 1 to 2 years	–0.848 *	–0.928 *			–0.027			–0.770 ***	–0.771 ***
Job tenure more than 2 years	–0.563	–0.702			–0.007			–0.641 ***	–0.643 ***
Control for life events	No	Yes	No	Yes	No	No	Yes	No	Yes
Number of observations	14 500	14 500	23 372	23 372	22 893	11 021	10 467	40 639	40 617

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively.

a) Sample includes persons aged 15-64 who are never enroled in school or retired during the survey.

Source: OECD estimates based on the HILDA for Australia (calculations were provided by Paul Swaim, OECD); the NPHS for Canada; the KLIPS for Korea; the SHP for Switzerland; and the BHPS for the United Kingdom.

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Chapter 5

Do Multinationals Promote Better Pay and Working Conditions?

Foreign direct investment (FDI) by OECD-based multinational enterprises (MNEs) in developing and emerging economies has increased dramatically over the past two decades. While generally perceived as beneficial for local development, it has also raised concerns about unfair competition and the protection of workers' rights in host countries. This chapter assesses the effects of FDI on wages and working conditions for workers of foreign affiliates of MNEs and those of their independent supplier firms. The evidence suggests that MNEs tend to provide better pay than their domestic counterparts, especially when they operate in developing and emerging economies, but not necessarily better non-wage working conditions. The effects on wages may also spread to the foreign suppliers of MNEs, but those spillover effects are small.

Introduction[1]

Multinational enterprises (MNEs) have become one of the key drivers of the world economy and their importance continues to grow. The total stock of foreign direct investment (FDI) increased from 8% of world GDP in 1990 to 26% of GDP in 2006. Moreover, developing countries have become increasingly important as host and home countries for FDI in recent years. The increasing importance of FDI from the OECD in developing countries has given rise to new opportunities, but also raised social concerns.

In general, policy-makers have tended to emphasize the potential benefits that FDI can bring to local economies through the creation of high-quality jobs and the introduction of modern production and management practices. The positive impact of FDI can be particularly important in the context of developing countries and many governments in these countries have developed specific policies to encourage inward FDI.[2] Such policies can range from the removal of discriminatory barriers against FDI to positive incentives such as providing information services or granting specific fiscal and regulatory advantages to potential foreign investors, including through the creation of designated export-processing zones.

However, the behaviour of OECD-based MNEs in developing countries has also raised public concerns. For example, MNEs have been accused of practicing unfair competition when taking advantage of lower wages and labour standards abroad. In some cases, MNEs have also been accused of violating human and labour rights in developing countries where governments fail to enforce such rights effectively. In order to encourage responsible behaviour by MNEs in countries where the rule of law is weak, civil society has appealed to the responsibility of MNEs to go beyond prevailing local labour practices to ensure that internationally recognised labour norms are respected in the workplaces of their foreign affiliates and independent contractors. The OECD Guidelines for Multinational Enterprises provide a notable example of a government-backed initiative that provides a benchmark for responsible business conduct for MNEs (OECD, 2000a).

The aim of this chapter is to analyse the role of inward FDI on wages and working conditions, and particularly, FDI from the OECD in developing and large emerging economies.[3] To this end, it seeks to address two main questions. First, how much do MNEs contribute to higher living standards and better working conditions? Using a variety of data sources, including micro-data for three developed countries (Germany, Portugal and the United Kingdom) and two developing countries (Brazil and Indonesia),[4] this question is analysed by evaluating to what extent MNEs pay higher wages and provide better working conditions to workers in their foreign affiliates than are provided by their local counterparts, and to what extent foreign affiliates foster better labour practices in local firms. The second question asks what governments in both home and host countries can do to promote good work practices by MNEs. In particular, what role can FDI promotion by host countries, and the promotion of responsible business conduct by home countries, play

in strengthening the contribution of MNEs to improved wages and working conditions in the host country?[5]

The structure of the chapter is as follows. The first section presents some stylised facts on FDI and MNEs to motivate the empirical analysis. Section 2 presents an analysis of the direct effects of inward FDI by comparing wages and working conditions in the foreign affiliates of MNEs with those offered in comparable domestic firms. Section 3 analyses the indirect ("spillover") effects of inward FDI on wages and working conditions in local firms. Section 4 discusses what governments can do to promote FDI whilst ensuring that minimum labour standards are respected in countries where governments fail to enforce national and international labour provisions effectively. The final section presents some concluding remarks.

Main findings

- Developing countries have become increasingly important destinations for FDI by OECD-based MNEs. The share of developing countries in the inward stock of world FDI has risen from 22% in 1990 to 32% in 2005. FDI by OECD-based MNEs has also grown rapidly in countries with low *de jure* or *de facto* labour standards, which raises the question as to whether they exploit weak labour standards.
- In response to public concerns about the respect for minimal environmental and labour standards in their foreign operations, reputation-sensitive MNEs have increasingly adopted codes of conduct, including explicit policies with respect to labour practices to ensure that labour and human rights are respected in their affiliates abroad and throughout the supply chain. There exist, however, considerable differences across high-income OECD countries in terms of the depth and scope of the codes adopted by OECD-based MNEs. European MNEs have the most extensive formal policies relating to labour standards, while North-American MNEs have the least extensive policies.
- Various normative standards have been used to assess the social impact of FDI in the host country. This chapter uses a host-country standard to assess the *actual* impact of FDI on wages and working conditions in the host country. This involves comparing the wages and working conditions of employees in the foreign affiliates of MNEs and their supplier firms to the wages and working conditions that they would have received had they not been employed by a foreign firm or one of its suppliers.
- Econometric analysis for three OECD countries (Germany, Portugal and the United Kingdom) and two emerging economies (Brazil and Indonesia) indicates, consistent with the existing literature, that FDI generally raises wages of employees in *foreign affiliates*. There is no strong evidence that FDI also improves non-wage working conditions. More precisely:
  - Firm-level estimates of the effect of foreign takeovers on average wages point to fairly large positive effects, although their magnitude varies across countries. The effects range from 5% in the United Kingdom, 8% in Portugal, 11% in Brazil to 19% in Indonesia, while the effect is positive but statistically insignificant in Germany. In general, these results are consistent with previous studies that have shown small and positive foreign wage premia in developed economies and larger foreign wage premia in developing countries.
  - The effects of foreign takeovers on individual workers that stay in the same firm tend to be positive, but rather small, at least in the short-term. The wage effect ranges from

nil in the United Kingdom, to 1-4% in Brazil, Germany and Portugal. This suggests that the large positive effects of foreign takeovers on average wages that are found in the firm-level analysis result primarily from changes in the composition of the workforce after foreign takeovers, rather than from increased wages of workers who stay in the same firm.

- Workers who change jobs from domestic to foreign firms tend to experience a considerable increase in wages. This increase ranges from 6% in the United Kingdom to 8% in Germany, 14% in Portugal and 21% in Brazil. This is consistent with the consensus in the empirical literature that foreign wage premia are more important in developing than in developed countries. It may also indicate that the large positive effects of FDI on average wages at the firm-level reflect to some extent better pay conditions for new hires.
- The effects of foreign takeovers are potentially larger in the long-run. One would expect that the positive effects of FDI that initially accrue to new hires, eventually spread through the entire workforce as large pay disparities between new and old workers within firms are unlikely to be sustainable in the longer term. While it is not feasible to estimate the causal effect of inward FDI in the long-run with the data analysed here, it is possible to place an upper bound on this effect by simply comparing wages in foreign-owned and comparable domestic firms. The upper-bound estimates range from 4% in Germany, around 12% in Portugal and the United Kingdom, to 23% in Brazil and 32% in Indonesia.
- The results point at important cross-country differences in the wage effects among workers with different skills. In the United Kingdom, the results suggest that foreign takeovers have a small negative impact on the wages of low-skilled workers and no effect for semi- and high-skilled workers. In Germany and Portugal, the impact of foreign takeovers is positive for all three skill groups and differences across skill groups are modest. For Brazil and Indonesia, the impact of foreign takeovers differs importantly across skill groups. In Brazil, foreign takeovers have a positive effect on the wages of unskilled and semi-skilled workers and a negative effect on that of skilled workers. In Indonesia, the impact of foreign takeovers is positive for both skilled and unskilled workers, but almost twice as large for the former.
- The estimated effects of foreign takeovers on non-wage working conditions tend to be considerably weaker than those for wages. While job stability, working hours and union bargaining power in foreign firms tend to differ from those in comparable domestic firms, this is largely due to the specific characteristics of firms that become foreign-owned. Non-wage working conditions do not necessarily improve in firms following a foreign takeover.

- The empirical analysis presented in this chapter further suggests that FDI – through both greenfield investment and cross-border mergers and acquisitions (M&A) – may have positive spillover effects in terms of wages and non-wage working conditions of employees in *domestic* firms, but these indirect effects tend to be considerably weaker than the direct effects on employees in the foreign affiliates of MNEs.
  - While FDI appears to have a strong effect on average wages in local firms in Indonesia, this largely reflects the direct effect of FDI on labour demand in *foreign* firms, particularly for non-production workers. The wage of non-production workers in domestic firms may also increase as a result of the effect of FDI on the labour demand

of *domestic* firms, through its impact on productivity in those firms. However, this effect appears to be very small. Previous empirical studies on productivity spillovers from FDI suggest that positive spillovers do not necessarily arise and may even be negative.

- Positive productivity-driven wage spillovers are likely to be more important in the presence of strong linkages between local firms and foreign MNEs, such as through the participation of local firms in the supply chain or worker mobility. The analysis of worker mobility confirms that worker movements from foreign to domestic firms allow for the transfer of human capital across firms. However, the analysis does not allow one to assess whether this also results in positive externalities.

- The generally positive effect of FDI on host economies provides a rationale for promoting FDI by removing regulatory obstacles to FDI and taking measures to enhance the overall investment climate. FDI-friendly policies in host countries can be usefully complemented by multilateral initiatives that seek to enhance the social impact of inward FDI by promoting responsible business conduct amongst MNEs. The OECD Guidelines for Multinational Enterprises provide a good example of a government-backed initiative to promote responsible business conduct, as do public-private initiatives that combine market incentives with enhanced enforcement and monitoring of labour practices.

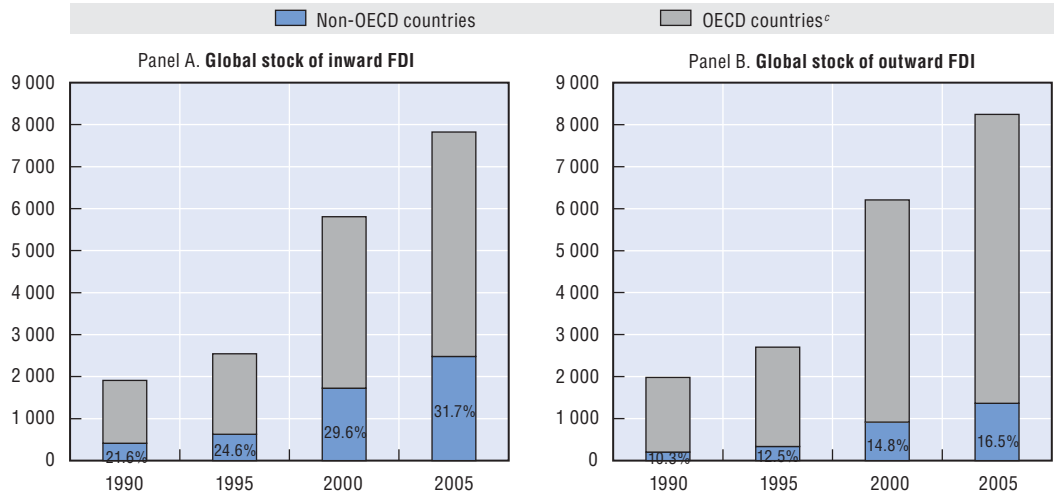
1. The social dimension of foreign direct investment

Multinational enterprises (MNEs) have become one of the key drivers of the world economy and their importance continues to grow. The total stock of foreign direct investment (FDI) increased from 8% of world GDP in 1990 to 26% of GDP in 2006 (UNCTAD, 2007). UNCTAD (2007) estimates that the foreign affiliates of MNEs accounted for about 33% of world exports, 10% of world GDP and 3% of world employment in 2006. These figures, however, underestimate the role of MNEs in the world economy as they do not take account of the activities of the domestic affiliates of MNEs or the activities of their sub-contractors.[6] Moreover, the importance of developing countries for inward and outward FDI has grown in recent years (see Figure 5.1). Although the bulk of FDI continues to take place between developed countries, the share of developing countries in the inward stock of world FDI has risen from 22% in 1990 to 32% in 2005. Their share in the outward stock of world FDI has risen from 10% in 1990 to 17% in 2005.[7]

Policy-makers have tended to emphasize the potential benefits that FDI can bring to the host economy. These benefits may be direct or indirect. The former refer to benefits that accrue to employees in foreign-owned firms, whereas the latter refer to benefits that accrue to workers in domestic firms. The source of these benefits is the productivity advantage of MNEs based on, for example, technological know-how or modern management practices that allows them to compete effectively in foreign markets and to offset the cost of coordinating activities across different countries. Crucially, the productivity advantage has the characteristics of a public good so that it can be transferred between affiliates in different countries at zero or no costs. This transfer may give rise to direct benefits in the form of higher productivity in foreign-owned firms, but may also lead to indirect benefits by increasing the productivity of domestic firms when the productivity advantage spills over from foreign affiliates to domestic firms. Productivity spillovers represent positive externalities to the host country and explain why policy-makers have

Figure 5.1. **Trends in foreign direct investment,**[a, b] **1990-2005**

Billions US dollars at constant prices (2000)



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a) Foreign direct investment (FDI) is defined by UNCTAD as an investment involving a long-term relationship and reflecting a lasting interest in, and control by, a resident entity in one economy (foreign direct investor or parent enterprise) of an enterprise resident in a different economy (FDI enterprise or affiliate enterprise or foreign affiliate). Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates. FDI may result from greenfield investment or cross-border mergers and acquisitions. For statistical purposes, FDI is typically defined as an incorporated or unincorporated enterprise in which the direct investor, resident in another economy, owns 10% or more of the ordinary shares of voting power (or the equivalent). However, this criterion is not strictly observed by all countries reporting. For more information see, *www.unctad.org*.

b) In principle, the global stocks of inward and outward FDI should be equal. In practice, however, sizable discrepancies exist due to gaps in coverage and the use of different reporting systems across countries. See Patterson *et al.* (2004) for more details.

c) Corresponds to the 30 OECD member countries.

Source: UNCTAD, FDI Statistics.

sometimes treated foreign investment more favourably than investment by domestic firms that do not necessarily have a productivity advantage that may give rise to externalities. Increased productivity in domestic or foreign-owned firms may lead to higher incomes, better working conditions and more employment.[8]

The rising importance of FDI by OECD-based MNEs in developing countries has also raised concerns about its potential social impact in the host countries. The nature of these concerns depends on the normative standard that is used to judge how MNEs treat their workers abroad:

- *Home-country standards*. The behaviour of MNEs is sometimes evaluated by comparing working conditions abroad with those prevailing in the home country. In particular, MNEs that exploit international differences in labour costs by relocating production activities to affiliates abroad or foreign sub-contractors have sometimes been accused of practising "unfair competition". Their behaviour is judged unfair because it is argued that workers who are engaged in supply-chain activities abroad do not get their "just" reward and workers in the home country have to withstand competition based on "unfairly" low wages. This logic has motivated demands for restrictions on offshoring and the adoption of protectionist policies in many OECD countries. However, reducing access to foreign markets is likely to impede the development process in low-wage countries and may even aggravate poverty and worsen working conditions in these

countries. While home-country standards may have a place in the debate on the social impact of *outward investment in the home country,* their use is inappropriate and potentially counterproductive in the debate on the social impact of *inward investment in the host country*.

- *Universal standards*. Working conditions in the affiliates and sub-contractors of MNEs may further be assessed against universal standards that are unrelated to the stage of social and economic development in the home or host countries of MNEs. Universal standards may be particularly appropriate in the context of labour and human rights such as those enshrined in international labour provisions (*e.g.* the set of ILO conventions that are held to represent "core" labour standards). As many developing countries fail to enforce these effectively, human-rights activists have demanded that accountability mechanisms be put in place to ensure that labour and human rights are respected within the foreign affiliates and independent suppliers of MNEs. While there is widespread support for guaranteeing these rights, it should be borne in mind that imposing excessive standards on MNEs may have unintended consequences by shifting problems of poor working conditions to other sectors of the economy or by inducing MNEs to reduce or even withdraw their operations from these countries.[9]

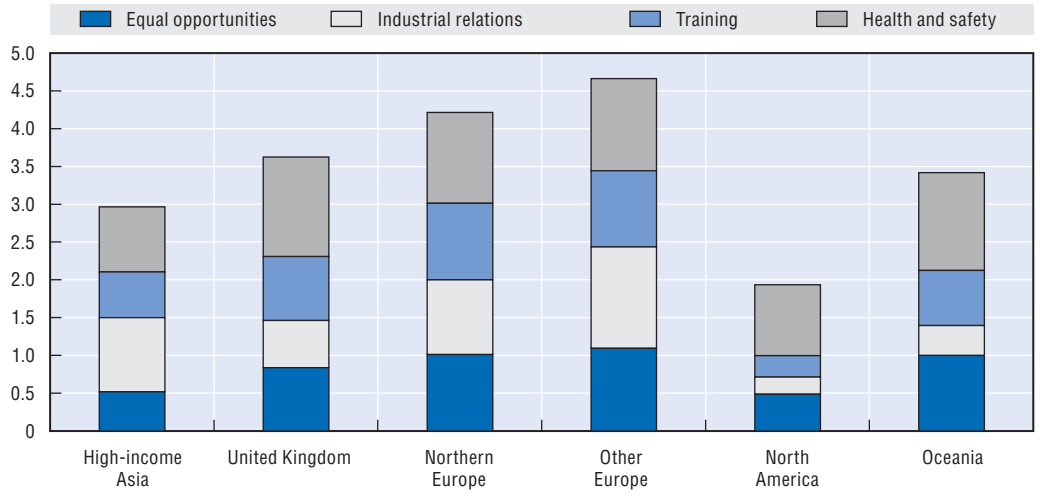
Thus, while home-country standards are not appropriate to judge the social impact of FDI in the host country, assessing the behaviour of MNEs against a universal standard may be useful, especially as concerns core labour standards.

In response to social concerns about the respect for minimal labour standards in the foreign operations of MNEs, reputation-sensitive MNEs have increasingly adopted explicit corporate social responsibility (CSR) policies (also called "codes of conduct") in order to ensure that labour and human rights are respected in their affiliates abroad and throughout the supply chain. Figure 5.2 reports evidence on the importance of formal policies of this nature among MNEs across different home regions using the EIRIS firm-level database.[10] The following company policies are considered: *i)* policies with respect to equal opportunities and diversity issues in the domain of gender and ethnicity; *ii)* systems for managing employee relations through the recognition of trade unions for collective bargaining purposes or alternative consultative arrangements; *iii)* systems to support employee training and development; and *iv)* systems relating to health and safety. For the present purposes, only MNEs with at least one affiliate operating in a country deemed by EIRIS to be high-risk in terms of human-rights violations were selected (see Annex 5.A.1 for more details). These data indicate that:

- The level of development of formal policies in MNEs with respect to labour practices differs considerably across home regions. European companies have the most developed formal policies with respect to all four working conditions noted above. Within Europe, companies from Continental Europe stand out for their elaborate corporate systems in the area of industrial relations.[11] North-American companies, on average, have the least developed formal policies with respect to any of the working conditions.[12] Companies from high-income Asia, as well as Australia and New Zealand, take an intermediate position in terms of overall labour policies, although the weight given to specific practices differs across them. In high-income Asia, formal labour policies emphasise industrial relations, whereas in Australia and New Zealand labour policies relate mostly to equal opportunities and health and safety.[13]

Figure 5.2. **MNE policies on working conditions**

Average scores by home region[a, b, c] (0 to 8 from low to high evidence)[d]



StatLink http://dx.doi.org/10.1787/348750470714

a) The universe covered by the EIRIS database consists of 2 629 listed companies (FTSE All World Developed and All-Share constituents as well as publicly announced constituents of the MSCI World). The analysis here is restricted to companies with operations in countries deemed by EIRIS to be high risk in terms of human rights violations ("list A and B countries"). This reduces the sample to 1361 companies.

b) High-income Asia: Hong Kong (China), Japan and Singapore; Northern Europe: Denmark, Finland, Iceland, Ireland, Norway and Sweden; Other Europe: Austria, Belgium, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain and Switzerland; North America: Canada and the United States; Oceania: Australia and New Zealand.

c) The data for the United Kingdom include small, medium and large companies whereas for the other areas the EIRIS data only cover medium-sized and large companies.

d) Each of the four working conditions is scored according to the extent of policies, systems and reporting: 0: No or little evidence; 1: Some evidence; 2: Clear to very clear evidence.

Source: OECD calculations based on EIRIS database. For further details on the way firms are scored, see Annex Table 5.A1.1.

- It is not straightforward to explain the regional variation in formal policies relating to labour practices as these are likely to result from a complex combination of cultural, legal and political factors. However, a few possible determinants are worth mentioning. First, differences in regulatory systems matter. For example, European countries tend to have much more extensive regulations with respect to job security, trade unions and collective bargaining than Anglo-Saxon countries (Botero *et al.*, 2004; OECD, 2004).[14] Second, legal systems play an important role in explaining the willingness of companies to disclose information on issues that are not mandated by law. The litigious nature of US society may be particularly important in explaining the traditional reluctance of US companies to voluntarily disclose information about their work practices, which may account for the relatively low scores among North-American MNEs for extensive policies on labour practices. Third, the more prominent role of trade unions in many European countries than in North America may be expected to increase the influence of employees in the formulation of formal policies on labour practices.[15]

The analysis of the EIRIS-data gives an idea of the extent to which MNEs have adopted formal policies with respect to labour practices at a centralised level, but does not say much about how such policies are implemented in host countries or their effectiveness in improving the wages and working conditions offered by their foreign affiliates (see Box 5.3 for a discussion of the effectiveness of private codes of conduct in the supply

chain). It would be interesting, therefore, to assess the behaviour of MNEs abroad in terms of their compliance with international and national labour standards. However, this is not straightforward in practice due to the lack of systematic information on compliance levels. While anecdotal evidence suggests that in some of the foreign operations of MNEs labour practices can be poor, suggestive evidence from the World Bank Enterprise Survey indicates that compliance levels among MNEs tend to be higher on average than among their domestic counterparts.[16]

Rather than comparing working conditions in the foreign affiliates and sub-contractors of MNEs to legal norms, this chapter analyses the social impact of FDI in the host country by comparing wages and working conditions in the foreign affiliates and sub-contractors of MNEs to the labour practices in comparable domestic firms. The difference may be interpreted as the potential contribution of MNEs to improving wages and working conditions in the host country as employment conditions in comparable domestic firms provide a plausible approximation ("counterfactual") of the conditions that would have been offered to individuals had they not been able to work for MNEs (directly or indirectly). By adopting a benchmark based on host-country standards (*i.e.* labour practices in comparable domestic firms), this chapter assesses both the potential positive impact on wages and working conditions, as well as social concerns that MNEs use their bargaining power to force workers to accept sub-standard employment conditions or to negotiate exemptions from labour provisions from governments.[17]

2. The direct effects of FDI on wages and working conditions in the foreign affiliates of MNEs

This section analyses the direct effect of inward FDI by looking at the extent to which pay and labour practices in the foreign affiliates of MNEs deviate from those prevailing in host-country firms. To this end, it compares working conditions in foreign affiliates with those in domestic firms and analyses how employment conditions change when local firms are acquired by foreign firms or when workers move from domestic to foreign firms. The section starts off with a brief discussion of why it may be in the interest of MNEs to offer better pay and working conditions than comparable domestic firms. It then proceeds by presenting some descriptive statistics on employment conditions in MNEs across host regions. The final part of this section presents the results of an econometric analysis of the impact of FDI on wages and working conditions in three developed countries (Germany, Portugal and the United Kingdom) and two developing countries (Brazil and Indonesia).

2.1. Why would MNEs provide better pay and working conditions than comparable domestic firms?

In a competitive labour market, MNEs would generally be expected to provide comparable pay and working conditions to those offered by their local counterparts. In such a context, MNEs may pay higher wages only to the extent that they employ a more skilled workforce or must compensate workers for undesirable differences in the characteristics of jobs such as lower job security. The presence of certain market failures, however, could provide MNEs with an incentive to offer better pay and working conditions also to individuals with similar characteristics doing a similar job (see Box 5.1 for more details).

Box 5.1. **Why would MNEs provide better pay and working conditions than comparable domestic firms?**

In a competitive labour market, one would expect MNEs to offer comparable pay and working conditions to individuals with comparable characteristics doing comparable job. In such a context, *average* pay differences between MNEs and comparable domestic firms may still arise for two reasons:

- *Workforce composition*. Average pay differentials may reflect differences in workforce composition between multinational and domestic firms. This could be because they tend to hire different types of workers. However, it may also be that multinational and domestic firms have different human-resource practices related to, for example, the importance of training, on-the-job learning and career development. In this case, workers with similar characteristics when they are hired develop differently in multinational and domestic firms, thereby giving rise to pay differentials.
- *Compensating differentials*. Wages compensate for differences in working conditions that are valued positively or negatively by workers. For example, it is sometimes suggested that jobs are less secure in MNEs because they are footloose or have more elastic labour demand. This could provide a rationale for multinational firms to offer higher wages than their local competitors to compensate for lower job security. Conversely, workers may be willing to accept working for lower pay in multinational firms if the latter attach greater importance to training and career development.

In addition, *market failures* may give rise to differences in pay and working conditions between multinational and domestic firms for individuals with comparable characteristics doing comparable jobs for essentially three reasons:

- *Efficiency wages*. MNEs may wish to pay higher wages than their local competitors in the hope that this will reduce worker turnover and thereby minimise the risk of their productivity advantage spilling over to competing firms. MNEs may also be willing to pay higher wages than their local competitors due to higher monitoring costs related to informational problems or to compensate for their lower managerial responsiveness to industrial-relations demands due to cultural differences.
- *Search frictions*. Search frictions reduce the degree to which arbitrage takes place across firms due to differences in labour productivity for identical workers. As a result, MNEs may derive monopsony power from their ownership advantage allowing them to pay their workers less than their marginal value product, but more than their local competitors. The cost-saving that can be achieved by a MNE thanks to its monopsony power is likely to fall with the availability of comparable jobs outside the MNE, which may be closely related to the level of economic development.*
- *Institutional factors*. Trade unions may induce differences in pay between multinational and domestic firms as a result of differences in the availability of rents and worker bargaining power. On the one hand, MNEs may be in a stronger bargaining position relative to trade unions than their domestic competitors, because they may have the option of substituting domestic for foreign workers by relocating production activities abroad. On the other hand, the availability of rents may be larger in MNEs thanks to their higher productivity and greater market power. Labour legislation may also induce differences when multinational and domestic plants differ in the degree of compliance. MNEs from developed countries that operate in developing countries may be more compliance-driven than local firms, because of reputational concerns and consumer pressure in their home markets (*e.g.* differences in national consumer preferences may induce vertical product differentiation).

* Decreuse and Maarek (2007) refer in this context to a *technology-rent effect*, which allows MNEs to derive monopsony power from their technological advance, and a *competition-wage effect*, that results from the competition between firms for labour services.

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The extent to which MNEs offer better pay and working conditions than their local counterparts may vary across the countries from which MNEs originate and the countries in which they operate, as well as between different groups of the workforce:

- The incentive to offer better working conditions is likely to be greater for MNEs from developed countries that operate in developing countries as the technological advance of their foreign affiliates relative to local firms is likely to be greatest and the availability of comparable alternative job opportunities lowest. Moreover, MNEs from developed countries that operate in developing countries may be more compliance-driven than other MNEs because of reputational concerns and consumer pressure in their home markets.[18]
- The incentives of MNEs to offer better working conditions are generally expected to be stronger for more skilled workers for at least two reasons. First, because of the relative scarcity of skilled workers, vacancies for such workers tend to be more difficult to fill. This should be particularly important in developing countries. Second, turnover of skilled workers is more likely to lead to the dispersion of firm-specific knowledge, thereby undermining the productivity advantage of MNEs. One way to lower turnover among skilled workers is to offer them a pay premium.[19]
- To the extent that it takes time to acquire firm-specific knowledge, the incentive to offer better pay and working conditions should also increase with job tenure, particularly among skilled workers.

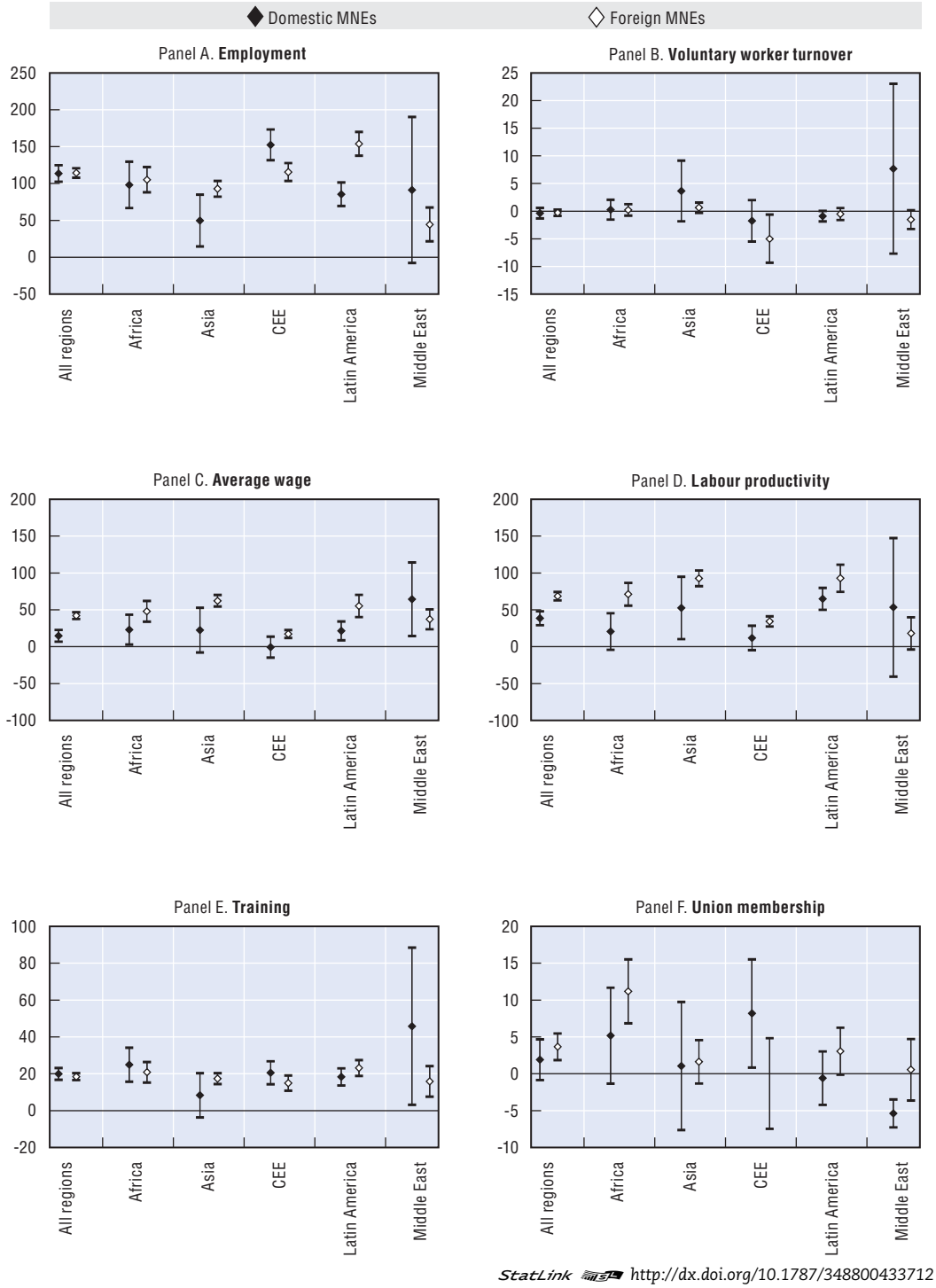
2.2. Descriptive evidence

Figure 5.3 compares MNEs, domestic and foreign, with domestic firms, in terms of employment, voluntary worker turnover, average wages, labour productivity, union membership and training. The figure allows one to make the following observations:

- Simple comparisons of MNEs and local firms suggest that the former tend to employ more workers and provide better jobs than local firms in the countries where they invest. In particular, the average MNE employs more than twice as many workers as the average local firm. To the extent that voluntary worker turnover may be considered as an indirect measure of the overall quality of working conditions (Brown and Medoff, 1988), the descriptive statistics also suggest that MNEs provide similar, if not better, jobs than domestic firms. In particular, the quality of jobs in foreign MNEs appears to be better than in local firms in central and eastern Europe and the Middle-East.
- Jobs in MNEs tend to pay higher wages: average wages are more than 40% higher in foreign MNEs and 15% higher in domestic MNEs than in local firms. These differences tend to be considerably larger in developing-country regions such as low-income Asia and Latin America than in Europe.[20] This largely reflects the larger technological and productivity gaps between foreign MNEs and local firms in low and middle income developing countries.[21]
- MNEs also appear to provide better working conditions beyond paying higher wages. Both domestic and foreign MNEs are more likely to provide training opportunities to their workforce than local firms and their workforces are more highly unionised. Both the emphasis on training and the higher unionisation rate could also help explain why wages tend to be higher in MNEs.
- Foreign MNEs tend to provide more and better jobs than domestic MNEs, especially in developing countries, as shown by the positive differences in terms of employment,

Figure 5.3. **A comparison of employment conditions and productivity between MNEs and local firms**[a]

Average percentage differences by host region and 95% confidence intervals[b]



StatLink http://dx.doi.org/10.1787/348800433712

CEE: central and eastern Europe.

a) Asia includes low-income Asia only.

b) The diamonds reflect the average percentage differences between MNEs and domestic firms within countries by host region. The vertical segments reflect the 95% confidence interval. If the vertical segment crosses the zero-axis, the differences between MNEs and domestic firms are not statistically significant.

Source: OECD estimates based on World Bank Enterprise Survey. See Annex Table 5.A1.4 for details on variable definitions.

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average wages, and labour productivity. This may reflect the possibility that foreign MNEs that operate in developing countries, tend to originate from developed countries and are closer to the global technology frontier than local MNEs. Apart from suggesting that the nationality of the owner matters, this finding also provides a rationale for focusing on foreign-owned firms in developing countries in the remainder of this chapter.

The results in Figure 5.3, however, should be interpreted carefully. These descriptive data are subject to a number of shortcomings that give rise to three potential biases in comparing multinational and local firms: aggregation, composition and selection bias:

- *Aggregation bias*. As the unit of observation is the firm, rather than the individual, the analysis tends to give relatively more weight to small firms. To the extent that working conditions tend to be better in larger firms, which are more likely to be foreign-owned, this will tend to bias the results in favour of MNEs.
- *Composition bias*. The analysis relates to *average* worker outcomes as opposed to *individual* worker outcomes. As a result, it is not clear whether the observed differences in average employment conditions reflect differences in the composition of the workforce or whether employment conditions differ across workers with comparable characteristics in local and multinational firms. To the extent that MNEs employ more skilled workers, this would bias the results in their favour.
- *Selection bias*. Selection bias may result from either firm or worker selection. Firm selection arises when foreign-owned firms are systematically different from domestic firms, as a result of unobservable firm characteristics unrelated to ownership status. In order to address this problem, it has become common practice among researchers to focus on changes in ownership status as a result of cross-border mergers and acquisitions (M&A). Doing so allows one to control for unobservable characteristics that are the same before and after takeovers. This reduces the selection problem that arises when foreign acquiring firms "cherry-pick" local targets with good employment conditions (*e.g.* because firms with good employment conditions tend to be more productive). Selection bias may also result from worker selection, *i.e.* the possibility that cross-border M&A is associated with changes in the composition of the workforce as a result of the restructuring process that typically follows such operations. Both firm and worker selection may lead to an overestimation of the *causal* effect of FDI on pay and working conditions.

All three biases are likely to contribute to an overestimation of the causal effect of FDI on pay and working conditions.[22] The econometric analysis of the effects of foreign ownership on wages and working conditions in the next sub-section will take account of each of these biases.

2.3. New micro-level evidence for selected countries

This sub-section presents new micro-level evidence on the impact of inward FDI on both wages and non-wage working conditions using data for three developed (Germany, Portugal and the United Kingdom) and two emerging economies (Brazil and Indonesia). First, results will be presented on the impact of foreign ownership on average wages at the firm-level. The firm-level analysis is consistent with most of the empirical literature and supports its main findings that foreign-owned firms provide better jobs than local firms. The bulk of the analysis here, however, makes use of linked employer-employee data in keeping with recent advances in the literature. The use of linked employer-employee data

allows one to control for both firm and worker effects; to study the role of foreign ownership for different types of workers; and to consider its role for non-wage outcomes such as working hours, job stability, and union bargaining power.

Two sets of results are presented. The first set identifies the impact of foreign ownership on wages and non-wage working conditions by concentrating on *changes* in ownership status. This allows one to control for time-invariant fixed effects, but also implies that the analysis is necessarily constrained to the short-term, due to the relatively short period spanned by the panel data sets analysed. In the present case, the analysis takes account of the effects of changes in ownership status up to three years after the event. In the firm-level analysis, changes in ownership status necessarily result from cross-border mergers and acquisitions (M&A). At worker level, changes in ownership status can result from either cross-border M&A or workers who change jobs between domestic and foreign-owned firms. *To the extent that the positive effects of foreign ownership take time to materialise, these results provide a lower bound on the effect of inward FDI on wages and non-wage working conditions*. More details on the methodology can be found in Box 5.2.

As the first set of results only relates to the short-term, it is complemented in some cases with comparisons in *levels* between foreign and domestic firms similar to those in Figure 5.3. The main difference with Figure 5.3 is that the present comparisons control for a range of observable characteristics. The results are likely to give a more positive impression of the impact of FDI in host countries than those based on changes in ownership status. In part, this may reflect selection bias resulting from unobservable fixed-effects unrelated to ownership status. However, there may also be genuine reasons for this effect to be stronger as the estimations are more likely to capture the long-term effects of FDI. And unlike the results based on takeovers, the level comparisons include both foreign-owned firms that were previously domestic-owned but have been acquired by a foreign owner and those that are established through greenfield investment. *These results may thus be interpreted as giving an upper bound on the long-term effects of inward FDI on wages and working conditions*.

Firm-level evidence

There is a large empirical literature on multinational wage premia.[23] Until recently, there was a consensus that foreign firms tend to provide better pay to workers than their domestic counterparts. In an early study for Mexico, the United States and Venezuela, Aitken *et al.* (1996) showed that average wages in foreign-owned plants tend to be about 30% higher than in domestic plants. Moreover, these wage differences persist once one controls for size, geographic location, skill mix and capital intensity in Mexico and Venezuela, but not in the United States. This suggests that foreign-owned firms pay higher wages than their local competitors in developing countries. However, this does not necessarily mean that FDI raises working conditions when a domestic firm is being taken over by a foreign firm. Alternatively, foreign firms may cherry-pick the best domestic firms on the basis of characteristics that are not controlled for in the regression analysis, but are associated with higher average wages. One such variable is the quality of the labour force. In order to address this possibility, subsequent studies have analysed to what extent foreign wage premia persist after controlling for worker quality as well as unobservable time-invariant fixed effects.[24]

Most recent studies focus on cross-border takeovers to analyse the causal effect of a change in ownership status on worker outcomes by making use of firm-level panel data.

Box 5.2. **Econometric methodology**

In order to analyse the causal impact of FDI on working conditions, four different changes in ownership status ("treatments") will be considered: foreign takeovers of domestic firms; domestic takeovers of foreign firms; workers who change jobs from domestic to foreign employers; and finally, workers who change jobs from foreign to domestic employers. Each treatment will be evaluated in the year during which the change in ownership status occurs (t = 0), one to two years after the change in ownership status (t = 1), and two to three years after the change in ownership status at (t = 2). The analysis of cross-border takeovers (T) involves comparing workers who stay in a firm that does not change ownership status with workers who stay in a firm that changes ownership status.

$$T_i^T = \begin{cases} 0 \text{ if } F_{jt=-1} = F_{jt\geq 0} \\ 1 \text{ if } F_{jt=-1} \neq F_{jt\geq 0} \end{cases} \qquad \text{[1 – Case A]}$$

where *T* refers to treatment status of worker *i*, *F* to ownership status of firm *j*, and *t* to time relative to the year in which the treatment is "allocated". The analysis of worker movements (M) involves comparing workers who stay in a firm that does not change ownership status with workers who switch to another firm with different ownership status.

$$T_i^M = \begin{cases} 0 \text{ if } F_{jt=-1} = F_{jt\geq 0} \\ 1 \text{ if } F_{jt=-1} \neq F_{k\neq j,t\geq 0} \end{cases} \qquad \text{[1 – Case B]}$$

In order to evaluate the causal effect of FDI on working conditions, the method of propensity-score matching (PSM) in combination with difference-in-differences (DiD) is used. PSM involves replicating a natural experiment by constructing treated and control groups *ex post* using the observable characteristics of individuals before treatment.[a] The mean difference in outcomes between the treated and untreated gives the average treatment effect on the treated. Formally, this can be written as follows:

$$\hat{\alpha}_{ATT} = E(y^1 | T = 1) - E(y^0 | T = 0) \qquad \text{[2]}$$

where superscripts 0 and 1 refer to untreated and treated firms, respectively, *T* is a dummy for treatment status and *y* is the outcome of interest (wages or working conditions in this case).

Matching is implemented using the propensity that an individual changes ownership status. The propensity score is estimated with a Probit model which specifies the probability of changing ownership status as a function of industry, region and skill dummies, log employment, log average wage, log individual wage, a gender dummy, age, age squared and tenure. All these variables are measured at the year before takeover at t = – 1.[b] The propensity score is estimated separately by year, broad economic sector and skill group. Treated individuals are matched to their untreated counterparts using one-to-one nearest-neighbour matching which attributes a weight of one to the nearest untreated neighbour of each treated observation and zero to others. The quality of the matches is assessed using a variety of balancing tests.

Propensity-score matching is complemented with the difference-in-differences estimator following Heckman *et al.* (1997). The DiD-estimator allows one to control to some extent for selection on unobserved characteristics by transforming the evaluation problem to one of estimating the difference in the trend before and after treatment instead of the difference in levels. The actual regressions are estimated with fixed effects which represents a generalisation of DiD. The sample is restricted to individuals that are present each year of relative time period t = – 1 to t = 2.[c]

Box 5.2. **Econometric methodology** *(cont.)*

Using the matched sample of treated and controls the following model is estimated:

$$y_{it} = \alpha_i + \sum_{t=0}^{2} \gamma_t T_i D_t + \sum_{t=0}^{2} \delta_t D_t + \varepsilon_{it} \quad [3]$$

where α_i refers to a fixed effect for individual i, γ_t refers to the treatment effect at relative time t, T_i is a treatment dummy, δ_t refers to the effect of relative time, D_t is a relative time dummy and ε_{it} represents a white noise term.

a) There are a number of reasons for using PSM rather than standard OLS. First, OLS is inappropriate if individuals in the treated and untreated groups differ in their observable characteristics (non-overlapping common support, differences in the distribution of observables within the common support). Second, in the present case the treatment, *i.e.* a change in ownership status, may be expected to affect the control variables in the regression. As a result, it is no longer clear which variables one should include as controls. When using matching, one only controls for pre-treatment characteristics. Third, the comparison of standard regression results across countries may be problematic due to the non-randomness of the various samples. By constructing explicit control groups, differences in the sample design are no longer relevant. Finally, the datasets used tend to be very large. Using relatively small samples of matched data makes it more manageable in terms of computing power.

b) For the firm-level analysis, only log employment, log average wage, and a full set of industry and region dummies are included.

c) The data are organised into stacked cohorts. See Hijzen *et al.* (2008b) for more details. In order to avoid conflating treatment and composition effects related to the appearance pattern of individuals, each cohort is balanced.

The main advantage of focusing on cross-border takeovers is that it allows one to control for firm-selection, *i.e.* the possibility that wage levels in foreign-owned plants differ from those in domestic plants because foreign investors select their targets on the basis of unobservable time-invariant characteristics that affect pay but do not represent an effect of ownership status. However, correcting for selection bias in this manner also means that the analysis no longer captures the role of greenfield investment, the effects of which may be different.[25] The focus on cross-border M&A may, nevertheless, be justified on the basis that this form of FDI accounts for the bulk of FDI (UNCTAD, 2007).[26] Girma and Görg (2007) find for the United Kingdom that foreign takeovers of domestic firms tend to increase wages, but also that their effect depends on the industry of target firms and the nationality of acquirers. For Indonesia, Lipsey and Sjöholm (2006) find that even after controlling for firm-fixed effects, foreign takeovers raise production-worker wages by 17% and non-production-worker wages by 33%. More generally, these studies show that controlling for fixed effects reduces the estimated foreign wage premium without, however, challenging the conventional wisdom that foreign-owned firms pay higher wages than domestic firms.

Firm-level studies of the kind discussed above have motivated to an important extent the perception that foreign-owned firms pay higher wages than local firms and that foreign wage premia are more pronounced in developing countries than in developed countries. Table 5.1 presents new firm-level evidence using recent data for Germany, Portugal, the United Kingdom, Brazil, and Indonesia. The analysis focuses on both the wage and the employment effects of cross-border M&A. The following findings emerge:

- The raw differences in average wages and employment between foreign-owned and local firms are large in all of the five countries. Foreign-owned firms pay considerably more on average than local firms, with pay differences varying from 26% in Germany to 37% in the United Kingdom, 59% in Portugal, 77% in Indonesia, and 133% in Brazil. Foreign-owned firms also employ many more workers than domestic firms on average,

Table 5.1. **The effects of cross-border takeovers on average wages and employment**

Firm-level evidence

		Panel A. **Average wage**					Panel B. **Employment**				
		Germany	Portugal	United Kingdom	Brazil	Indonesia	Germany	Portugal	United Kingdom	Brazil	Indonesia
Level comparisons[a]											
– without controls		0.255***	0.588***	0.366 ***	1.332***	0.771 ***	1.632***	0.827***	0.890 ***	2.004***	1.244***
– with controls		0.106***	0.357***	0.297 ***	1.054***	0.319 ***	1.155***	0.776***	0.872 ***	1.875***	1.070 ***
Foreign takeovers of domestic firms[b]											
Average effect		0.025	0.078***	0.050**	0.111**	0.189***	–0.060	0.238***	–0.047*	0.140	0.220***
Effect at	t = 0	n.a.	0.046*	0.038	0.100*	0.175***	n.a.	0.238***	–0.043	0.097	0.213***
	t = 1	n.a.	0.106***	0.059**	0.077	0.206**	n.a.	0.235***	–0.065**	0.156	0.245***
	t = 2	n.a.	0.081***	0.053*	0.157**	0.221**	n.a.	0.241***	–0.034	0.167	0.247***
Domestic takeovers of foreign firms[b]											
Average effect		–0.004	–0.009	–0.061	n.a.	–0.110*	–0.042	0.005*	–0.013	n.a.	–0.011
Effect at	t = 0	n.a.	0.000	–0.049	n.a.	–0.119*	n.a.	0.015***	0.014	n.a.	–0.012
	t = 1	n.a.	–0.015	–0.063	n.a.	–0.097	n.a.	0.018***	–0.015	n.a.	–0.037
	t = 2	n.a.	–0.012	–0.072	n.a.	–0.058	n.a.	–0.017***	–0.037	n.a.	0.035

StatLink http://dx.doi.org/10.1787/348872748836

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.
n.a.: Not available.

a) Estimations with OLS. Coefficients reflect percentage differences. Controls include log employment, industry and region dummies for the average wage comparisons, and industry and region dummies for the employment comparisons.

b) Estimations with difference-in-difference propensity-score matching. Coefficients reflect percentage differences in the average wage and employment between firms that change ownership status relative to their counterfactual value had they not changed ownership status.

Source: Martins (2008) for Brazil and Portugal; Upward (2008) for Germany and the United Kingdom, OECD calculations for Indonesia based on the National Manufacturing Survey. See Annex Tables 5.A1.2and 5.A1.3 for details on data sources and variable definitions.

with employment differences ranging from 83% in Portugal to 200% in Brazil. However, this does not necessarily mean that foreign-owned firms provide more and better jobs than *comparable* domestic firms.

- Controlling for observable firm characteristics reduces considerably average pay and employment differences between foreign-owned and domestic firms, but they still remain sizable. Foreign-domestic average pay differences range from 11% in Germany to 30% in the United Kingdom, 32% in Indonesia, 36% in Portugal and 105% in Brazil. Foreign-domestic employment differences vary from 78% in Portugal to 87% in the United Kingdom, 107% in Indonesia, 116% in Germany and 188% in Brazil. As mentioned above, these estimates may be interpreted as providing an upper bound on the potential long-term effects of inward FDI. Nevertheless, a considerable part of these differences is likely to be due to selection bias. One can address this issue by looking at changes in wages and employment of domestic firms undergoing a foreign takeover.
- Foreign takeovers of domestic firms tend to raise average wages relative to those that would have occurred in the absence of takeovers, although their impact varies considerably across countries. The effects range from 5% in the United Kingdom to 8% in Portugal, 11% in Brazil, and 19% in Indonesia, while the effect is positive but statistically insignificant in Germany. In general, these results are consistent with previous studies that have shown small and positive foreign wage premia in developed economies and potentially larger foreign wage premia in developing countries.

- The effects of foreign takeovers on average wages tend to become more positive over time. For Brazil, the foreign wage premium increases from 10% directly after the takeover to 16% after two years; for Indonesia, it increases from 18% directly after the takeover to 22% after two years; for Portugal, from 5% to 8% and the wage premium increases from 4% to 5% in the United Kingdom. The gradual increase in the positive effect may reflect the time it takes to transfer technology from parent to affiliate and for employees to accumulate human capital. However, it may also reflect the impact of foreign takeovers on the composition of the workforce.
- Foreign takeovers also tend to raise employment in some of the countries analysed, but not in all. Whereas foreign takeovers appear to reduce employment by about 5% in the United Kingdom, presumably reflecting the process of restructuring that is associated with takeovers, they raise employment by 22% in Indonesia and 24% in Portugal. No significant effects are found for Brazil and Germany.
- Domestic takeovers of foreign firms generally have no or a small negative effect on average wages and employment. This suggests that the effects of foreign takeovers of domestic firms and domestic takeovers of foreign firms are qualitatively different. This asymmetry supports the hypothesis that foreign takeovers are accompanied by the transfer of modern production and management practices from the parent to the foreign affiliate.

Evidence from linked employer-employee data

The results from the firm-level analysis presented so far are in line with the conventional wisdom based on previous studies that FDI has the potential to increase significantly the number and quality of jobs, particularly in developing countries. However, the results from the firm-level analysis may be biased because they do not control for worker selection, *i.e.* the possibility that ownership changes are associated with changes in the composition of the workforce. To the extent that unskilled workers tend to leave after takeovers and skilled workers join, this would bias the estimated foreign wage premium upwards. Using linked employer-employee data, one can control for changes in the composition of the workforce due to cross-border M&A by focusing on the wage effects for individual workers who stay in the same firm (so-called "stayers"). Linked employer-employee data also allow one to look at the role of ownership for workers who change jobs between domestic and foreign firms. This is interesting because it allows one to analyse differences in pay conditions between foreign and domestic firms for *new* workers. As productivity differences may have more important implications for workers at the moment of hiring than for stayers (Beaudry and DiNardo, 1991), one may expect the role of ownership to be more important for this category of workers. In addition, the analysis of worker movements takes account of both foreign-owned firms that were previously domestic but have been acquired by a foreign owner and those that are established through greenfield investment.

An increasing number of recent studies have made use of linked employer-employee data to analyse the role of foreign ownership for individual wages.[27] The majority of these studies concentrate on cross-border takeovers in line with the firm-level literature. The results challenge the conventional wisdom by suggesting that foreign takeovers in developed countries have, at best, a small positive effect on individual wages and that their effect could even be negative. For example, Martins (2006) shows for Portugal that the foreign wage premium disappears after controlling for worker selection and may even

reduce individual wages by 3% for workers in foreign firms relative to their counterparts in domestic firms. Heyman *et al.* (2007) present similar findings for Sweden, which also indicate that foreign takeovers may reduce individual wages relative to their counterparts in domestic firms. By contrast, Andrews *et al.* (2007a) for Germany, Malchow-Moller *et al.* (2007) for Denmark and Balsvik (2006) for Norway find small positive effects (1-3%). It is not clear what drives differences in estimated wage premia across these studies. They may reflect differences in country characteristics or the nature of FDI, as well as differences in the econometric methodology. Moreover, it is an open question what the effect of controlling for firm and worker selection would be for the estimation of foreign wage premia in developing countries, where such premia are believed to be much larger.

Table 5.2 presents new evidence of the effects of cross-border M&A on individual wages using linked employer-employee data for Brazil, Germany, Portugal and the United Kingdom. The following findings emerge:

- Simple comparisons across workers in foreign-owned and domestic firms reveal significant differences in individual wages ranging from 9% in Germany to 19% in the United Kingdom, 26% in Portugal, and almost 70% in Brazil. Although sizable, these raw differentials are significantly smaller than the average wage differences found in the firm-level analysis (Table 5.1). This difference reflects the role of aggregation bias in inflating the firm-level estimates. Because the unit of observation has shifted from the firm to the worker this removes the bias due to the positive correlations between foreign ownership, firm size and average pay.
- As in the firm-level analysis, controlling for observable worker and firm characteristics considerably reduces individual pay differences between workers in foreign-owned and

Table 5.2. **The effects of cross-border takeovers on individual wages**

Evidence from linked employer-employee data

		Germany	Portugal	United Kingdom	Brazil
Level comparisons between domestic and foreign-owned firms[a]					
– without controls		0.092***	0.265***	0.194***	0.691***
– with controls		0.040***	0.121***	0.117***	0.233***
The effects of foreign takeovers of domestic firms on wages[b]					
Average effect		0.028***	0.037***	–0.004	0.012***
Effect at	t = 0	n.a.	0.015***	0.004	0.044***
	t = 1	n.a.	0.051***	–0.003	–0.013***
	t = 2	n.a.	0.045***	–0.012	0.004**
The effects of domestic takeovers of foreign firms on wages[b]					
Average effect		0.005*	–0.037***	0.022	n.a.
Effect at	t = 0	n.a.	–0.076***	–0.005	n.a.
	t = 1	n.a.	–0.045***	0.030	n.a.
	t = 2	n.a.	0.011	0.039*	n.a.

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.

n.a.: Not available.

a) Estimations with OLS. Coefficients reflect percentage differences. Controls include log employment, tenure, age, age squared and skill, gender, industry and region dummies.

b) Estimations with difference-in-difference propensity-score matching. Coefficients reflect the average percentage differences between the wage of workers staying in a firm that changes ownership status relative to their counterfactual wage had their firm not changed ownership status.

Source: Martins (2008) for Brazil and Portugal, Upward (2008) for Germany and the United Kingdom. See Annex Tables 5.A1.2and 5.A1.3 for details on data sources and variable definitions.

domestic firms, but they remain fairly large. Foreign-domestic differences in individual pay vary from 4% in Germany to 12% in Portugal and the United Kingdom, and 23% in Brazil. These values place an upper bound on the long-term effect of inward FDI on individual wages. However, these estimates are likely to be upward biased due to the role of firm and worker selection. One can address selection bias by focusing on the short-term effects of changes in ownership status due to cross-border M&A.

- Foreign takeovers of domestic firms tend to have a small positive or no average effect on the individual wages of workers who stay in the same firm relative to similar workers who stay in domestic firms that are not taken over. The results suggest no effect for the United Kingdom and a small positive effect for Brazil, Germany and Portugal in the range of 1% to 4%. The absence of a positive effect in the United Kingdom may reflect the relative flexibility of the UK labour market compared to the other countries that makes it hard to sustain differences in pay for identical workers across firms.[28]
- There is only limited evidence that the wage effects of foreign takeovers for stayers tend to become more positive over time. For Portugal, the foreign wage premium increases from 2% directly after the takeover to 5% after two years, while in Brazil and the United Kingdom there is no apparent time pattern. It may be that the time-span of three years is too short to capture any learning effects associated with the transfer of technology from parent to affiliate.
- The effects of domestic takeovers of foreign firms on individual wages tend to be negative or insignificant. However, any negative effects are likely to be temporary. These effects may be thought of as pure takeover effects.

There may be, at least, two reasons why the wage effects of takeovers for stayers are considerably smaller than those found in firm-level analyses, including the results presented in Table 5.1. First, foreign takeovers may be associated with technological upgrading and increases in skill-intensity. If this is the case, firm-level studies provide an overly positive picture of their wage effects, because a skill upgrading of the workforce is confounded with a pure pay premium. Alternatively, the firm-level analysis may capture a tendency for the ownership advantage of MNEs to be shared more extensively with new hires, and not with stayers, as the market for the former tends to be more competitive. This may also explain why the effects of greenfield investment, where the entire workforce consists of new hires by definition, appear to be more positive than those of cross-border M&A, which rely, at least initially, largely on the existing workforce of target firms.

One way to shed light on these issues is to analyse wage changes for workers moving between domestic and foreign firms. Relatively few studies exploit worker mobility to analyse the role of foreign ownership. Two exceptions are Andrews *et al.* (2007a) and Balsvik (2006), who show that workers moving from a domestic to a foreign firm experience a 6% increase in wages in Germany and 8% in Norway. Table 5.3 presents new evidence of the effects of worker movements between foreign and domestic firms on individual wages using data for Brazil, Germany, Portugal and the United Kingdom.[29] The following findings emerge:

- The results indicate large wage gains for workers who move from domestic to foreign firms and no effects or small wage losses for workers who move from foreign to domestic firms. This indicates that foreign-owned firms offer higher pay than comparable domestic firms for similar workers. Moreover, the foreign wage premia accruing to workers who move from domestic to foreign firms are considerably larger

Table 5.3. **The effects of worker mobility between domestic and foreign firms on individual wages**

Evidence from linked employer-employee data[a]

		Germany	Portugal	United Kingdom	Brazil
From domestic to foreign firms					
Average effect		0.080*	0.136***	0.061**	0.213***
Effect at	t = 0	n.a.	0.115***	0.034	0.160***
	t = 1	n.a.	0.138***	0.062**	0.228***
	t = 2	n.a.	0.154***	0.087***	0.252***
From foreign to domestic firms					
Average effect		–0.024	–0.037***	0.013	–0.016*
Effect at	t = 0	n.a.	–0.050***	–0.000	0.013
	t = 1	n.a.	–0.040***	0.030	0.040***
	t = 2	n.a.	–0.020***	0.010	–0.101***

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.

n.a.: Not available.

a) Estimations are conducted with difference-in-difference propensity-score matching. Coefficients reflect the average percentage differences between the wage of workers who move to a firm with different ownership status relative to their counterfactual outcomes had they not changed jobs.

Source: Martins (2008) for Brazil and Portugal, Upward (2008) for Germany and the United Kingdom. See Annex Tables 5.A1.2and 5.A1.3 for details on data sources and variable definitions.

than those found in the context of takeovers. This may suggest that the large differences between the firm-level results in Table 5.1 and the worker-level results in Table 5.2 are likely to reflect, in part, the role of new hires in firms that change ownership status. This also makes sense intuitively as it is not obvious why new foreign owners would award large instantaneous wage increases to the incumbent workforce of acquired firms.

- Foreign wage premia associated with job movers, differ considerably across countries. They range from 6% in the United Kingdom to 8% in Germany, 14% in Portugal and 21% in Brazil. This is consistent with the consensus in the empirical literature that foreign wage premia are larger in developing than in developed countries. Presumably, this reflects the more important productivity advantage of foreign MNEs over comparable local firms in less developed countries.

Thus, both the firm-level and the worker-level results suggest that FDI may have a substantial positive effect on wages in foreign-owned firms in the host country. While one should be careful about generalising results based on only a few countries, the present results are consistent with the consensus in the literature that the positive wage effects are likely to be more pronounced in developing and emerging economies. The worker-level results based on takeovers and job movers, further suggest that the positive impact of FDI resides primarily in the provision of better job opportunities to new employees, rather than in the provision of better pay to workers who stay in firms that happen to change ownership, at least, in the short-term. This may reflect more competitive conditions in the market for new hires that allow new employees to share more widely in the productivity advantages of MNEs. In the longer term, however, one would expect the positive effects to spread across the entire workforce, as large pay disparities between new and old workers within firms are unlikely to be sustainable.

Distinguishing between workers with different skills

The analysis so far has concentrated on the average effect of foreign takeovers on wages. However, the effects of foreign takeovers may not be evenly distributed across workers with different skills. The analysis of foreign takeovers is therefore repeated whilst distinguishing between different skill groups. In a first instance, the impact of foreign takeovers on the wages of production and non-production workers will be analysed at the firm-level using data for Brazil and Indonesia. In a second step, a more detailed analysis will be conducted at the level of the individual worker for the countries for which linked employer-employee data are available by distinguishing between workers with low, medium and high levels of skills.

The firm-level results for Brazil and Indonesia are reported in Table 5.4:

- The results provide some evidence that foreign wage premia may be more important for skilled than for unskilled workers in emerging economies. In Indonesia, estimated foreign wage premia differ considerably across skilled and unskilled workers, being 30% for the former and 17% for the latter.[30] In Brazil, a positive effect of 11% is found for skilled workers and no significant effect for unskilled workers. However, when looking at the estimated coefficients, there is no clear difference between skilled and unskilled workers in Brazil.
- While the positive wage gains for skilled workers appear to strengthen over time in both Brazil and Indonesia, the wage gains for unskilled workers in Indonesia may only be temporary.

Table 5.4. **The effects of foreign takeovers of domestic firms on average wages by skill group**

Firm-level evidence for Brazil and Indonesia[a]

		Unskilled workers		Skilled workers	
		Brazil	Indonesia	Brazil	Indonesia
Average effect		0.088	0.166***	0.110*	0.295***
Effect at	t = 0	0.011	0.167***	0.112	0.262***
	t = 1	0.113	0.142	0.093	0.333***
	t = 2	0.142	0.099	0.125*	0.456***

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.

a) Estimations with difference-in-difference propensity-score matching. Coefficients reflect percentage differences between domestic firms that are taken over by a foreign firm relative to their counterfactual value had they not been taken over.

Source: Martins (2008) for Brazil. OECD calculations for Indonesia based on the National Manufacturing Survey. See Annex Tables 5.A1.2and 5.A1.3 for details on data sources and variable definitions.

Table 5.5 reports the effects of foreign takeovers of domestic firms on the wages of low-skilled, semi-skilled and high-skilled workers. The results imply important differences across countries with respect to the role of skill in both qualitative and quantitative terms:

- In the United Kingdom, the results suggest a small negative impact on the wages of low-skilled workers and no effect for semi- and high-skilled workers. By contrast, in Germany and Portugal, the impact of foreign takeovers on wages is positive for all three skill groups and differences across skill groups are modest. If anything, foreign takeovers tend to benefit most workers with medium skills.

- For Brazil, the results indicate large differences across skill groups with a positive effect for unskilled workers, a smaller but still positive effect for semi-skilled workers and a negative effect for skilled workers.[31] The findings for Brazil differ from the prevailing view in the literature that the effects of foreign ownership tend to be more important for skilled workers.

Table 5.5. **The effects of foreign takeovers of domestic firms on wages by skill group**

Evidence from linked employer-employee data[a]

		Germany[b]	Portugal	United Kingdom	Brazil
Unskilled workers					
Average effect		0.018***	0.019***	–0.025**	0.054***
Effect at	t = 0	n.a.	–0.005	–0.007	0.046***
	t = 1	n.a.	0.031***	–0.031***	0.053***
	t = 2	n.a.	0.033***	–0.036***	0.067***
Semi-skilled workers					
Average effect		0.027***	0.053***	0.006	0.008***
Effect at	t = 0	n.a.	0.028***	0.009	0.048***
	t = 1	n.a.	0.085***	0.010	–0.019***
	t = 2	n.a.	0.049***	–0.000	–0.007**
Skilled workers					
Average effect		0.014***	0.041***	0.001	–0.046***
Effect at	t = 0	n.a.	0.022***	–0.006	0.027***
	t = 1	n.a.	0.050***	0.015	–0.108***
	t = 2	n.a.	0.049***	–0.005	–0.061***

StatLink http://dx.doi.org/10.1787/350058145315

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.

n.a.: Not available.

a) Estimations with difference-in-difference propensity-score matching. Coefficients reflect the average percentage differences between the wage of workers whose firm is taken over by a foreign firm relative to their counterfactual wage had their firm not been taken over.

b) As information on skill levels is missing for some workers, the results are not comparable to those reported in Table 5.2.

Source: Martins (2008) for Brazil and Portugal, Upward (2008) for Germany and the United Kingdom. See Annex Tables 5.A1.2and 5.A1.3 for details on data sources and variable definitions.

Relatively little is known about the impact of FDI on non-wage working conditions

So far, the analysis has concentrated on differences in pay between multinational and domestic firms. In the remainder of this section, attention shifts from average-wage effects to a number of alternative dimensions of working conditions which can be measured with the available data.

The empirical literature suggests that MNEs have a relatively low tendency to export labour practices to their foreign affiliates, tending instead to adapt to local practices (*e.g.* Almond and Ferner, 2006). Bloom *et al.* (2008) use survey data on management and work-life balance practices for over 700 medium-sized firms in the United States, the United Kingdom, Germany and France to analyse to what extent US multinationals export certain practices to their affiliates in Europe. The evidence indicates that US MNEs export management practices but not work-life balance practices. Freeman *et al.* (2007) compare labour practices in domestic and foreign affiliates of a single US firm in different countries. They find that considerable heterogeneity remains across countries, after controlling for

worker, job and product characteristics. This suggests that US firms adapt their labour practices to host country conditions.

The management literature suggests a number of reasons why US MNEs might have a low propensity to export labour practices. First, labour practices tend to be embedded in national rules and social norms. For example, the extensive regulation of the labour market in many European countries and the strong role of trade unions may make it difficult or unattractive for US MNEs to export labour practices to Europe (Bloom *et al.*, 2008). Second, the low propensity of US MNEs to export working practices may also reflect strategic considerations. For example, empirical evidence indicates that local affiliates with a domestic market orientation tend to have a significantly greater degree of discretion about the way human resources are managed than firms that are more export-oriented (Harzing, 2000; Fento-O'Creevy *et al.*, 2008).[32] Finally, the low propensity of US MNEs to export labour practices may reflect the specific management style of US MNEs and not be representative for MNEs originating from other countries.

There appears to be no systematic evidence on the propensity of MNEs to export labour practices to developing countries. This is unfortunate, as it not obvious to what extent the results for developed countries carry over to developing countries. On the one hand, enforcement of labour provisions and trade unions tend to be weaker in developing countries, thereby reducing the role of institutional constraints for the foreign affiliates of MNEs to implement the same labour practices they use in OECD countries. On the other hand, labour practices that are socially acceptable in developing countries may not be acceptable to the consumers and investors in developed countries, creating incentives for MNEs from developed countries to export their human-resource practices abroad.

Table 5.6 presents the estimated impacts of foreign takeovers of domestic firms on a number of working conditions other than average pay: working hours (weekly working hours for full-time workers), worker turnover (the rate of job separation), union bargaining power (the wage premium associated with collective agreements) and low pay (the probability of receiving a wage equal or lower than the minimum wage). Key findings include:

- *Hours of work*. Raw comparisons between foreign and domestic firms (not reported) suggest that working hours are longer in foreign firms in Brazil, Portugal and the United Kingdom.[33] However, this is largely due to the specific characteristics of firms that are acquired by foreign owners. Foreign takeovers, if anything, have a slight negative impact on working hours. The results are generally not statistically significant and even in Brazil, where they are statistically significant, they are economically negligible (*i.e.* a foreign takeover is estimated to reduce working hours by 0.2%, corresponding to five minutes per week). A reduction in working hours as a result of foreign takeovers may result when *i*) foreign takeovers increase hourly earnings and this induces employees to substitute working time for leisure; or *ii*) when foreign firms are more likely to comply with statutory limits on working hours. In either case, the reduction in working hours is most likely to be perceived positively by workers.[34]
- *Worker turnover*. There is some evidence that foreign takeovers increase worker turnover in Portugal, while no effect is found in either Brazil or Germany. Increased worker turnover may just reflect the process of restructuring that accompanies such takeovers in the short-term. However, it is also possible that foreign-owned firms have higher worker turnover than domestic firms in the longer-term. Level comparisons between

Table 5.6. **The effects of foreign takeovers of domestic firms on working conditions**[a]

		Germany	Portugal	United Kingdom	Brazil
Log weekly hours					
Average effect		–0.291[c]	–0.002	–0.001	–0.002***
Effect at	t = 0	n.a.	–0.003	0.001	–0.001***
	t = 1	n.a.	–0.009***	0.002	–0.005***
	t = 2	n.a.	0.007**	–0.006	0.000
Worker turnover					
Average effect		–0.034	0.055**	n.a.	0.052
Effect at	t = 0	n.a.	0.020	n.a.	0.029
	t = 1	n.a.	0.078**	n.a.	0.057
	t = 2	n.a.	0.066**	n.a.	0.070*
Low pay[b]					
Average effect		n.a.	0.006***	–0.002	0.001***
Effect at	t = 0	n.a.	–0.000	–0.006	0.001
	t = 1	n.a.	0.011***	0.001	0.002***
	t = 2	n.a.	0.007**	–0.000	0.001
Union wage premium					
Average effect		–0.056	n.a.	–0.039**	n.a.
Effect at	t = 0	n.a.	n.a.	–0.008	n.a.
	t = 1	n.a.	n.a.	–0.053***	n.a.
	t = 2	n.a.	n.a.	–0.055***	n.a.

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*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.

n.a.: Not available.

a) Estimations with difference-in-difference propensity-score matching. Coefficients reflect the average percentage differences between the working condition of workers whose firm is taken over by a foreign firm relative to their counterfactual working condition had their firm not been taken over.

b) The UK sample is restricted to 1999-2005 due to the introduction of the minimum wage in 1998 in the United Kingdom.

c) Estimates are based on standard working hours at the firm-level.

Source: Martins (2008) for Brazil and Portugal, Upward (2008) for Germany and the United Kingdom. See Annex Tables 5.A1.2and 5.A1.3for details on data sources and variable definitions.

domestic and foreign firms suggest that foreign-owned firms experience higher worker turnover also in the longer term (not reported). This is consistent with Andrews *et al.* (2007b) who show for Germany that jobs are less secure in foreign than in domestic firms. A possible explanation for this may be that MNEs have more elastic labour demand as they more easily substitute local workers for workers in other locations in response to changes in relative wages (Fabbri *et al.*, 2003; Barba-Navaretti *et al.*, 2003; OECD, 2007a).

- *Low pay.* Individuals in foreign-owned firms are less likely to earn the minimum wage (or less) than those in domestic firms (not reported).[35] Nonetheless, foreign takeovers appear to increase the probability of low pay in Brazil and Portugal relative to comparable workers in firms that are not taken over, but there is no such effect in the United Kingdom. Note that in Brazil and Portugal, this does not necessarily mean that workers are worse off in absolute terms, but that workers at the bottom-end of the wage distribution do not experience as much wage growth as they would have, had their firm not had been taken over by a foreign firm.
- *Union wage premium.* The analysis for the United Kingdom and Germany assesses to what extent foreign takeovers affect the union wage premium for workers that were covered

by a collective agreement before the takeover relative to workers whose firm is taken over by a foreign firm but were not covered by a collective agreement.[36] The analysis suggests no effect for Germany and a negative effect for the United Kingdom.[37] The latter suggests that foreign takeovers reduce union bargaining power in the United Kingdom. This may result from the fear on the part of unions that excessive wage demands are more likely to result in the relocation of production to other countries.

The question whether MNEs promote better working conditions other than average wages is complex and the analysis above only presents a preliminary attempt to address this issue. Bearing this caveat in mind, one can draw the following tentative conclusions. First, the evidence that foreign takeovers affect working conditions other than average wages is considerably weaker than that for raising average wages. Second, and also in contrast to average wages, the impact of foreign takeovers on other working conditions is not unambiguously positive. Third, while foreign takeovers may have some impact on non-wage working conditions, it is not clear whether these effects derive from a centralised policy to export certain labour practices or reflect the responses by MNEs to local conditions. Overall, there is little evidence to suggest that MNEs export working conditions abroad.

Summing up

The evidence presented in this section for three developed and two emerging economies suggests that inward FDI tends to have a positive effect on the wages of employees in foreign-owned plants, particularly in emerging economies, but little effect on working conditions other than average wages. The positive wage effects of FDI correspond well to the consensus in the empirical literature that is based on evidence for a large number of developed and developing countries. As these findings relate only to the effects of FDI within MNEs (taking no account of externalities) the positive evidence in itself does not provide a rationale for policies that favour FDI over other forms of investment. However, it suggests removing discriminatory barriers against FDI in the countries for which positive average wage effects are found.

Despite these positive results, it cannot be excluded that a minority of foreign firms offer wage and working conditions below that of their local counterparts or that fall short of national or international social norms. As a result, consumers and policy-makers in many OECD countries may still have grounds to be concerned about the labour practices of the foreign affiliates of some OECD-based MNEs. Accordingly, governments may wish to explore the role of various government instruments to promote good labour practices in the foreign operations of MNEs.[38]

3. The indirect effects of FDI on wages and working conditions in domestic firms

This section focuses on the indirect effects of FDI on wages and working conditions in domestic firms. To this end, it starts with a brief discussion of why wages and working conditions may spillover from foreign-owned to domestic firms. It then proceeds with an analysis of average wage spillovers from FDI to domestic firms in local labour markets in the context of Indonesia. It concludes with an analysis of the specific role of supply-chain linkages and worker mobility in facilitating wage spillovers in Brazil, Germany, Portugal and the United Kingdom.[39]

3.1. Why might pay and working conditions spill over from foreign to domestic firms?

Labour practices may spill over from foreign-owned to domestic firms through productivity spillovers and labour market effects:

- *Productivity spillovers*. FDI may be associated with knowledge spillovers to local plants that raise their productivity. The literature has emphasized four channels through which such spillovers may take place.[40] First, domestic plants may be able to improve productivity by imitating production or management practices in foreign firms. Second, workers who change from jobs in foreign-owned to domestic plants may introduce knowledge of modern production and management practices to their new employers (Fosfuri *et al.*, 2001; Glass and Saggi, 2002). Third, spillovers may occur from foreign firms to domestic suppliers in the supply chain: *i)* when sub-contracting induces specialisation among domestic input suppliers (Rivera-Batiz and Rivera-Batiz, 1990); *ii)* when foreign firms provide technical assistance to domestic suppliers; or *iii)* when foreign firms impose productivity-enhancing labour standards on their domestic suppliers. Finally, FDI may increase productivity in domestic firms when more intense product-market competition reduces X-inefficiencies in local firms.
- *Labour-market effects*. FDI may change the equilibrium market wage through its impact on labour demand and supply. Entry of foreign firms is likely to raise labour demand, thereby bidding up local wages. To the extent that foreign firms tend to pay higher wages (see Section 2), FDI may also reduce the supply of labour available to domestic firms by lowering the willingness of individuals to work for such firms. This would also tend to raise wages in domestic firms.[41]

3.2. FDI and wage spillovers

Using firm-level data for Mexico and Venezuela, Aitken *et al.* (1996) find no evidence of positive wage spillovers from FDI to domestic firms, even though foreign-owned plants pay substantially higher wages. The absence of positive wage spillovers may indicate that foreign-owned and domestic plants operate in different labour markets and/or that productivity spillovers may be absent or even negative. Labour markets may be segmented between foreign and domestic firms because foreign-owned firms tend to provide better working conditions, in order to limit worker turnover or because of institutional differences such as compliance with labour laws or bargaining strength *vis-à-vis* trade unions. Positive productivity spillovers may fail to materialise because of the lack of technological absorptive capacity of domestic firms or because of the crowding-out effect of foreign entry on local competitors.[42] Driffield and Girma (2003) directly control for productivity in their estimations and concentrate on the wage effects of FDI through its impact on labour demand and supply. Using data for the UK electronics industry, they find that FDI has a large positive effect on wages in domestic firms through its impact on labour demand and a small positive effect through its impact on labour supply. Moreover, wage spillovers appear to be more important for skilled than unskilled workers, which may reflect the relative scarcity of skilled labour. Finally, using a cross-section of linked employer-employee data for Indonesia, Lipsey and Sjohölm (2004b) find that FDI is positively associated with average wage levels in domestic firms, particularly those of non-production workers.

FDI has a significant positive effect on the wages of skilled workers in domestic firms

New evidence on wage spillovers is reported for Indonesia in Table 5.7. The wage effects of inward FDI on domestic manufacturing plants in the same region and industry are analysed using data for the period 1997-2005. The empirical model allows for productivity, labour-demand and labour-supply effects. The labour-demand effect may either reflect the direct effect of FDI on labour demand in foreign firms or its indirect effect on labour demand in domestic firms, when FDI is associated with productivity spillovers. One can isolate the foreign labour-demand effect by augmenting the basic empirical model with a measure of productivity in domestic firms (labour productivity in this case). The difference in the coefficients on the foreign presence index, between the estimations that control for productivity and those that do not, gives an indication of the role of productivity spillovers from FDI for domestic labour demand. The labour-supply effect of FDI is captured by including the average wage offered by foreign firms in the same region and industry as a regressor. To account for the possibility that the effects of FDI on wages in domestic firms differ across skill groups, the empirical model is also estimated separately for production and non-production workers. (More details on the derivation of the empirical model can be found in Annex 5.A3) The following findings emerge:

- The results suggest that inward FDI has a positive effect on the average wage of non-production workers in domestic firms in the same industry and region in Indonesia, but no impact on the average wage of production workers. This reflects to a large extent the direct effect of foreign entry on the local demand for non-production workers.[43] A 10% increase in the foreign-presence index raises non-production worker wages in domestic firms by about 2%. While this may be good for non-production workers, employment in domestic firms may suffer at the expense of foreign-firm employment.

Table 5.7. **Foreign direct investment and wage spillovers to domestic firms**[a]
Firm-level evidence for Indonesia[b]

	All		Production workers		Non-production workers	
Log capital	0.022***	0.033***	0.020**	0.032***	0.008	0.020*
Log labour productivity	0.183***		0.189***		0.161***	
Foreign presence index[c]	0.057	0.103	0.041	0.086	0.212**	0.234**
Log average wages in domestic firms[c]	0.210***	0.242***	0.246***	0.282***	0.199***	0.209***
Log average wages in foreign firms[c]	0.004	0.000	–0.006	–0.009	0.008	0.006
Log employment, nonproduction workers			0.043***	0.034**		
Log employment, production workers					0.243***	0.202***
Constant	4.586***	5.891***	4.199***	5.213***	4.232***	5.653***
R-squared	0.41	0.36	0.38	0.33	0.19	0.17
Observations (1number of firms)	26 903 (14 404)					

StatLink http://dx.doi.org/10.1787/350107054604

*, **, ***: statistically significant at the 10%, 5%, 1% level, respectively, confidence interval based on robust standard errors.

a) All regressions are estimated with fixed effects and include a full set of time dummies and industry- and region-specific trends.

b) The sample covers the manufacturing sector for the period 1997-2005.

c) Employment and average wages refer to all workers, production workers and non-production workers, respectively.

Source: OECD calculations for Indonesia based on National Manufacturing Survey. See Annex Tables 5.A1.2and 5.A1.3 for details on data sources and variable definitions.

- The wage of non-production workers in domestic firms may also increase as a result of the indirect effect of FDI on the labour demand of domestic firms through its impact on productivity in those firms. However, this effect appears to be very small.
- There is no evidence of a labour-supply effect of FDI.[44]

3.3. Spillovers through backward linkages and worker mobility

The analysis for Indonesia suggests that the effects of inward FDI on wages in domestic firms through its impact on productivity are very small on average. Previous empirical studies on productivity and wage spillovers provide mixed results and suggest that the average effect of FDI can even be negative. The lack of robust evidence in support of positive productivity-driven wage spillovers may reflect the crowding-out effect of domestic firms as a result of the competition from foreign firms in output and input markets, including the local labour market for skilled workers. While the evidence in support of positive productivity-driven wage spillovers may be limited on average, their importance is likely to differ across local firms according their engagement with foreign MNEs. In particular, productivity-driven wage spillovers are likely to be more important for local firms that supply foreign MNEs or that hire workers with prior experience in foreign firms. The remainder of this section will explore the impact of FDI on wages in domestic firms through productivity spillovers by explicitly focusing on the role of backward linkages and worker mobility between domestic and foreign firms.

A number of recent papers have attempted to analyse how productivity and wage spillovers may occur by looking at specific ways through which domestic firms engage with foreign firms. For example, Görg and Strobl (2005) examine empirically the contribution of worker mobility to productivity spillovers using a panel of Ghanaian manufacturing firms. They find that domestic firms with an owner who has previously been employed in a foreign firm in the same industry, are more productive than other domestic firms. Balsvik (2006) also analyses productivity spillovers through worker mobility by concentrating on the share of workers with recent experience in MNEs as the main explanatory variable. Using linked employer-employee data for Norway, she finds that workers with prior experience in MNEs tend to contribute 20-25% more to productivity than workers without such experience. Moreover, the contribution to firm productivity exceeds the private return to mobility, which suggests that worker mobility entails genuine productivity externalities. Poole (2006) analyses the role of worker mobility for wage spillovers using linked employer-employee data for Brazil. She finds evidence in support of positive wage spillovers and that their magnitude depends on the skill levels of workers previously employed by MNEs and incumbent workers in the domestic firm.

Backward linkages provide an alternative channel through which spillovers may occur from FDI to local firms. A number of studies have shown using input-output tables that backward linkages from foreign plants to local suppliers are associated with positive productivity spillovers (see Javorcik, 2004 for Lithuania; Blalock and Gertler, 2008 for Indonesia). Intuitively, this reflects the fact that foreign firms often have a strong interest in helping local supplier firms to improve the quality of inputs or to ensure that sub-contractors respect minimum labour standards (Moran, 2007; Sabel *et al.*, 2000). There is little systematic analysis that specifically looks at the effects of backward linkages from MNEs on wages and working conditions in supplier firms. Harrison and Scorse (2006) provide indirect evidence that reputation-sensitive MNEs helped raising the wages of unskilled workers in Indonesian textiles factories without, however, inducing a reduction

in unskilled employment in those factories. This may indicate that MNEs not only helped raise wages but also productivity.[45] A number of case studies analyse the impact of CSR policies (*i.e.* private codes of conduct) adopted by MNEs on working conditions in upstream suppliers (Frenkel and Scott, 2002; Locke *et al.*, 2007a and b; Lake, 2007). In general, the effectiveness of such codes appears to be limited. The main reasons are likely to be the difficulty of raising labour standards in a highly competitive environment and the failure of MNEs to actively engage with supplier firms to help improving working practices and productivity. Box 5.3 discusses the impact of private codes of conduct and monitoring in the supply chain in more detail.

Using data from the World Bank Enterprise Survey, Figure 5.4 compares employment conditions and productivity in domestic firms that engage with foreign firms in the supply chain or that have managers with previous experience in foreign firms, on the one hand, with domestic firms that have no apparent relationship with foreign firms, on the other. For comparison, the average difference between foreign and unrelated domestic firms is also included in the figure. These data indicate that:

- Domestic firms that engage with foreign firms in the supply chain or that hire managers with prior experience in foreign firms tend to be larger, more productive and pay higher wages than local firms that have no apparent relationship with foreign firms (but are considerably smaller and less productive than foreign firms).
- Domestic firms that engage with foreign firms are also more likely to provide training courses to their employees.
- There is no apparent difference in terms of union membership or voluntary worker turnover between such firms and other domestic firms.

While the simple comparisons reported in Figure 5.4 suggest that backward linkages and worker mobility could potentially be important channels of wage spillovers between foreign and domestic firms, this does not necessarily follow as the simple correlations do not say anything about the causal effect of engaging with foreign firms on working conditions in domestic firms. Indeed, it seems plausible that foreign firms select more productive firms as their suppliers and that workers with experience in foreign firms find it more attractive to work in more productive firms. Due to the cross-sectional nature of the World Bank Enterprise Survey, it is not possible to address these selection issues.

Human capital accumulated in foreign firms can be effectively transferred through worker mobility

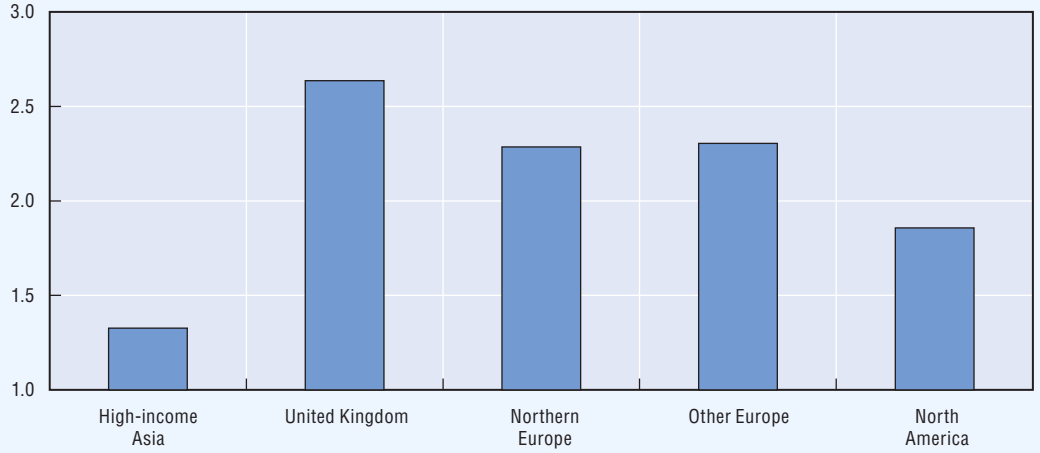
In order to get a deeper understanding of the role of worker mobility for wage spillovers, it is worth turning back to the results presented in Table 5.3 on worker movements. The analysis on worker movements may be considered a first step towards analysing wage spillovers through worker mobility as it provides insights in the extent to which human capital that is accumulated in foreign firms can be transferred to domestic firms. By comparing the magnitude of wage gains associated with worker movements from domestic to foreign firms with the wage losses associated with movements from foreign to domestic firms, one may get an idea of the extent to which worker mobility may be a potentially important channel for wage spillovers. To the extent that wage gains are not completely offset by corresponding wage losses, workers may be able to carry with them some of the knowledge that they have accumulated in foreign firms. The results indicate that wage gains are considerably larger than wage losses in each of the four countries

Box 5.3. **The impact of corporate social responsibility (CSR) on working conditions in the supply chain**

In response to social concerns about poor labour practices in the supply chain, reputation-sensitive MNEs have increasingly adopted private codes of conduct that specify minimal labour standards for supplier factories and implemented increasingly sophisticated monitoring arrangements to ensure supplier compliance. Using the EIRIS firm-level database, the figure in the box gives an indication of the importance of formal policies adopted by MNEs with respect to labour standards in the global supply chain. The figure shows that, except for MNEs from high-income Asia, there is substantial evidence for such policies. The significant presence of such systems among North-American MNEs is particularly noteworthy given their traditional reluctance to disclose any information not mandated by law. This may reflect the impact of anti-sweatshop campaigns on the corporate conduct of US-based MNEs. However, these figures do not reveal to what extent these policies indeed help raise working conditions in foreign supplier factories or whether supply-chain policies are mere window-dressing intended to alleviate consumer concerns about unethical working practices.

MNE policies on working conditions in the supply chain

Average scores by home region[a, b] (0-3 from low to high evidence)[c]



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a) EIRIS only assesses companies in sectors with high exposure to supply-chain issues: retailers, apparel manufacture, toy manufacture, sports goods manufacture, food producers and processors and tobacco. The sample consists of 266 listed companies. The analysis here is restricted to companies with operations in countries deemed by EIRIS to be high risk in terms of human rights violations ("list A and B countries"). This reduces the sample to 121 companies.

b) High-income Asia: Hong Kong (China), Japan and Singapore; Northern Europe: Denmark, Finland, Iceland, Ireland, Norway and Sweden; Other Europe: Austria, Belgium, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain and Switzerland; North America: Canada and the United States; Oceania: Australia and New Zealand.

c) What is the extent of policies, systems and reporting overall on global supply-chain standards? The values are coded as: 0: Little or no evidence; 1: Some evidence; 2: Clear evidence; and 3: Very clear evidence.

Source: OECD calculations based on EIRIS database. For further details on the indicators and the definitions, see Annex Table 5.A1.1.

An interesting case study was conducted on the effectiveness of CSR in raising working conditions in the supply chain for Nike (see Locke *et al.*, 2007a and 2007b). Nike is an ideal subject for such a study as *i)* it is one of the largest sportswear companies in the world; *ii)* it is strongly dependent on outsourcing production to low-cost suppliers abroad;[a] and *iii)* it became one of the focal points of the anti-sweatshop movement that criticised certain MNEs for the poor working conditions in some of their supplier factories.

Box 5.3. **The impact of corporate social responsibility (CSR) on working conditions in the supply chain** *(cont.)*

Nike initially refused to take responsibility for working conditions in independent supplier firms but reversed its position in 1992 when it first formulated a code of conduct that required suppliers to respect minimum labour standards. From 1992 onwards, it developed an increasingly sophisticated corporate responsibility and compliance program. By 2004, it employed 80 CSR and compliance managers. Footwear factories were inspected on a daily basis and apparel and equipment factories weekly. In addition, Nike employed about 1000 production managers who work in close collaboration with its suppliers around the world. The efforts by Nike to raise working conditions in their supplier firms are also acknowledged by EIRIS who attributes it the highest score for evidence of policies on labour standards in the supply chain. Despite Nike's substantial efforts, the impact of its corporate responsibility and compliance program seems to have been rather limited. Nike reports that working conditions in almost 80% of its suppliers have failed to improve (and may have even worsened).

Using data from Nike on compliance with its codes of conduct Locke *et al.* (2007a) show that average compliance may not be too poor. However, there is substantial heterogeneity in compliance levels across suppliers, even within single countries. This heterogeneity can be explained, in part, through the relationship between Nike and its suppliers. While the interaction between Nike and its suppliers on non-compliance matters – measured by the number of visits by production specialists – turns out to be an important determinant of compliance, inspections by compliance staff appear to have little or no effect. Although surprising at first sight, this finding corresponds well to the experience of Adidas, as documented by Frenkel and Scott (2002). They conclude that compliance programs based on long-term partnerships are more likely to bear fruit than those based on the policing of working conditions. The latter have a tendency to raise labour costs among suppliers, whereas the former are more likely to induce deep organisational change that allows for improvements in both productivity and working conditions.

In a complementary study, Locke and Romis (2007) compare two of Nike's independent suppliers of T-shirts. Both are subject to the same economic conditions and labour regulations, deal with the same regional office of Nike, and perform similarly in Nike Factory audits. Despite these similarities, the authors observe striking differences in actual working conditions. Workers in Plant A are paid higher wages, report greater work satisfaction, and have a greater voice in the production process. Moreover, in Plant A overtime is limited and always voluntary and in Plant B overtime tends to be structural and imposed on workers. These differences reflect profound differences in the way the plants are managed. Plant A operates an efficiency-wage strategy in which workers are seen as an important factor to bolster productivity and output quality, whereas Plant B operates a competitive market model in which workers are seen as a variable cost that is to be minimised. Interestingly, despite paying higher wages, productivity is higher and unit labour cost lower in Plant A.

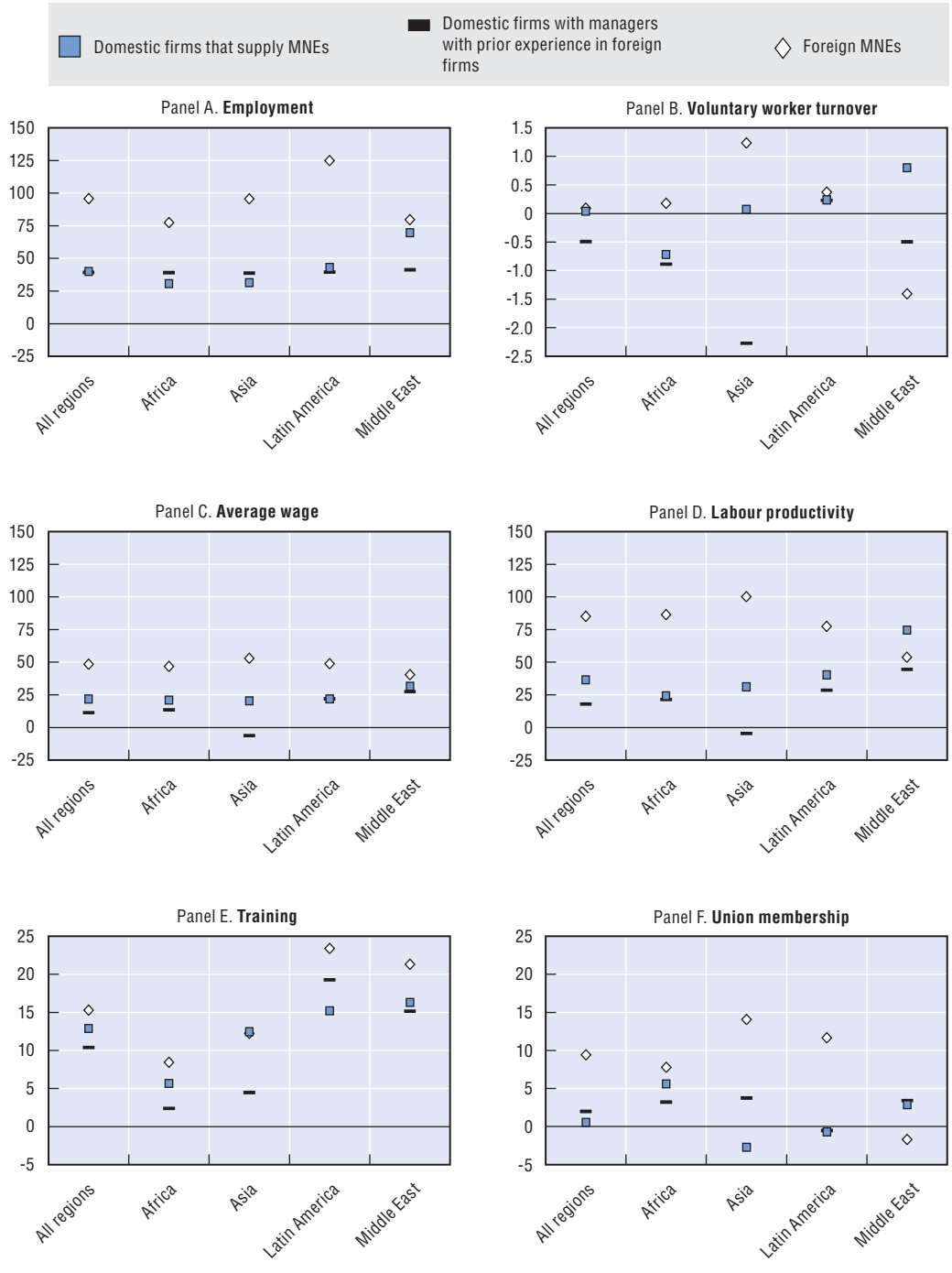
Locke *et al.* (2007b) conclude that the benefits of codes of conduct are likely to be greater and more enduring when they are integrated into the management structures that govern production and when the interests of workers in employment and production are represented in effective institutions. However, even when these requirements are met, private codes of conduct do not provide a substitute for public regulation. They are best seen as a useful complement to public law enforcements activities.[b]

a) In 2004, Nike employed just over 24 000 direct employees (mostly in the United States). Almost all its products were manufactured outside the United States by 800 independent suppliers employing together about 0.6 million workers located in 51 different countries.

b) Note that a comprehensive evaluation of private codes of conduct published by Ethical Trading Initiative (ETI, 2006) suggests that the experience of Nike is by no means unique and Nike's experience is likely to be relevant for many MNEs that make use of independent suppliers in developing countries.

Figure 5.4. **A comparison of employment conditions and productivity in domestic firms that engage with MNEs and with other local firms**[a]

Average percentage differences by host region[b]



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a) The comparison group consists of domestic firms that neither supply MNE nor have a manager with prior experience in a foreign firm. As a result, the descriptive statistics for foreign MNEs presented here differ somewhat from those presented in Figure 5.3.

b) "All regions" includes the four regions shown and central and eastern European countries (CEE). Asia includes low-income Asia only.

Source: OECD estimates based on World Bank Enterprise Survey. See Annex Table 5.A1.4 for details on variable definitions.

analysed. Thus, worker mobility could be an important channel for wage spillovers. However, as the analysis is limited to private returns (*i.e.* the returns to workers who change jobs), it does not provide any direct information about the presence of wage spillovers (*i.e.* the impact on the wage of incumbent workers in the domestic firm). Further work will be necessary to establish whether human capital accumulated in foreign firms may spillover to incumbent workers in domestic firms, as a result of worker mobility.

Summing up

The evidence for positive effects of inward FDI on wages and working conditions in local firms is considerably weaker than that for such effects within foreign affiliates. The evidence for Indonesia suggests that, consistent with previous empirical studies, positive wage spillovers largely reflect a distributional effect that arises as a result of the competition for local labour by foreign firms that expand their production activities. The role of productivity-driven wage spillovers appears to be limited in general, but may be more important in the presence of stronger linkages between local firms and MNEs in the supply chain or through worker mobility.

The presence of productivity-driven wage spillovers may, in principle, provide a rationale for policies to promote FDI, including specific incentives targeted at potential foreign investors. However, the evidence for such spillovers is weak and also suggests that FDI tends to increase wage inequality. The latter is confirmed in the literature in the context of many other developing countries (Goldberg and Pavcnik, 2007). Moreover, the review of case studies about the impact of private codes of conduct in MNEs on working conditions in the supply chain suggests that poor labour practices in independent supplier firms remain a concern despite the use of increasingly sophisticated monitoring arrangements by some MNEs. Public initiatives in the fields of monitoring and technical assistance may help to strengthen the effectiveness of private codes of conduct in raising labour practices in the supply chain.

4. Promoting socially responsible investment

This section discusses how governments can promote inward FDI and strengthen the contribution of MNEs to improving wages and working conditions in host countries. First, policy measures are discussed that are meant to maximise the potential contribution of FDI to overall welfare. Given the heterogeneous nature of FDI, this involves both promoting the volume and the quality of FDI. It then looks at various government instruments that are explicitly designed to minimise the social cost of FDI and maximise its contribution to social development.

4.1. Promoting foreign direct investment

The existing empirical literature and the new empirical evidence presented in this chapter suggest that inward FDI tends to have a positive social impact on workers in foreign-owned firms, and to a lesser extent, also on workers in domestic firms that engage with MNEs. Countries can use different instruments to promote inward FDI, while also ensuring that labour standards are respected.

Removing regulatory obstacles to FDI and taking measures to enhance the overall investment climate are key to promoting inward FDI

The positive effects of inward FDI for workers on host economies suggest reducing regulatory barriers to FDI. Such barriers often take the form of entry restrictions and regulatory provisions that differentiate between foreign and domestic entities.[46] The OECD Policy Framework for Investment (OECD, 2006) emphasises in this regard the importance of most-favoured nation (MFN) and national treatment as general principles. MFN treatment means that an investor from one country is treated no less favourably than an investor from any third country by the regulatory authorities of the host country. National treatment provides that host governments treat foreign-owned firms no less favourably than domestic firms. Exceptions to MFN and national treatment need to be evaluated regularly to ensure that their rationale remains valid. A key issue in this context is to determine whether it is appropriate to make use of mandatory performance requirements, which have sometimes been imposed by developing countries in an effort to maximise the benefits from FDI. The use of mandatory performance requirements has been criticised as it does not take into account the endogenous response of MNEs to their imposition. For example, an obligation on foreign investors to take a local partner may induce MNEs to conduct less sophisticated activities abroad or to adopt older technologies in their foreign operations to reduce the risk of technology transfer (Moran, 2007).[47] Rather than imposing performance requirements on foreign investors, governments are increasingly seeking ways to strengthen the integration of foreign firms in local economies through positive incentives (OECD, 2005a).[48]

Beyond removing regulatory barriers to FDI, governments can encourage inward FDI by promoting a healthy investment climate where both uncertainty and the cost of doing business are reduced. Apart from economic and political stability, uncertainty also relates to the protection of property rights and the effectiveness of contract enforcement (OECD, 2006). This also includes the protection of foreign investors against the risk of expropriation (the seizure of private property by governments in the broader public interest) through the provision of adequate compensation and effective dispute settlement mechanisms. An unresolved issue is to what extent compensation is appropriate for loss of private value as a direct result of public regulation (OECD, 2005b). This is an important issue as policy uncertainty is often mentioned as one of the main constraints on doing business in developing countries (World Bank, 2005). A sound investment climate also encompasses the quality of infrastructure, not too restrictive employment protection legislation, transparent administrative procedures and effective anti-corruption measures.[49]

Lowering labour standards or weakening their protection in an effort to attract FDI is ineffective

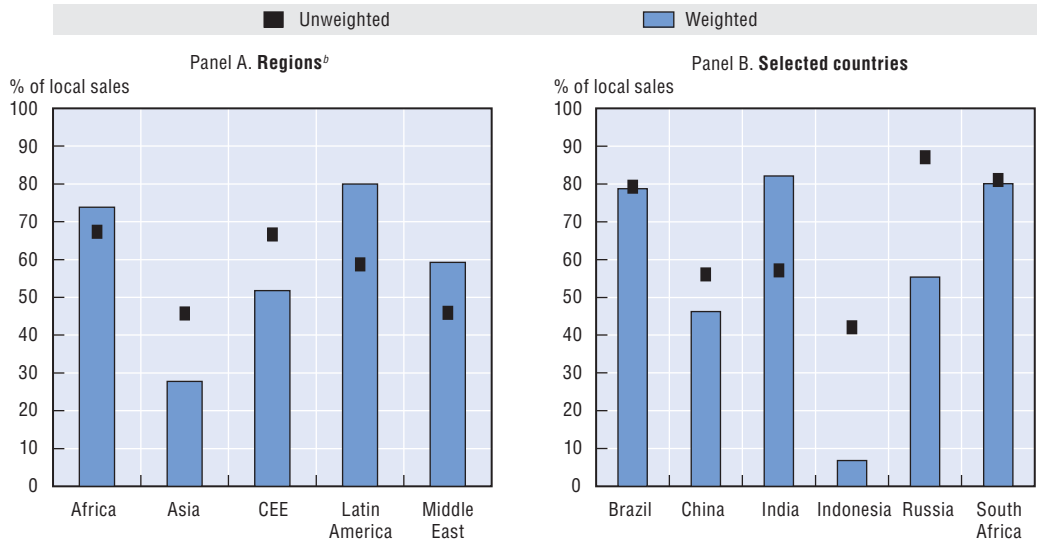
In the debate on MNEs and labour standards, much attention has been paid to the possibility that governments from developing countries may lower labour standards, including by violating core labour standards, to attract FDI, potentially triggering a so-called "race-to-the-bottom" in labour standards by inducing other countries to follow suit. For lower labour standards to raise FDI, two conditions would have to be met: *i*) reducing production costs needs to be the main motivation for FDI; and *ii*) lowering labour standards should reduce unit labour costs. The validity of these two hypotheses is discussed briefly below. Note that even if lowering labour standards would encourage FDI, it might also be expected to change the composition of FDI and its corresponding benefits.

Broadly speaking, there are two main motivations for MNEs to invest in a certain location: to supply a local market more cheaply ("market-seeking" or "horizontal" FDI) or to produce a good or service more cheaply ("efficiency-seeking" or "vertical" FDI). While efficiency-seeking FDI could potentially induce a race-to-the-bottom in labour standards when MNEs seek out locations where production costs are lowest, there is no reason to believe that this should happen in the presence of market-seeking FDI. The relative importance of efficiency and market-seeking FDI may thus give a first indication of the extent to which countries can compete for FDI on the basis of low labour costs. A simple way to assess this is by looking at the shares of sales by foreign affiliates that are sold locally or exported (Blonigen, 2005). Figure 5.5 presents data on the composition of foreign-affiliate sales based on the World Bank Enterprise Survey (WBES). It suggests that market access is the predominant motive for FDI and not, as is sometimes asserted, the desire to reduce production costs. Local sales account for the majority of foreign-affiliate sales in most developed and developing country regions. An important exception is low-income Asia, where foreign affiliates make the majority of their sales through exports.[50] Thus, while reducing production costs does not appear to be the main driver of FDI in general, it may well be the main motive in certain industries and countries. However, even if FDI is predominantly motivated by reducing production costs, it does not necessarily follow that reducing formal labour standards will encourage FDI.[51]

Is FDI attracted by poor labour practices? In general, there is no evidence to suggest that weaker formal labour standards increase inward FDI. Analysing differences in national labour regulations, OECD (1996, 2000b) find little support for the hypothesis that weaker labour market regulation provides a catalyst to FDI. However, formal labour

Figure 5.5. **The role of market access and production costs for FDI**

Percentage of local sales of foreign affiliates by host region and country[a]



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CEE: central and eastern Europe.

a) The unweighted local sales shares are simple averages across firms, whereas the weighted local sales shares are weighted by sales. While the weighted shares are preferable from a conceptual point of view, the unweighted results are less sensitive to outlier observations.

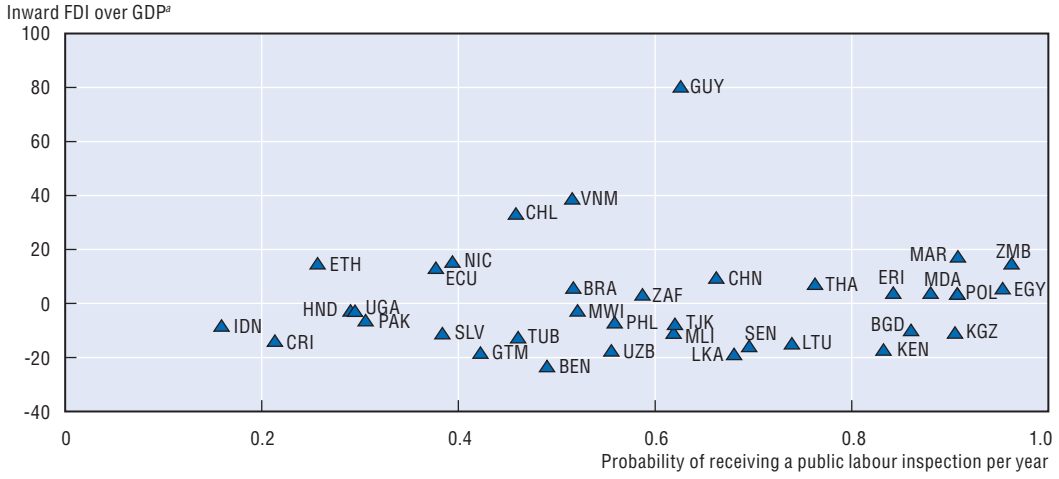
b) Asia includes low-income Asia only.

Source: OECD estimates based on World Bank Enterprise Survey. See Annex Table 5.A1.4 for details on variable definitions.

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standards are not necessarily a good predictor of actual labour conditions due to weak enforcement in some developing countries. Indeed, it is possible that developing countries seek deliberately to attract FDI by not enforcing *de jure* labour standards.[52] Figure 5.6 relates the component of inward FDI that cannot be explained by either market size (a proxy for market-seeking FDI) or the level of development (a proxy for efficiency-seeking FDI) to the strength of labour-law enforcement. *Prima facie*, the evidence in Figure 5.6 suggests that the degree of labour-law enforcement (the probability of receiving a public labour inspection in a given year) is unrelated to inward FDI.[53] Complementary evidence by the World Bank (2005) also does not suggest that greater integration in world markets induces non-compliance with labour regulations in developing countries. Indeed, previous studies find that, if anything, FDI tends to be attracted by better rather than worse core labour practices (Kucera, 2002).[54] The absence of a negative relationship between inward FDI and core labour practices may not be all that surprising as lowering labour practices may adversely affect productivity and the working environment more generally. MNEs are also under increasing pressure from consumers and home country governments to ensure that minimum labour standards are respected in their foreign operations.

Figure 5.6. **Inward FDI and labour law enforcement**



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a) Inward FDI over GDP is defined as the residual from a regression of this variable on GDP and GDP per capita. The conditional correlation between FDI over GDP and the probability of receiving a public labour inspection in a given year is positive but statistically insignificant (0.04).The unconditional correlation is 0.06, but also statistically insignificant.

Source: OECD estimates based on World Bank Enterprise Survey. See Annex Table 5.A1.4 for details on variable definitions.

In short, the empirical evidence suggests that lowering core labour standards or weakening workers' protection does not facilitate, and may even discourage, FDI inflows. This provides further support for the view of the OECD and its members that it is inappropriate to relax labour standards to encourage inward investment (OECD, 2006). The OECD Guidelines for Multinational Enterprises, moreover, ask MNEs to refrain from seeking regulatory exemptions from non-OECD governments that, despite the empirical evidence, may be inclined to grant such exemptions (OECD, 2000a). Box 5.4 discusses to what extent governments have allowed lower working conditions in export processing zones (EPZs) in order to provide a more competitive environment to foreign investors.

Box 5.4. **Export Processing Zones (EPZs)**

Export processing zones are "industrial zones with special incentives set up to attract foreign investors, in which imported materials undergo some degree of processing before being (re-)exported again" (ILO, 1998). The number of EPZs has expanded rapidly as countries have shifted from import-substitution policies to export-led growth policies. In 2006, 130 countries had EPZs adding up to a total number of 3 500 EPZs employing 66 million workers (40 million in China) (Singa Boyenge, 2007). Moreover, EPZs are increasingly diverse in scope and design. In addition to covering the traditional labour-intensive manufacturing and assembly activities, they now also encompass high-tech science parks. Zones may relate to designated geographic areas but also targeted industries. Most EPZs offer superior access to infrastructure as well as some fiscal incentives.

Compared to policies that remove obstacles to trade and investment and measures to improve the investment climate on a national basis EPZ policies are sub-optimal and may even be welfare reducing when they introduce new distortions in the economy. However, as establishing EPZs is financially and politically less demanding than undertaking an overall reform of the national investment climate, it may be a useful first step with demonstration effects to promote broader market-oriented reforms. Cost-benefit analyses suggest that some EPZs have contributed to development, others have been unsuccessful in attracting FDI, promoting exports and generating formal jobs (Engman *et al.*, 2007). The success of EPZs depends on many factors including infrastructure, the rule of law and linkages with the host economy.

EPZs have been the subject of considerable social concerns over low wages and poor working conditions. In general, the same labour standards apply in EPZs as in the rest of the economy. Nonetheless, some countries have adopted specific labour laws in the context of EPZs, including Djibouti, Panama and Zimbabwe, while in other countries national labour standards apply with certain exceptions, in particular with reference to hours of work and minimum wages or restrictions to freedom of association and collective bargaining (ILO, 2008). There is some indication that EPZ-specific labour provisions are becoming less common. A number of countries have recently lifted restrictions on freedom of association and collective bargaining (*e.g.* Bangladesh), while others have taken steps to bring EPZ standards more closely in line with national standards. For example, Nigeria and Pakistan are in the process of enacting legislation granting freedom of association to EPZ workers (ILO, 2008).

In terms of earnings, workers in EPZs tend to be better off than their counterparts outside the zones. While wages are sometimes lower on average in labour-intensive EPZs than in formal jobs outside the zones, the alternative for many EPZ workers, and particularly women, would be to work in the informal sector where average wages are considerably lower (Madani, 1999). Cling *et al.* (2005) find that EPZ workers in Madagascar earn 6% to 17% more than comparable workers outside the zone. The picture for non-wage working conditions tends to be more mixed. While the respect for the rights of freedom of association and collective bargaining may be weaker in EPZs and excessive working hours more common, even when national standards apply, EPZ workers tend to have better access to social security and health care than their counterparts in the host economy (ILO, 2008).

In order to enhance labour practices in EPZs, governments should be encouraged to further harmonise labour standards in EPZs with those in the wider economy and increase their efforts to enforce them effectively. Governments may also wish to collaborate more closely with responsible buyers that have a vested interest in raising labour practices in their supply chains (see Box 5.6 for more details on such an approach).

Specific incentives to promote inward FDI may be useful in some circumstances but need to be applied with care

In addition to removing regulatory barriers to FDI and establishing and maintaining a healthy investment climate, governments may also wish to develop policies that are directly aimed at promoting inward FDI and their potential benefits by providing some form of preferential treatment to foreign firms. From an efficiency perspective, such policies can be justified in the presence of market failures related to either information imperfections or positive externalities flowing from FDI (productivity spillovers).[55]

Investors may have to incur considerable costs to overcome information imperfections in the context of international investment. As information imperfections can have important welfare implications (Greenwald and Stiglitz, 1986), they can provide a rationale for governments to engage in the provision of various information services. Such services could include image-building activities to foster the perception of countries as a location for FDI; matching services between potential investors and domestic partners or suppliers;[56] facilitation services to assist in establishing and maintaining a business; and policy advocacy to promote policies that enhance the investment climate (Wells and Wint, 1990). Charlton and Davis (2007) provide compelling evidence that investment promotion can help to attract additional inward investment.[57]

A second rationale for countries to engage in investment-promotion activities is the presumed importance of knowledge externalities that may be associated with inward FDI. In the presence of positive externalities, the privately optimal level of foreign investment falls short of the socially optimal level, providing a justification for public intervention through the use of fiscal or regulatory incentives.[58] Regulatory incentives have sometimes been used by countries as a "cheap" alternative to fiscal incentives. However, the discussion above suggests that exempting foreign investors from national labour provisions is not an appropriate instrument to attract FDI.

Fiscal incentives, however, may be potentially effective in promoting FDI. Nevertheless, governments that make use of such incentives need to periodically evaluate their appropriateness and relevance (OECD, 2006).[59] First, governments should make sure that the benefits from additional FDI outweigh the costs. The analysis presented in Section 3 does not suggest that significant benefits necessarily arise from FDI.[60] Even if they do, they have to be weighed against the costs of providing the incentives. Second, fiscal incentives may provoke rent-seeking behaviour among government officials. This is more plausible the greater is the level of discretion in determining incentives and the lower is the level of transparency and accountability of investment promotion agencies. Rent-seeking may be a particular concern in developing countries where institutions are weaker.[61] Finally, governments need to take account of the effects that fiscal incentives may have on third countries and the possible responses that this may trigger. When governments compete for FDI on the basis of fiscal incentives, they may become ineffective in generating additional investment and instead mainly serve to redistribute rents from taxpayers to foreign firms. Finally, the use of fiscal incentives should not be a substitute for pursuing policy measures to create a healthy investment environment.

4.2. How to ensure minimum labour practices in the foreign operations of MNEs?

Although the evidence presented so far suggests that workers in foreign-owned firms, and to a lesser extent, workers in domestic firms that engage with MNEs, tend to enjoy

better wages than their counterparts in other firms, average tendencies hide substantial heterogeneity in labour practices in the foreign affiliates of MNEs and their supplier firms. Non-compliance with national and international labour provisions in countries with weak rules of law by OECD MNEs and, in particular, their independent suppliers, continues to represent a pressing concern among consumers and policy-makers in many OECD countries. This sub-section looks at what governments can do to deal with specific instances of non-compliance and the persistence of poor working conditions in MNEs and their supply chains. It first discusses initiatives and proposals addressed to host-country governments that seek to promote minimum labour standards and to strengthen incentives for their enforcement. It then reviews initiatives and proposals to strengthen the incentives of MNEs to comply with national and international labour provisions and for responsible business conduct (RBC) more generally.[62] While the focus is on the foreign operations of MNEs, most of the policy instruments discussed in this section apply to all business that have an international dimension to their operations and not just MNEs or their independent suppliers.

Poor labour practices in the foreign operations of MNEs to a large extent reflect weak public enforcement of national and international labour provisions

In order to analyse the role of governments in ensuring minimum labour practices in the foreign operations of MNEs, one may start by asking why poor labour practices arise in the first place. To what extent do poor labour practices in the foreign operations of MNEs reflect inadequate formal protection of labour rights in host countries or non-compliance with national labour provisions?

The role of inadequate formal labour protection can be analysed by looking at the extent to which universal labour rights are inscribed into national labour legislation. The ILO Declaration on Fundamental Principles and Rights at Work (1998) represents the most widely accepted effort to define a set of core labour standards that may be considered universal, in the sense that it is widely believed that they ought to apply in all countries irrespective of the level economic and societal development. The Declaration covers four areas of labour rights: *i)* freedom of association and the right to collective bargaining; *ii)* the elimination of forced or compulsory labour; *iii)* the abolition of child labour; and *iv)* the elimination of discrimination in respect of employment and occupation. Each category is associated with two ILO conventions.[63]

Currently, the large majority of countries has formally subscribed to some or all parts of the ILO Declaration. Table 5.8 gives an overview of the state of ratification of each of the eight conventions under the Declaration across regions and selected countries. As of 1 February 2008, the member states of the ILO have on average ratified more than seven out of eight conventions under the Declaration (89% of the member-convention combinations have been ratified).[64] Ratification tends to be lower among Asian countries than in other regions. Legal traditions appear to be an important factor in explaining ratification, whereas economic variables such as GDP per capita or trade openness do not play an obvious role (Chau and Kanbur, 2001).[65]

Not surprisingly, the general support for the ILO Declaration is also reflected in national labour law. Flanagan (2006) shows that ratification of ILO conventions is strongly correlated with national labour provisions. Indeed, many developing countries where poor labour practices in the operations of OECD-based MNEs have been a concern tend to have reasonable *de jure* labour standards in many areas, in some cases comparable to those in developed countries. While in some countries important improvements can still be made,

Table 5.8. **Ratifications of the fundamental labour rights conventions**

	Freedom of association and collective bargaining		Elimination of forced and compulsory labour		Elimination of discrimination in respect of employment and occupation		Abolition of child labour	
	Convention 87	Convention 98	Convention 29	Convention 105	Convention 100	Convention 111	Convention 138	Convention 182
Regions (181)	**148**	**158**	**172**	**170**	**164**	**166**	**150**	**165**
Africa (53)	48	52	53	53	50	53	46	49
Americas (35)	33	32	33	35	33	33	29	34
Asia (42)	17	23	35	31	30	29	26	33
Europe (51)	50	51	51	51	51	51	49	49
G7 countries	**6**	**5**	**5**	**6**	**6**	**5**	**5**	**7**
Canada	23-03-1972	–	–	14-07-1959	16-11-1972	26-11-1964	–	06-06-2000
France	28-06-1951	26-10-1951	24-06-1937	18-12-1969	10-03-1953	28-05-1981	13-07-1990	11-09-2001
Germany	20-03-1957	08-06-1956	13-06-1956	22-06-1959	08-06-1956	15-06-1961	08-04-1976	18-04-2002
Italy	13-05-1958	13-05-1958	18-06-1934	15-03-1968	08-06-1956	12-08-1963	28-07-1981	07-06-2000
Japan	14-06-1965	20-10-1953	21-11-1932	–	24-08-1967	–	05-06-2000	18-06-2001
United Kingdom	27-06-1949	30-06-1950	03-06-1931	30-12-1957	15-06-1971	08-06-1999	07-06-2000	22-03-2000
United States	–	–	–	25-09-1991	–	–	–	02-12-1999
O6 countries	**3**	**4**	**5**	**5**	**6**	**6**	**5**	**5**
Brazil	–	18-11-1952	25-04-1957	18-06-1965	25-04-1957	26-11-1965	28-06-2001	02-02-2000
China	–	–	–	–	02-11-1990	12-01-2006	28-04-1999	08-08-2002
India	–	–	30-11-1954	18-05-2000	25-09-1958	03-06-1960	–	–
Indonesia	09-06-1998	15-07-1957	12-06-1950	07-06-1999	11-08-1958	07-06-1999	07-06-1999	28-03-2000
Russian Federation	10-08-1956	10-08-1956	23-06-1956	02-07-1998	30-04-1956	04-05-1961	03-05-1979	25-03-2003
South Africa	19-02-1996	19-02-1996	05-03-1997	05-03-1997	30-03-2000	05-03-1997	30-03-2000	07-06-2000

StatLink http://dx.doi.org/10.1787/350144833320<no value>

– Not ratified.
Source: ILO, ILOLEX database.

poor labour practices in the foreign operations of MNEs do not seem to reflect in the first place the inadequate formal protection of core labour rights.

To what extent then do poor labour practices in the foreign operations of MNEs reflect non-compliance with national labour provisions? Due to the lack of systematic information on compliance levels among MNEs and their suppliers, it is not possible to address this question directly. Nevertheless, it is possible to make a number of useful observations. First, empirical evidence suggests that there is no strong link between higher formal labour standards and better actual labour practices (Flanagan, 2006). This provides a first indication that labour standards are not enforced evenly across countries. Second, labour-law enforcement tends to be considerably weaker in developing than in developed countries. This can be seen from Table 5.9, which provides summary indicators of two aspects of labour-law enforcement: *i)* the probability of receiving a labour inspection in a given year; and *ii)* the probability of receiving a fine when subjected to a labour inspection. It shows that public labour inspections are conducted more regularly in developed and transition economies than in developing countries.[66] Moreover, inspections in developing countries tend to be less rigorous, as indicated by the relatively low probability of getting a fine when being inspected in Africa and Asia. While, in principle, this could indicate that compliance with national labour laws is particularly high in those regions, it seems more likely that this reflects the ineffectiveness of governments in enforcing labour laws. The reasons for this may be economic, political or institutional. Countries may not want to enforce labour standards because they fear this will weaken competitiveness and deter foreign investors or there may be political reasons not to enforce labour standards,

Table 5.9. **The enforcement of labour laws**

	Probability of receiving at least one public inspection per year		Probability of receiving a fine conditional on getting a visit	
	Mean	Number of observations	Mean	Number of observations
Africa	0.62	2 917	0.05	1 088
Asia[a]	0.61	10 062	0.04	4 369
Central and eastern Europe	0.82	7 373	0.12	614
Latin America	0.46	5 583	0.13	1 706
Middle East	0.92	1 977	0.37	63
Western Europe[b]	1.00	1 041	–	–
Brazil	0.52	1 639	0.16	833
China	0.66	3 841	0.02	2 495
Indonesia	0.16	711	0.18	113
Russia	1.00	229	–	–
SouthAfrica	0.59	584	0.01	337

StatLink http://dx.doi.org/10.1787/350150581042

– Not available or insufficient number of observations.
a) Asia includes low-income Asia only.
b) Western Europe includes Ireland and Spain only.
Source: OECD estimates based on World Bank Enterprise Survey. See Annex Table 5.A1.4 for details on variable definitions.

particularly in authoritarian regimes. However, in the majority of countries, this is likely to reflect the inability to enforce labour legislation effectively due to institutional weaknesses and insufficient resources.[67]

Linking de jure *or* de facto *labour standards to market access in trade agreements*

One way to promote better labour practices in the foreign operations in OECD-based MNEs may be to strengthen the incentives of national governments to transpose core labour standards into national law and/or to enforce national labour provisions effectively. Governments may be encouraged to take such actions if *de jure* or *de facto* labour standards are linked to market access by including labour provisions in trade agreements. The basic idea is that market access may be denied to products from a country where global labour standards are routinely violated by local exporters or the affiliates of foreign MNEs by imposing trade sanctions.[68] The possibility of trade sanctions creates a "level-playing field" across all exporting firms irrespective of the nationality of the owner. The economic rationale for linking labour standards to trade is based on the presumption that countries can increase their competitiveness by weakening the protection for labour standards and thus may be tempted to enter into a race-to-the-bottom in labour standards, although human-rights considerations can provide an alternative rationale for linking trade to core labour standards. As was discussed above, the available evidence casts doubt on the belief that trade linked to FDI is generally dominated by a search for the lowest possible labour standards.

Proposals for including labour standards in the WTO encountered fierce opposition, mostly from developing countries. At present, the WTO does not include any labour provisions and this is unlikely to change in the foreseeable future. The main arguments against including labour standards in the WTO are economic – based on the perception that they are protectionist in nature – and political – reflecting disagreement about the definition of global labour standards. It has also been argued that the WTO simply lacks the capacity to enforce labour standards effectively.[69]

However, labour provisions have been included in a growing number of Regional Trade Agreements (RTAs) and the Generalised System of Preferences (GSP).[70] The United States

has probably been the most active in this respect by routinely negotiating labour provisions, usually as side-agreements, in its RTAs since 1993. The labour provisions that are included tend to conform to a general template (Kolben, 2007): it includes the (aspiratory) aim of transposing ILO's core conventions into domestic legislation, and the obligation to "*not fail to effectively enforce its labor laws … in a manner affecting trade between the Parties*".[71] Failure to enforce one's own laws could, in principle, eventually result in sanctions.[72]

A notable example of a recent agreement which seeks to use positive incentives rather than negative ones (*e.g.* trade sanctions to promote compliance with core labour standards), is the US-Cambodian trade agreement that was concluded in 1999 (see Box 5.6 for more details). The trade agreement introduced positive incentives by making the extension of quota limits dependent on the level of compliance with international and national labour laws. This induced the Cambodian Government to accept the involvement of the ILO in an innovative monitoring initiative to enhance compliance.[73] However, the potential of similar trade-based initiatives in the future is not clear as the use of quotas in the WTO was completely eliminated with the expiration of the Multi-Fibre Arrangement in 2005. The scope for positive incentives based on tariff preferences is also unclear since tariff preferences go against the principles of the WTO and the ongoing liberalisation of trade continues to erode the value of tariff preferences.[74]

ILO conventions and proposals for linking labour standards to trade put the prime responsibility for poor labour practices on national governments. While these approaches may help to strengthen incentives to protect basic labour standards and reduce the temptation of some governments to allow poor labour practices in order to gain a competitive advantage, they are likely to be less effective when poor labour practices reflect institutional weaknesses. A complementary approach is to focus directly on the responsibility of business to respect national and international labour legislation. The initiatives and proposals discussed below seek to strengthen the incentives of MNEs for compliance with labour standards and for offering enhanced employment conditions more generally. This can be done by focusing on non-market and market incentives. Each will be discussed in turn.

What is the scope for legally binding instruments to hold MNEs accountable for their operations abroad?

A number of attempts have been made to hold MNEs legally accountable for their operations abroad, especially in countries where the rule of law is weak, by imposing direct obligations under international law. The most far-ranging proposal to impose direct obligations on MNEs under international law are the draft norms on the responsibilities of transnational corporations and other business enterprises with regard to human rights, put forward by the UN Sub-Commission on the Promotion and Protection of Human Rights in 2003. While acknowledging the primacy of national authorities in enforcing human rights, the draft norms attribute to MNEs and other businesses a corresponding responsibility within their "spheres of activity and influence" and call for the establishment of appropriate institutions to monitor corporate compliance. The draft norms, however, have not been ratified and it seems unlikely that this will happen in the future.[75]

Nevertheless, MNEs may be held legally accountable for their operations abroad through the exercise of extraterritorial jurisdiction by national courts under certain circumstances. Under international law, extraterritorial jurisdiction is recognised when one of the parties involved is a national; extraterritoriality is "reasonable"; and, it does not

interfere with the internal affairs of other states (Ruggie, 2008a). The legal community is divided as to the precise circumstances in which the protection of human rights, including labour rights, would justify extraterritorial jurisdiction. As the scope for imposing direct obligations under international law on MNEs to make them legally accountable for their operations abroad seems limited at present, most governments continue to rely on CSR initiatives and soft-law instruments to deal with these issues.

Mobilising market incentives: the role of soft-law instruments

The incentives for MNEs to comply with and exceed national and international labour standards depend on demand and supply conditions. The demand for socially responsible labour practices (and responsible business conduct more generally) depends on buyer preferences and the visibility of labour practices in the production process. Policy initiatives can shape preferences for responsible labour practices by raising awareness about poor labour practices. For the latent demand for responsible labour practices to be activated, however, labour practices need to be made visible to buyers. Akerlof (1970) has shown that in the presence of information asymmetries that create uncertainty about product quality (in this case responsible business conduct), buyers tend to base their decisions on average quality, thereby driving high-quality suppliers (here, socially responsible businesses) out of the market. The main problem is the absence of a credible way for suppliers to disclose information about the quality of labour practices in the production process to buyers. Sellers may be able to overcome this problem by building reputations. This explains, in part, why MNEs with highly visible brands have tended to be more active on the CSR front than their more anonymous independent suppliers. However, information asymmetries in the market for responsible business conduct may also justify public measures to collect and disseminate credible information about labour practices.

The supply side of responsible business conduct may be characterised by a choice problem over alternative, publicly available technologies. For example, firms may adopt so-called "low-road" competitive wage technologies associated with poor labour practices in production or "high-road" efficiency-wage technologies with better labour practices. Typically, the choice of technology is driven by the desire to maximise profits. To the extent that firms adopt "low-road" technologies because they are unaware of "high-road" technologies, policy-makers can help by enhancing awareness among managers. While managers of successful MNEs are likely to be fully aware of the various organisational models available, this may not necessarily be the case for smaller firms, especially in developing countries where management practices are often deeply rooted in social norms and knowledge of modern production and management techniques can be limited.[76] Moreover, "low-road" technologies may get locked in even when "high-road" technologies are more profitable in the long-run, due to the presence of significant switching costs and credit-market imperfections. This may provide a justification for providing technical assistance to firms who wish to improve labour practices and extending the availability of micro-credit to such firms in developing countries.

Multilateral initiatives can promote responsible business conduct by raising awareness of poor labour practices

A growing number of multilateral initiatives have been launched to promote awareness and strengthen the impact of responsible business conduct. The most important examples are the UN Global Compact (1999), the OECD Guidelines for Multinational

Enterprises (1976, revised in 2000) and the ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy, also known as the MNE Declaration (1977, last revised in 2006).

The UN Global Compact (GC) is a voluntary initiative directed towards businesses that seeks to align corporate behaviour around ten universal principles in the areas of human rights, labour standards, the environment and anti-corruption and to promote the contribution of businesses to the UN's goals for sustainable development. The universal principles are derived from the Universal Declaration of Human Rights; the ILO Declaration on Fundamental Principles and Rights at Work; the Rio Declaration on Environment and Development; and the UN Convention against Corruption. To achieve these objectives, the Global Compact promotes the adoption and implementation of its principles into the strategies and operations of businesses and facilitates co-operation between businesses, UN agencies and civil society organisations.

The OECD Guidelines and the ILO MNE Declaration are recommendations by adhering governments, supported by employer and worker organisations, which are directly addressed to MNEs.[77] Explicit support of governments is considered important as it fosters the credibility of the instruments. The basic premise of the guidelines is that internationally-agreed principles can help to prevent misunderstandings and build an atmosphere of confidence between MNEs and the societies in which they operate (OECD, 2000a). Similarly, the MNE Declaration is intended to encourage the positive contribution that MNEs can make to economic and social progress and to minimise and resolve the difficulties arising from their operations (ILO, 2006).

The OECD Guidelines and the MNE Declaration differ in terms of their coverage, scope and follow-up mechanisms. First, the OECD Guidelines establish non-binding standards in a wide range of areas related to sustainable investment such as human rights, disclosure of information, anti-corruption, taxation, labour standards, environment, competition and consumer protection, whereas the MNE Declaration is solely concerned with labour standards.[78] Second, the MNE Declaration represents a truly global instrument, as it is addressed to all MNEs, while the OECD Guidelines only relate to MNEs that operate in and from adhering countries.[79] Finally, the MNE Declaration does not provide a mechanism to address specific instances, while the OECD Guidelines allow for active mediation in specific instances through the system of National Contact Points (NCPs). It is this specific-instance facility of the guidelines that accounts for the growing interest in the guidelines as an international instrument for promoting responsible business conduct. Box 5.5 discusses the OECD Guidelines and the NCP system in more detail.

Better Work: a promising new initiative to raise labour practices in the supply chain

The largely uncoordinated approach to promoting responsible business conduct taken by the international community so far has proved an effective strategy for policy experimentation and helped increase its visibility in policy debates. Nonetheless, the impact of these public initiatives in stimulating the demand and supply for responsible business conduct appears to have been relatively limited. Efforts to raise the visibility of responsible business conduct on the demand side have been mostly left to non-governmental initiatives.[80] For example, SA8000 makes CSR products more visible to consumers through certification; the Global Reporting Initiative helps investors by developing and promoting reporting guidelines for corporate social responsibility to

Box 5.5. **The OECD Guidelines for Multinational Enterprises and the system of National Contact Points (NCPs)**

The OECD Guidelines for Multinational Enterprises, adopted in 1976 and revised in 2000, are the most comprehensive government-supported corporate responsibility instrument in existence today. Their forty adhering governments – 30 OECD countries and ten non-OECD countries representing all regions of the world and accounting for 85% of foreign direct investment – are committed to encourage enterprises operating in their territory to observe a set of widely recognised principles and standards for responsible business conduct wherever they operate.

The promotion of high-level standards for employment and industrial relations is one of the most important features of the guidelines. In particular, Chapter IV on Employment and Industrial Relations:

- Promotes the effective abolition of child and forced labour, non-discrimination, the right to employee representation, and the protection of health and safety of workers.
- Provides, in the event of closure of an entity involving collective lay-offs or dismissals that enterprises should give reasonable notice to representatives of their employees and co-operate with the employee representatives and appropriate governmental authorities so as to mitigate to the maximum extent practicable adverse effects.
- Asks companies, in the context of *bona fide* negotiations with representatives of employees on conditions of employment, not to threaten to transfer activities from the country concerned to other countries in order to influence those negotiations unfairly.

The OECD Guidelines also ask companies to refrain from seeking or accepting exemptions to labour and other regulatory standards, and to encourage, where practicable, business partners, including suppliers and sub-contractors, to apply principles of responsible business conduct.

Adhering countries take up the obligation to set up National Contact Points (NCPs), with the general aim of furthering the effectiveness of the guidelines. NCPs main duties are to undertake promotional activities, handle enquiries relating to the implementation of the guidelines and discuss with the parties concerned on all matters covered by the guidelines. NCPs operate in accordance with the criteria of visibility, accessibility, transparency and accountability.

NCPs promote awareness and understanding of the guidelines through a variety of activities such as the provision of prospective investors with information on the guidelines, the organisation of multi-stakeholder events and seminars and the development of dedicated websites. Adhering governments are also increasingly making reference to the guidelines in export-credit and investment-guarantee programmes.

The OECD Guidelines are most widely known, however, for their unique implementation mechanism – the specific instance facility – which commits NCPs to contribute to resolving disputes and reducing tensions with respect to the implementation of the guidelines. Requests to the NCPs for their services can be made by any party. Eight years after the revision of the OECD Guidelines, which reinvigorated the (previously little effective) NCP system, more than 160 specific instances have been raised at the NCPs. Most of the specific instances, so far, have dealt with employment and industrial relations issues. The increasing share of these instances related to labour issues in non-OECD countries suggests that the OECD Guidelines are playing a growing role in the improvement of labour conditions.

Box 5.5. **The OECD Guidelines and the system of National Contact Points (NCPs)** *(cont.)*

The NCP will first make an assessment of whether the issues raised merit examination and respond to the party or parties raising them. Where the issues raised merit further examination, the NCP will offer to help the parties resolve the issues. For this purpose, it may *inter alia* seek advice from relevant national authorities and offer, with the agreement of the parties involved, to facilitate access to consensual and non-adversarial means, such as conciliation or mediation, to assist in dealing with the issue. While in the course of the proceedings confidentiality should be maintained, agreements or other results of the proceedings are, as a general rule, made publicly available.

The NCPs operate in accordance with the objective of functional equivalence, which allows adhering countries considerable freedom over the way the NCPs are organised. Most NCPs have a multi-government agency structure, and many of them are tri- or quadripartite (business, trade and NGOs are also represented). A few NCPs have recently adopted new structures to increase stakeholder involvement. The OECD Investment Committee has recently conducted a survey of the performance and operational procedures of the NCPs and the key findings are summarised in OECD (2008b).

business; and the Ethical Trading Initiative promotes and improves the implementation of corporate codes of conduct in the context of working conditions in supply-chain firms. On the supply side, technical-assistance programmes to firms that would like to raise labour practices, but have difficulty doing so because of the potentially significant costs associated with deep organisational changes, are rare (see Box 5.6 for an exception). Also, more could be done to deepen the understanding of how responsible business conduct affects firm productivity, particularly in developing countries, by encouraging systematic research into this area and disseminating best practices.

The Better Work Program, a joint initiative launched by the International Finance Corporation (IFC, a member of the World Bank Group) and the ILO in 2006, seems a promising initiative to raise working conditions in the workplaces of firms in the supply chain. Better Work goes beyond existing public soft-law initiatives that largely focus on raising awareness, by strengthening both the demand and supply for responsible business conduct. The latent demand for responsible labour practices among international buyers is activated by improving transparency about labour practices in supplier firms, through the involvement of the ILO in the monitoring of compliance and the dissemination of information on labour practices. The supply of responsible business conduct is stimulated by providing technical assistance and credit to firms that wish to raise labour practices. Importantly, supplier firms may have strong incentives to raise labour practices as this allows them to gain access to markets with buyers that are willing to pay higher prices for their products. The Better Work Program builds on the relative success of an earlier initiative by the ILO, Better Factories Cambodia, that grew out of a bilateral trade agreement between Cambodia and the United States to raise labour practices in the garment sector (see Box 5.6).

Box 5.6. **Better Factories Cambodia***

Textiles have long received special treatment in the multilateral trading system. Since 1974, trade in textiles was governed by the so-called Multi-Fibre Arrangement (MFA) that allowed importing countries to impose quotas on specific products when import surges in these products could seriously undermine domestic industry. During the Uruguay Round of the GATT negotiations concluded in 1995, it was decided to gradually phase out the MFA over a period of ten years under the Agreement on Textiles and Clothing (ATC).

Cambodia, not being a member of the GATT, had relatively free access to the markets of developed countries once it started to develop its textiles industry in the 1990s. As its share in the US market increased rapidly in the late 1990s, the US Government came under pressure from domestic producers to bring Cambodia into the quota system. The ensuing bilateral trade agreement for textiles between the United States and Cambodia signed in 1999 linked market access with labour standards as had become standard practice for the United States in its bilateral trade agreements. However, rather than providing negative incentives, by allowing for sanctions in the presence of widespread violation of worker rights, the US-Cambodian trade agreement introduced positive incentives, by establishing quotas in line with current export volumes whose limits would be extended as the level of compliance of the Cambodian textiles sector with international and national labour laws rose. However, as market access incentives would soon lose their value with the expiry of the MFA and collective incentives tend to be weak due to coordination problems when raising working conditions is costly, the agreement was unlikely to have a lasting impact on working conditions on its own.

The bilateral trade agreement was complemented by an innovative initiative under the leadership of the ILO to monitor the degree of compliance with labour standards for the determination of quota limits. The ILO was approached for this task not only because of its expertise in the area of labour standards, but also because public inspections by the Cambodian authorities or private inspections by independent monitoring agencies did not carry sufficient credibility to inform policy decisions by the US Government. This, however, meant a significant departure from the activities conducted by the ILO. Thus far, the ILO had only been engaged in the monitoring of compliance of governments with ratified conventions and had not been directly involved in the monitoring of private agents or the inspection of workplaces. The monitoring initiative consists of two components that run in parallel.

First, compliance with national and international law is assessed in a comprehensive and transparent way. In order to ensure that the assessment of compliance was representative for the industry as a whole, the Government of Cambodia made the allocation of export permits conditional on programme participation. However, this does not address the free-rider problem associated with collective incentives. To address this, the decision was taken eventually to publish information on individual firms that systematically violate labour standards in addition to the sector-wide synthesis reports that were provided from the beginning. The implications of this decision for the program were far-reaching. Most importantly, reputation-sensitive MNEs can rely on the ILO reports to select factories that are in compliance and no longer have to engage in the private monitoring of supplier firms. As a result, the rules-based system introduced by the trade agreement was effectively replaced by a market-based system, which ensured that Cambodia could remain an attractive location after the expiration of MFA in 2005.

Box 5.6. **Better Factories Cambodia*** *(cont.)*

Second, technical assistance and training is provided to help improve working conditions and competitiveness. Training is necessary to make sure that managers are familiar with applicable labour laws and to effectively integrate respect for labour standards into their management systems. Perhaps even more important, however, is to show to managers how better working conditions can help improve productivity and competitiveness. If working conditions can be raised without increasing unit labour costs, the scope for responsible business practices is not limited by the willingness of consumers to pay and it may be possible to successfully replicate the experiment in Cambodia in other countries.

Better Factories Cambodia has been a success in many respects. In almost ten years, employment in the garment sector increased from 80 000 to 350 000 in October 2007 (Polaski, 2006; ILO, 2007). At the same time, working conditions have improved significantly, although problems remain, particularly with respect to occupational health and safety and overtime work. Violations of core labour standards, such as child and forced labour are rare (ILO, 2007). The Cambodian government asked the ILO to continue its monitoring initiative after the expiration of the MFA agreement. The programme is currently in the process of becoming fully sustainable without the outside help of the ILO by establishing a new institution. In an effort to replicate the success of Better Factories in other countries, the ILO and the IFC have jointly launched the Better Work program in 2006. As with the Better Factories programme, the main tenets are compliance and technical assistance. The Better Work programme will start with three pilot projects in Vietnam, Jordan and Lesotho.

* See Kolben (2004) and Polaski (2006) for detailed discussions of this initiative.

Conclusion

Drawing from the extensive literature and new empirical analysis for three developed countries (Germany, Portugal and the United Kingdom) and two emerging economies (Brazil and Indonesia), this chapter suggests that, overall, multinational enterprises tend to promote higher pay in the countries in which they operate. However, it also suggests that the effects on wages depend on many factors such as the level of development of home and host countries and the way MNEs organise their operations abroad. The effects are stronger for workers in foreign affiliates than for those in independent supplier firms and more important the larger the technology gap between the home and host countries. The question whether MNEs also promote better non-wage working conditions is more complex and the analysis in this chapter only presents a first attempt to address this question. The findings suggest that while non-wage working conditions in foreign firms tend to differ from those in comparable domestic firms, working conditions do not necessarily improve following a foreign takeover.

Do the potential benefits of FDI in terms of higher wages for workers also help to improve the performance of the labour market as a whole? This question is difficult to address. First, it depends on the implications of FDI for labour market inequality or labour market segmentation. Consistent with the previous empirical literature, the findings in this chapter suggest that inward FDI may raise earnings inequality, particularly in developing countries, by raising the relative earnings of skilled workers. The chapter does not address the possibility that FDI may contribute to labour market segmentation, but the existing literature provides little evidence to suggest that FDI leads to an expansion of the informal sector or non-compliance with labour standards (Goldberg and Pavcnik, 2007).

Second, it depends on the effects of FDI on overall welfare. The positive wage effects of inward FDI may be a *prima facie* indication of the positive impacts of FDI resulting from the transfer of modern production techniques and management practices. The bottom-line may be that the overall effects of inward FDI on the host country are positive, but that the benefits are not evenly spread over the host-country population.

In this context, FDI-friendly policies can be a useful component of an integrated policy framework for development. However, they should not be considered as a substitute for broader policies aimed at improving the business environment more generally. When designing policies to promote FDI, policy-makers should take into account that these may not only affect the volume of inward FDI, but also its composition and, as a result, its corresponding benefits. Inward FDI can be usefully promoted by removing specific regulatory obstacles to FDI. Under certain circumstances, it may also be appropriate to provide specific incentives to potential foreign investors, but the evidence here is rather weak. Lowering core labour standards in an effort to provide a more competitive environment for potential investors is likely to be counter-productive. Doing so is likely to discourage FDI from responsible MNEs (with potentially important social benefits), for whom it is important to ensure that minimum labour standards are respected throughout their operations.

FDI-friendly policies in host countries can be usefully complemented by multilateral initiatives that seek to enhance the social benefits of inward FDI by promoting responsible business conduct amongst MNEs. The OECD Guidelines for Multinational Enterprises provide a good example of a government-backed initiative that aims to promote responsible business conduct. In the context of the supply chain, public initiatives could also play a potentially important role in raising labour practices. Public monitoring arrangements could strengthen market incentives for responsible business conduct among supplier firms by generating greater transparency in labour practices. Technical assistance and credit facilities may be useful to help supplier firms overcome obstacles to raising labour practices, thereby making their products more attractive to responsible buyers.

Notes

1. The work for this chapter was conducted in the context of mandates for further OECD analysis resulting from the discussions on "Globalisation, Equity and Growth" during the meeting of OECD Ministers in May 2007, the meeting of G8 Labour and Employment Ministers in May 2007 and the Heiligendamm G8 Summit in June 2007.
2. A classic example is the decision of Intel, a global electronics company, to establish a semiconductor-assembly and test plant in Costa Rica (World Bank, 2006). The effects of the entry of Intel on the economy went far beyond expectations. Amongst other things, it placed Costa Rica on the map as a potential location for foreign investors, contributed to its improved investment climate and helped strengthening its knowledge base.
3. The chapter focuses predominantly on the consequences of *inward* FDI in OECD and non-OECD countries. Chapter 3 of the 2007 *OECD Employment Outlook* discusses some of the implications of *outward* FDI and offshoring in OECD countries (OECD, 2007a).
4. The econometric analysis makes use of linked employee-employer data from administrative sources. Because of the confidential nature of these data and their complicated structure, a small network of researchers was established by the Secretariat to conduct the econometric analysis on the basis of a common methodology. The analysis for Brazil and Portugal was conducted by Pedro Martins and that for Germany and the United Kingdom by Richard Upward. The firm-level analysis

for Indonesia was conducted by the Secretariat. The choice of countries was driven by data availability. A more detailed presentation of the econometric analysis can be found in Hijzen *et al.* (2008a).

5. Throughout, the chapter concentrates on FDI in manufacturing and to a lesser extent the services sector. It does not cover specific issues raised by FDI in extractive industries and infrastructure. For more on FDI in extractive industries, see Moran (2006) and UNCTAD (2007).

6. The latter are likely to be particularly important for MNEs that source labour-intensive inputs from developing countries. In the case of Nike, for example, the number of indirect employees may be more than twenty times the number of direct employees. See Box 5.3 for more details.

7. Developing countries are here defined as non-OECD countries. Using other common classifications does not change the main insight that developing countries have become increasingly important as countries for inward and outward FDI.

8. Employment effects are likely to be particularly important in countries where formal employment opportunities are limited.

9. Nevertheless, OECD (1996) suggests that concerns by certain developing countries that enforcing core labour standards would negatively affect economic growth or their international competitiveness are unfounded.

10. Ethical Investment Research Services (EIRIS) is an independent, non-profit research organisation that conducts research on CSR for investors. EIRIS research is compiled using information supplied by companies such as annual reports, sustainability/CSR reports, company websites, and EIRIS survey responses, but also makes use of a variety of non-company sources. The database allows users to score company policies on the basis of a wide range of CSR criteria including several indicators on working conditions. For a more in-depth analysis, see OECD (2008c).

11. The relatively weaker performance of UK companies relative to other European companies may result from selection bias due to the greater coverage in EIRIS of smaller companies in the United Kingdom.

12. An advantage of the EIRIS database is that it allows one to look at the extent of CSR policies rather than simply whether or not firms have any sort of code of conduct in certain areas. Edwards *et al.* (2007) observe that US MNEs are more likely to have labour codes than European MNEs. The present analysis suggests that these are, nevertheless, likely to be less extensive than in European MNEs.

13. Note that there can be no "one-size-fits-all" approach to corporate social responsibility as preferences for CSR differ across countries (OECD, 2001).

14. Davis *et al.* (2005) consider regulation the most important driver of CSR.

15. This is confirmed by Edwards *et al.* (2007) who report that European MNEs are much more likely to negotiate CSR policies with employee representatives than North-American MNEs where such policies tend to reflect the exclusive initiative of the management.

16. The World Bank Enterprise Survey (WBES) is a large firm-level database covering mostly developing countries. It covers mainly manufacturing and certain services for registered firms with more than ten employees.

17. More controversially, Porter and Kramer (2006) argue that the actual social impact also represents the appropriate benchmark to evaluate the corporate social responsibility of MNEs rather than, more narrowly, the extent to which corporate reputations for responsible business conduct are harnessed and stakeholder expectations satisfied. According to Porter and Kramer, CSR involves maximising "shared value", *i.e.* benefits that accrue to both business and society and, in the present context, to outcomes that raise both labour practices and firm profitability. Shared value may come about not just through the implementation of cost-increasing CSR policies that lead to higher product prices (the "demand-side" of CSR), but also through the integration of CSR into management strategies that raise both labour practices and long-term productivity (the "supply-side" of CSR). The extension of CSR to the supply-side expands the scope for CSR beyond the "willingness to pay" by consumers and investors for better labour practices. However, it also makes it harder to distinguish the impact of CSR from the social impact of day-to-day business. See Section 4.2 for a related discussion of CSR.

18. Halegua (2007), for example, suggests that US MNEs operating in China tended to oppose the new Labour Contract Law that entered into force 1 January 2008, as they may have had to apply labour provisions more rigorously than their local counterparts due to pressure from US consumers.

19. However, in developing countries where the respect for labour and human rights presents real problems, reputation-sensitive MNEs may also have stronger incentives to offer better employment conditions to low-skilled workers than domestic firms.

20. As for western Europe, data in the WBES are only available for Ireland and Spain, this region was not included in Figure 5.3. Average wage differences between MNEs and local firms in those countries are not statistically different from zero.

21. The productivity gap between foreign and local firms is larger than the wage gap in most countries, implying that the wage share of total output is lower for MNEs. This might be an indication that worker bargaining power is weaker in foreign than in local firms, perhaps because fewer *comparable* outside job opportunities are available for workers in such firms. Even if this interpretation should be accurate, it does not mean that workers in foreign firms are worse off than their domestic counterparts. It would just mean that the premium associated with working in a foreign firm may not be as large as it would have been otherwise. It must be emphasised, however, that the descriptive statistics in Figure 5.3 may not reflect worker bargaining power in MNEs. Another possible explanation for lower wage shares could be that MNEs are more capital-intensive than domestic firms.

22. In order to address these problems, one ideally would like to make use of a panel of linked employer-employee data. Linked employer-employee data provide information on both individual workers and their firms. Panel data of this type allow one to follow workers across firms and to keep track of the ownership status of their firms. Aggregation bias is completely removed once the unit of analysis is shifted from the firm to the employee. Composition bias is effectively dealt with by explicitly controlling for the observable characteristics of individual workers. Selection bias is greatly reduced by controlling for observable worker and firm characteristics, as well as any unobservable characteristics that are constant over time.

23. Annex Table 5.A2.1 summarises key studies contributing to this literature.

24. For example, Lipsey and Sjöholm (2004a) ask whether foreign wage premia may simply reflect differences in worker composition between foreign and domestic firms. In order to address this possibility, they use plant-level data for Indonesia with detailed information on the composition of workers across educational categories. They find that, while differences in average labour quality account for a significant part of the raw foreign wage premium, the estimated foreign wage premia remain large: wages in foreign-owned plants are 12% higher for production workers and 20% for non-production workers. Te Velde and Morrissey (2003) present similar findings for five Sub-Saharan African countries.

25. Heyman *et al.* (2007) show, using firm-level data for Sweden, that the wage difference between foreign-owned firms that were established through greenfield investment and comparable domestic firms tends to be larger than that between foreign-owned firms that were established through M&A and comparable domestic firms. This may be plausible as greenfield investment requires attracting new workers, possibly by offering higher wages, whereas this is not necessarily the case for takeovers.

26. But also note that greenfield investment tends to be relatively more important in developing countries.

27. Using linked employer-employee panel data Almeida for Portugal (2007), Earle and Telegdy for Hungary (2007) and Huttunen for Finland (2007) all find small positive effects for foreign takeovers of domestic firms on average wages. However, they do not control for worker fixed effects, unlike the studies cited below.

28. Using the same data but a somewhat different methodology, Andrews *et al.* (2007a) also find that foreign takeovers raise individual wages by 3% in Germany. The results for Portugal differ somewhat from earlier results in Martins (2006) but are in the same range as those reported in Almeida (2007). The differences with Martins (2006), whose study is the most similar to the present one in terms of methodology and set-up, can be attributed to the fact that the present analysis controls for lagged wages whereas Martins (2006) did not. The time period is also slightly different.

29. The discussion, here, focuses on the effects of worker movements from domestic to foreign firms. The effects of movements from foreign to domestic firms will be discussed in more detail in Section 3 in connection with possible wage spillovers to the broader labour market.

30. These results are of the same order of magnitude as those reported by Lipsey and Sjöholm (2006) who use the same data for a somewhat different time period. They find that foreign takeovers raise production-worker wages by 17% and non-production workers by 33%.

31. The worker-level results for Brazil are very different from the firm-level results presented in Table 5.4, which suggested that skilled workers gain most. However, the difference in the estimated coefficients for the two skill groups is not statistically significant in Table 5.4. Moreover, the worker-level results are not directly comparable with the firm-level results, as the former take account of stayers only and skill groups are defined differently.

32. This may reflect a greater need for coordination in the context of vertical FDI than for horizontal FDI.

33. In Germany, for which actual hours of work are not available and standard hours are used instead, there is no difference between foreign and domestic firms. This may reflect the fact that in Germany sectoral collective agreements have a major influence over standard working hours (Lee *et al.*, 2007).

34. The relationship between foreign ownership and hours of work is complicated as one needs to take account of the relationship between ownership and both employee and employer preferences over hours of work. Neither is clear. To the extent that foreign takeovers increase hourly earnings, they may either increase or decrease employee preferences over hours of work: employees may desire to work more because the "cost" of not working increases, but it is equally possible that they wish to work less when their income increases. Employer preferences over working hours may also change. For example, MNEs may be more likely to comply with national labour provisions than domestic firms and this may either increase or decrease the number of hours employers prefer: labour provisions that increase the cost of employment (such as employment protection legislation) may be expected to increase preferences for long working hours, while statutory regulation of working hours may decrease preferences for long working hours. Foreign and domestic firms may also differ in the extent to which they wish to allow for greater flexibility in working hours in an effort to reduce worker turnover.

35. This indicates that foreign firms employ on average less low-pay workers than domestic firms.

36. In order to analyse this issue, the econometric model had to be extended with interaction terms between the dummy variable indicating whether workers or firms are covered by collective agreements and the treatment dummy, the relative time dummy and the interaction of the two. As the dummy of collective-agreement coverage is held constant at $t = -1$, it was not necessary to include this variable also separately.

37. The absence of any effect in Germany may reflect the small number of firms that are not covered by any collective agreement.

38. Due to both data limitations – the data are collected for administrative purposes and, as a result, it is not straightforward to identify instances of non-compliance with legal requirements – and methodological challenges – the present methodology relies crucially on comparing *average* differences between domestic and foreign-firmed firms –, this chapter does not analyse the extent to which a sub-set of MNEs may undermine labour standards in host countries.

39. The methodology used in the previous section is based on the assumption that cross-border M&A does not affect firms that do not change ownership status. To the extent that cross-border M&A is associated with spillovers to local firms, the estimation of takeovers effects in the previous section is contaminated by spillover effects. As long as spillovers are positive, this will lead to a downward bias of the estimated takeover effects.

40. See Görg and Strobl (2001) and Görg and Greenaway (2004) for overviews of the literature.

41. This can be represented in a diagram of demand and supply by an outward shift of the labour-demand curve and an inward shift of the labour-supply curve. The labour-demand effect on wages will be stronger, the less responsive is labour supply to changes in wages (inelastic labour supply). This is more likely to be the case when labour is relatively immobile across local labour markets. Note that in many developing countries local labour markets are characterised by an excess supply of unskilled labour which may be expected to mitigate the effect of foreign entry on wages for this group of workers. Similarly, the labour-supply effect will be larger, the more responsive labour demand is to a change in wages, which depends on the substitutability of labour for other factors of production and the degree of product-market competition. To the extent that labour demand tends to be more elastic for low-skilled workers, the labour-supply effect associated with foreign entry may be expected to play a more important role for this group of workers. See Chapter 3 of the 2007 edition of the *OECD Employment Outlook* for further details.

42. The usual explanation for the negative impact of FDI on the productivity of local firms is that foreign entry crowds out local competitors, which will reduce domestic firm productivity when there are increasing returns to scale (Aitken and Harrison, 1999). Despite negative productivity

spillovers, the effect of FDI on average wages in domestic firms may still be positive due the effect of foreign entry on local labour demand (Driffield and Girma, 2003).

43. FDI, here, captures both greenfield investment and cross-border M&A. While greenfield investment should by definition increase foreign labour demand, the results for Indonesia presented in Table 5.1 also suggest that foreign takeovers increase labour demand.

44. Differences in the elasticity of labour supply between production and non-production workers may explain why wage spillovers only affect non-production workers.

45. During the 1990s, the US Government put considerable pressure on Indonesia to enhance working conditions by threatening to withdraw trade preferences that were granted to Indonesia under the US General System of Preferences (GSP). This contributed to a doubling of the statutory minimum wage during the 1990s and promises by the Indonesian Government to enforce compliance more vigorously. At the same time, consumer and human rights activists in the United States started a campaign against the exploitation of workers in the supplier firms of large US-based MNEs. Harrison and Scorse (2006) analyse the effects of both these developments for the wages and employment of unskilled workers in the Indonesian textiles industry. Their findings indicate that increases in both the statutory minimum wage and anti-sweatshop activism had a strong impact on the real wage of unskilled workers, raising their wage by 35% and 20%, respectively. However, whereas minimum-wage increases led firms to scale back unskilled employment by 10%, anti-sweatshop activism does not appear to have had an adverse impact on unskilled employment.

46. See Koyama and Golub (2006) for a comprehensive analysis of regulatory restrictions on inward FDI for OECD and non-OECD countries. The analysis suggests that regulatory restrictions are generally more important in non-OECD countries than in OECD countries.

47. While local content requirements that oblige foreign affiliates to source a minimum percentage of their inputs locally have been used to strengthen backward-linkages, these are forbidden under the Agreement on Trade-Related Investment Measures ("TRIMs Agreement") of the WTO, as they are inconsistent with the principle of national treatment.

48. The evidence on the effects of joint ventures for productivity spillovers is mixed. Whereas Blomström and Sjohölm (1999) find that spillovers do not depend on whether foreign investors have a local partner in Indonesia, Javorcik and Spatareanu (2007) show that having a local partner enhances spillovers in Romania. They argue that the use of older technologies in foreign affiliates may actually enhance spillovers because such technologies are easier to adapt by local firms.

49. The importance of these factors for FDI is confirmed by the empirical evidence. For example, Dollar *et al.* (2006) provide evidence from the World Bank Enterprise Survey that various aspects of the investment climate including clearance times, power reliability, and the availability of financial services are important determinants of inward FDI.

50. These figures are broadly consistent with those published by the US Bureau for Economic Analysis (BEA) for US affiliates for 1999 and 2004 which show also that the bulk of affiliate sales is made locally. In contrast to the World Bank Enterprise Survey (WBES), the BEA data do not reveal a low share of local sales in foreign affiliate sales in low-income Asia. Amongst other things, this may reflect the bias in the WBES towards manufacturing.

51. Figure 5.5 provides a lower bound on the importance of market-seeking FDI as a host country may be chosen to serve several locations at a time. This is generally referred to as "export-platform FDI" and is likely to be particularly important for investment into the European Union and other regional trade areas (Ekholm *et al.*, 2007).

52. The discussion in Box 5.5 on EPZs, nonetheless, suggests that, while labour practices can sometimes be poor, zone labour standards are generally not weaker than those outside.

53. Without controlling for GDP and GDP per capita, one observes a weak positive correlation between FDI and labour law enforcement. This is not surprising as FDI tends to be more important in more developed countries where enforcement tends to be more effective.

54. Kucera (2002) analyses how *de facto* differences in each of the four core labour standards affect FDI. In general, the results suggest no relationship between FDI and the quality of core labour practices across countries. Interestingly, even though freedom of association and the right of collective bargaining have a tendency to increase unit labour costs, FDI responds positively to higher *de facto* standards in this domain.

55. See Hanson (2001) and UNCTAD (2003) for more details.

56. Matching services are increasingly replacing the role of mandatory performance requirements (OECD, 2006).

57. This requires addressing two methodological challenges. First, as investment-promotion efforts may not only stimulate inward investment but also expand in response to greater international investment activity, one needs to sort out cause and effect. Second, one has to disentangle the independent effect of investment promotion on FDI from that of unobserved factors that are correlated with both the investment climate and investment promotion. Charlton and Davis (2007) address these challenges by focusing on changes in priority areas across time and industries. Using data for 28 OECD countries, they find that industry targeting for investment promotion raises FDI by 41%.

58. Note that, even in the absence of positive externalities, there may be efficiency grounds to give preferential tax treatment to foreign investors because the elasticity of investment to corporate taxation tends to be higher for foreign than for domestic firms, particularly in small open economies (Gordon, 1986).

59. See also the *OECD Checklist for FDI Incentive Policies* (OECD, 2003), which is specifically designed to assist countries to assess the costs and benefits of such incentives.

60. It is important to realise that in addition to affecting the volume of FDI, regulatory or fiscal incentives may have an important impact on the composition of investment and its social impact. It does not seem implausible that the social impact of FDI that is driven by specific incentives may generate smaller benefits than that of FDI that is motivated by the intrinsic characteristics of a certain location. While this may be obvious in the context of FDI that is motivated by lower labour standards, it may also apply in the context of fiscal incentives. Fiscal incentives are often provided on a temporary basis thereby reducing the probability that foreign investors make a lasting impact and invest in building local reputations.

61. Harding and Javorcik (2007) demonstrate that investment promotion raises inward FDI in developing countries despite worries that industry targeting in developing countries may be less effective due to rent-seeking behaviour.

62. Note that the use of the term "responsible business conduct" is meant to be more general than the term "corporate social responsibility" in that it is not limited to voluntary business initiatives that go beyond legal requirements, but also includes compliance with national labour legislation.

63. Conventions are legally binding international treaties of general principles that countries may choose to adhere to. A country that ratifies a convention assumes the obligation to transpose the convention into national law and to report on its application at regular intervals.

64. Countries that have not ratified one or more of the conventions under the Declaration are asked annually to report on impediments to its or their ratification; the practice of the relevant rights and principles; and whether technical assistance is required.

65. Non-ratification does not necessarily mean that countries do not accept and protect the principles contained in the conventions, but could also reflect a general reluctance to take up international obligations to adhere to the full minutiae of the conventions in question.

66. This suggests that labour inspections – which are costly – increase with the level of development (proxied by GDP per capita).

67. For example, public inspectors in the Cambodian garment sector reportedly earn only one-third of the monthly average wage in the sector and slightly more than half the minimum wage in the sector. Such low wages clearly provide weak incentives to conduct rigorous inspections and foster multiple jobholding and bribe-taking among inspectors.

68. The bulk of world trade involves MNEs. The foreign affiliates of MNEs alone account for about one third of world exports (UNCTAD, 2007). The role of MNEs in world trade may be substantially larger when also accounting for exports by the domestic affiliates of MNEs and their foreign sub-contractors.

69. In the Singapore Declaration of 1996, the ILO was designated as the appropriate international institution to deal with labour standards.

70. These are systems of unilateral trade legislation in the European Union and the United States that grant specific preferences to developing countries.

71. CAFTA, Art. 16.1(1) as quoted in Kolben (2007).

72. An increasing number of International Investment Agreements (IIAs) also has includes labour provisions. For a detailed discussion of labour provisions in IIAs, see OECD (2008d).

73. However, as the quotas were determined on a sectoral basis, the agreement in itself did not provide strong incentives for individual exporting firms to raise labour standards due to coordination

problems (*e.g.* free-rider behaviour). This was to some extent addressed by the decision of the Cambodian Government to make the allocation of export permits conditional on participation in the monitoring initiative.

74. The EU GSP also makes use of positive incentives by granting special preferences to countries that have ratified and effectively implemented core labour and human-rights conventions (OECD, 2000b).

75. According to the United Nations Secretary-General's Representative for Business and Human Rights, John Ruggie, the main problem with the draft norms is that by conferring state-like duties on corporations, it conflates the private and public spheres and renders rule-making problematic. See Ruggie (2008a and 2008b) for more details.

76. There exists a broad consensus about the elements that constitute such "high road" technologies (also called "high-performance management systems"). These are: investment in training; incentive compensation and performance management systems; decentralised decision making and worker representation, and information sharing with employees. At least in the context of developed countries, there is strong evidence that such management practices can help to enhance firm performance (Huselid, 1995; Ichniowski *et al.*, 1997). Given this evidence, it is surprising that many firms, even in developed countries, have not implemented such practices. See Pfeffer (2007) for a discussion of possible mechanisms that account for the relatively low take-up of high-performance management practices.

77. Note that, at least in the case of the guidelines, it is not the intention "to introduce differences of treatment between multinational and domestic enterprises; they reflect good practice for all. Accordingly, multinational and domestic enterprises are subject to the same expectations in respect of their conduct wherever the guidelines are relevant to both" (OECD, 2000a).

78. The treatment of labour standards in the guidelines and the MNE Declaration is considerably more detailed than in the GC and extends beyond core labour standards.

79. These are the 30 member countries of the OECD plus Argentina, Brazil, Chile, Egypt, Estonia, Israel, Latvia, Lithuania, Romania and Slovenia. Together these countries account for about 85% of the global outward stock of FDI. Nevertheless, the growing importance of South-South FDI strengthens the case for expanding the membership of the OECD Guidelines.

80. This may reflect the belief that businesses have a sufficiently strong interest to raise the visibility of responsible business conduct through self-regulation.

ANNEX 5.A1

Data Sources and Variable Definitions

Table 5.A1.1. **EIRIS policies**

Panel A. **MNE policies on working conditions**

Measure	Definition	Very clear to clear evidence	Some evidence	No or little evidence	Total number of firms with presence in weak governance zone	Average score
Equal opportunities	How clear is the evidence of systems and practices to support equal opportunities and diversity?	2	1	0	1 356	0.71
Health and safety[a]	How clear is the evidence of health and safety systems?	2	1	0	1 357	1.05
Trade unions and employee participation	How clear is the evidence of systems to manage employee relations?	2	1	0	1 357	0.79
Training	How clear is the evidence of systems to support employee training and development?	2	1	0	1 357	0.67
Total		8	4	0	1 356	3.23

Panel B. **MNE Policies on working conditions in the supply chain**

Measure	Definition	Very clear evidence	Clear evidence	Some evidence	No or little evidence	Total number of firms with presence in weak governance zone	Average score
Supply chain overall	What is the extent of policies, systems and reporting overall on global supply chain standards?	3	2	1	0	121	1.81

a) The health and safety criteria include senior responsibility, training awards and quantitative data for health and safety issues. When there is evidence that the company has two out of three elements, the evidence is qualified as clear.

Table 5.A1.2. **National data sources**

	Brazil	Germany	Indonesia	Portugal	United Kingdom
Data sources	RAIS, Global Mergers and Acquisitions Database (Thomson Financial Securities) and Orbis (Bureau van Dijk)	Institut für Arbeitsmarkt- und Berufsforschung (IAB) Establishment Panel and the employment statistics register of the German Federal Office of Labour (Beschäftigtenstatistik)	Survei Manufaktur, the Indonesian Census of Manufacturing (Statistical Office, BPS)	Quadros de Pessoal or "Personnel Records" (Ministry of Employment)	Annual Respondent's Database (ARD) for the firm-level analysis. Business Structure Database (BSD) and Annual Survey of Hours and Earnings (ASHE) for worker-level analysis
Unit of observation in business survey that is used for the analysis	Firm	Plant	Plant	Firm	Firm (called "enterprise")
Sample selection	All firms with at least one employee	All plants with employees subject to social security. Large plants are oversampled. The sample comprises about 1% of plants and 10% of employees	The census surveys all registered manufacturing plants with more than 20 employees	All firms with at least one employee	The "selected sample" of the ARD is a census of firms with 250 or more employees, and a sample of smaller firms. The BSD includes all enterprises whose plants are subject to VAT or social security
Sectoral coverage	Manufacturing and services	Manufacturing and services	Manufacturing	Manufacturing and services	Manufacturing and services
Time coverage	1995-2005	2000 and 2004	1997-2005 except 2001	1997-2004	1997-2005
Further remarks			The data for 2002 and 2003 use a different plant identifier		

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Table 5.A1.3. **Variable definitions**

	Brazil	Germany	Indonesia	Portugal	United Kingdom
Foreign ownership	More than 50% of assets owned by a foreign entity (firm)	More than 50% of assets owned by a foreign entity (plant)	More than 50% of assets owned by a foreign entity (plant)	More than 50% of assets owned by a foreign entity (firm)	More than 10% of assets owned by a foreign entity (firm)
Employment	Log total number of employees	Log total number of employees	Log total number of employees	Log total number of employees	Log total number of employees
Average wage	Log total wage bill divided by employment	Log total wage bill divided by employment	Log total wage bill divided by employment	Log total wage bill divided by employment	Log total wage bill divided by employment
Individual wage	Log hourly wage	Log daily wage	Not available	Log hourly wage	Log gross hourly wage
Working hours	Log total working hours	Log standard working hours at plant-level available in 2001, 2002, 2004	Not available	Log total working hours	Log total working hours
Low pay	Dummy equal to one when earning the minimum wage or less	Germany does not have a statutory minimum wage	Not available	Dummy equal to one when earning the minimum wage or less	Dummy equal to one when earning the minimum wage or less
Collective agreement	Not available	Dummy equal to one when covered by multi-firm agreement (defined at plant-level)	Not available	Dummy equal to one when covered by multi-firm agreement (defined at plant-level)	Dummy equal to one when covered by a collective agreement
Job stability	The number of worker separations between t and t-1 over total employment at t-1	The number of worker separations between t and t-1 over total employment at t-1	Not available	The number of worker separations between t and t-1 over total employment at t-1	Not available
Industry	One-digit SIC codes (9)	15 categories	SIC codes 15-37 (23)	Two-digit SIC codes	One digit SIC92 codes (9)
Region	States (27)	States (11)	Provinces (34)	Regions (5)	UK Government Office Region (10)
Gender	Gender dummy equal to one when male	Gender dummy equal to one when male	Not available	Gender dummy equal to one when male	Gender dummy equal to one when male
Age	Age	Age	Not available	Age	Age
Skill	Based on education groups	Dummy for high, semi- and low-skilled based on highest educational qualification	Production and non-production	Based on education groups	Dummy for high, semi- and low-skilled based on SOC2000 one-digit categories
Tenure	Number of years	Number of years in current plant	Not available	Number of years	Dummy for more than one year in current firm

Table 5.A1.4. **Variable definitions and data sources**

Variable	Definition	Tables	Figures	Source
Employment	Log sum of permanent and full-time employees and temporary (or part-time) employees (adjusted by the lenght of contract duration)	5.6	5.3; 5.5	World Bank Enterprise Survey
Voluntary worker turnover	The number of permanent and full-time employees that left the plant for reasons other than dismissals or illness during the last year over the total number of employees		5.3; 5.5	World Bank Enterprise Survey
Average wage[a]	Total wages and salaries of permanent and full-time employees in constant USD divided by total employment	5.6	5.3; 5.5	World Bank Enterprise Survey
Labour productivity[a]	Log of total sales in constant USD over employment	5.6	5.3; 5.5	World Bank Enterprise Survey
Training	Dummy equal to one when plant offers formal training to permanent employees		5.3; 5.5	World Bank Enterprise Survey
Union membership	Percentage of the workforce that is unionised		5.3; 5.5	World Bank Enterprise Survey
Local sales	Percent of sales sold domestically among private firms		5.6	World Bank Enterprise Survey
Probability of receiving at least one public inspection per year	Average across countries/regions of dummy equal to one when total days spent in inspections or required meetings with officials is larger than zero	5.9	5.7	World Bank Enterprise Survey
Probability of receiving a fine conditional on public inspection	Average across countries/regions of dummy equal to one when total cost of fines or seized goods and the total days spent in inspections or required meetings with officials are strictly positive. Dummy equal to zero when totals days spent in inspections and required meetings with officials is strictly positive and total cost of fines or seized goods is zero	5.9		World Bank Enterprise Survey
Inward FDI over GDP	Foreign direct investment (FDI) is defined as an investment made to acquire a lasting interest in enterprises operating outside of the economy of the investor		5.1; 5.7	UNCTAD
GDP per capita	GDP in constant USD divided by total population		5.8	World Bank, World Development Indicators (WDI)
Foreign MNE	Dummy equal to one when the percentage of firm owned by foreign entity is larger than 50		5.3; 5.5	World Bank Enterprise Survey
Domestic MNE	Dummy equal to one when the percentage of firm owned by foreign entity is zero and firm has holdings and operations in other countries		5.3	World Bank Enterprise Survey
Domestic firms that supply MNEs	Dummy equal to one when the percentage of domestic sales sold to multinationals in the same country is larger than zero		5.5	World Bank Enterprise Survey
Domestic firms with manager with prior experience in foreign firm	Dummy equal to one when the top manager has at least one year of working experience in foreign firm prior to joining the current firm		5.5	World Bank Enterprise Survey

a) Variable deflated with the Producer Price Index or Wholesale Price Index and converted using the annual official exchange rates in USD from the International Financial Statistics database, International Monetary Fund.

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ANNEX 5.A2

Summary of Previous Research on Foreign Wage Premia

Table 5.A2.1. **An overview of the literature on foreign wage premia**

Study	Country	Sample	Treatment[a]	Main findings
I. Cross-sectional studies				
Aitken, Harrison and Lipsey (1996)	Mexico, United States, Venezuela	1984-1990; 1987; 1977-1989, manufacturing	Foreign-owned	Positive and significant wage differences for Mexico and Venezuela after controlling for plant size, geographic location, skill mix and capital intensity, but not in the United States
Morrisey and Te Velde (2003)	Cameroon, Ghana, Kenya, Zambia, Zimbabwe	Pooled cross-sections for various years during 1990-1993, manufacturing	Foreign-owned	Foreign wage premia ranging from 8% to 23% after controlling for observable worker and firm characteristics
Sjöholm and Lipsey (2004)	Indonesia	1996, manufacturing	Foreign-owned	Wages in foreign-owned plants are 12% higher for production workers and 20% for non-production workers than in domestic plants
II. Longitudinal studies – Firm-fixed effects				
Almeida (2007)	Portugal	1991-1998, manufacturing	Foreign takeovers	Foreign takeovers have a small positive effect of 2-4% on average wages
Conyon, Girma, Thompson, and Wright (2002)	United Kingdom	1989-1994, manufacturing	Takeovers, asymmetric	Cross-border takeovers have small positive effect of 3.3% on average wages
Earle and Telegdy (2007)	Hungary	1986-2003	Takeovers, symmetric	Cross-border takeovers have a positive effect of 7% on average wages
Görg and Girma (2007)	United Kingdom	1980-1994, manufacturing	Foreign takeovers	Takeovers of UK firms by US firms increases the wage of both skilled and unskilled workers (4-13%), but takeovers by non-UK EU firms do not
Huttunen (2007)	Finland	1988-2001, manufacturing	Foreign takeovers	Foreign takeovers have a positive effect on wages. The wage increase occurs within one to three years from the acquisition
Sjöholm and Lipsey (2006)	Indonesia	1975-1999, manufacturing	Takeovers, asymmetric	Foreign takeovers have a positive effect of 10% on the average wage of blue-collar workers and 21% on the average wage of white-collar workers
III. Longitudinal studies – Worker and firm fixed effects				
Andrews, Bellman, Schank and Upward (2007)	West and East Germany	2000 and 2004	Takeovers and movers, asymmetric	For West-Germany foreign takeovers are associated with 3% increase in individual wage. The effects for East-Germany tend to be insignificant. Movers from domestic to foreign firms experience an increase in wages of 6%
Balsvik (2006)	Norway	1990-2000, manufacturing	Takeovers and movers, asymmetric	Foreign takeovers have a small positive effect of 3% on individual wages. Movers from domestic to foreign firms experience an increase in wages of 8%
Heyman, Sjöholm and Gustavsson Tinvall (2007a)	Sweden	1996-2000	Takeovers, symmetric	Foreign takeovers have a small negative effect of –2% on individual wages

Table 5.A2.1. **An overview of the literature on foreign wage premia** *(cont.)*

Study	Country	Sample	Treatment[a]	Main findings
Heyman, Sjöholm and Gustavsson Tinvall (2007b)	Sweden	1996-2000	Takeovers, asymmetric	Foreign takeovers increase wages of high-skilled workers by 2% and reduce wages of medium and low-skilled workers by 4% and 6%
Malchow-Moller, Markusen and Schjening (2007)	Denmark	2000-2002	Takeovers, symmetric	Foreign takeovers have small positive effect of 1% on individual wages
Martins (2006)	Portugal	1991-1999, manufacturing	Takeovers, symmetric	Foreign takeovers have small negative effect of –3% on individual wages

a) Some studies impose the assumption of symmetry on the treatment. In the present case, this means that the effects of changes in ownership from domestic to foreign and foreign to domestic are assumed to be of the same magnitude but of opposite sign. If this assumption is not imposed, but both changes are allowed, the treatment is said to be asymmetric.

ANNEX 5.A3

Econometric Methodology for Estimating Wage Spillovers

In order to analyse wage spillovers from FDI to domestic firms, consider the following production function of domestic firm *i* in industry *j* and region *k*:

$$Y_{ijk} = A_{ijk}(\varphi_{ijk}, \overline{\varphi}_{jk}) f_{ijk}(K_{ijk}, L_{ijk}) \quad [1]$$

where *Y* is gross output, *A* is total factor productivity, which is assumed to be a function of firm-specific and market-specific factors – including the presence of foreign investors in that market –, *L* is labour and *K* is capital. In perfectly competitive labour markets, wages will equal the marginal value product of labour. Formally, this can be represented as follows:

$$w_{ijk} = p_{ijk} \frac{\partial Y_{ijk}}{\partial L_{ijk}} = p_{ijk} A_{ijk}(\varphi_{ijk}, \overline{\varphi}_{jk}) f_L(K_{ijk}, L_{ijk}(w_{ijk}) \quad [2]$$

where *w* indicates the average wage in firm *i* in local labour market *j*, *p* the price of output, and *L(.)* the labour supply curve, with labour supply being a function of the elasticity of labour supply *v* times its own wage.

However, when search frictions are important, wages will generally be less than the marginal value product of labour and wage differentials for identical workers between domestic and foreign firms may persist. In this context, wages also depend on the available outside wage in both domestic and foreign firms. In order to account for the presence of search frictions, the model is augmented with two shift parameters: the average wage of domestic and foreign firms, respectively, $\overline{w}^d$ and $\overline{w}^f$. Converting the augmented model into natural logarithms yields:

$$\ln w_{ijk} = \alpha_1 \ln p_{ijk} + \alpha_2 \ln \varphi_{ijk} + \alpha_3 \ln \overline{\varphi}_{jk} + \alpha_4 \ln K_{ijk} - \alpha_5 v \ln w_{ijk} + \alpha_6 \ln \overline{w}^d_{jk} + \alpha_7 \ln \overline{w}^f_{jk} \quad [3]$$

Rewriting (3) with respect to *w* yields the following reduced-form:

$$\ln w_{ijk} = 1/(1+\alpha_5 v)(\alpha_1 \ln p_{ijk} + \alpha_2 \ln \varphi_{ijk} + \alpha_3 \ln \overline{\varphi}_{jk} + \alpha_4 \ln K_{ijk} + \alpha_6 \ln \overline{w}^d_{jk} + \alpha_7 \ln \overline{w}^f_{jk}) \quad [4]$$

Adding time subscripts, this gives the following estimable equation:

$$\ln w_{ijkt} = \gamma_i + \gamma_1 \ln \varphi_{ijkt} + \gamma_2 \ln \overline{\varphi}_{jkt} + \gamma_3 \ln K_{ijkt} + \gamma_4 \ln \overline{w}^d_{jkt} + \gamma_5 \ln \overline{w}^f_{jkt} + \delta_{jt} + \delta_{kt} + \delta_t + \varepsilon_{ijkt} \quad [5]$$

where γ_i represents a firm-fixed effect to control for unobserved time-invariant differences in productivity, δ_{jt} an industry-specific trend to control for output prices, δ_{kt} a region-specific trend to control for regional economic developments common across industries, δ_t a time trend to control for macroeconomic developments such as the Asian crisis, and ε_{ijkt} a random

disturbance term. The firm-specific component of productivity is approximated by labour productivity defined as value-added per worker. It is assumed that the market-specific component of productivity depends solely on the share of employment in foreign firms over total employment, which is given by:

$$\log\overline{\varphi}_{ij} = F_j = \frac{\sum_{i=1}^{F} L_{ij}^{f}}{\sum_{i=1}^{F} L_{ij}^{f} + \sum_{i=1}^{D} L_{ij}^{d}}$$

FDI has a positive effect on wages in domestic firms through its impact on local labour demand when γ_2 will be positive, which will be the case as long as labour supply is not perfectly elastic ($\nu < \infty$). If labour mobility between industries or regions is important, γ_2 will understate the true impact of FDI on wages in domestic firms (Aitken *et al.*, 1996). After augmenting [4] with firm productivity, measured by value-added per worker, γ_2 gives the impact of FDI on wages through its impact on local labour demand in foreign firms only.

To account for the possibility that the effects of FDI on wages in domestic firms differ across skill groups, the empirical model is also estimated separately for production and non-production workers. Employment of the other skill group is included as an additional control in those regressions.

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Statistical Annex

Sources and definitions

Most of the statistics shown in these tables can also be found in two other (paper or electronic) publication and data repository, as follows:

- the annual edition of *OECD Labour Force Statistics, 1987-2007*;
- OECD.Stat, the OECD's central data warehouse (*www.oecd.org/els/employment/data*), which contains both raw data and derived statistics.

These references, which include information on definitions, notes and sources used by OECD countries, contain longer time series and more detailed data by age group, gender, duration of unemployment, etc., than are shown in this annex.

Please note that the data on employment, unemployment and the labour force are not necessarily the same as the series used for analyses and forecasting by the OECD Economics Department and reproduced in Tables 0.2 and 0.3 of the "Recent Developments" section at the beginning of this publication.

Interested users can refer to the on-line database (*www.oecd.org/els/employment/data*), which contains data series on the labour market situation in OECD countries: population, labour force, employment and unemployment disaggregated by gender and age, educational attainment, employment status and sector of activity, participation and unemployment rates, statistics on part-time employment and duration of unemployment, job tenure, etc. The on-line database contains a number of additional series on labour market performances and on features of the institutional and regulatory environment affecting the functioning of labour markets. Among these are the following:

- annual hours of work data for comparisons of trends over time;
- distribution of gross earnings of full-time workers by earnings decile and by sex to derive various measures of earnings dispersion;
- gross mean and median earnings of full-time workers by age group and gender;
- statutory minimum wages;
- public expenditure on labour market programmes and number of participants;
- trade union density rates in OECD countries.

Conventional signs

.. Data not available

. Decimal point

| Break in series

- Nil or less than half of the last digit used

Major breaks in series

Table A: Breaks in series have been adjusted to ensure that standardised unemployment rates are consistent over time.

Tables B to E and Table G: Most of the breaks in series mentioned below occurred for any of the following reasons: changes in survey design, survey questionnaire, survey frequency and administration, revisions of data series based on updated population census results. These changes have affected the comparability over time of employment and/or unemployment levels and to a certain extent the ratios reported in the aforementioned tables:

- Introduction of a continuous survey: Austria (2003/2004), Belgium (1998/1999), Czech Republic (1996/1997), Finland (1999/2000), France (2002/2003), Germany (2004/2005), Hungary (2002/2003), Iceland (2003/2004), Ireland (1996/1997/1998), Italy (2003/2004), Luxembourg (2002/2003), Norway (1995/1996), Poland (1998/1999/2000), Portugal (1997/1998), Slovak Republic (1997/1998), Spain (1998/1999).
- Redesign of labour force survey: Greece (1997/1998), Portugal (1997/1998), Slovak Republic (1998/1999), Spain (2004/2005), Turkey (1999/2000 – half-yearly to quarterly results). New survey in Mexico since 2005 (*Encuesta Nacional de Ocupación y Empleo* – ENOE) with a different questionnaire from that of the previous survey.
- Change in the operational definition of unemployment regarding:
  - active job search methods, in particular change from registration to contact with the public employment service: France (2002/2003), Spain (2000/2001).
  - work availability criteria changed from reference week to two weeks after the reference week to be consistent with the operational definition in other EU countries: Sweden (2004/2005).
  - persons on lay-off considered as employed instead of unemployed: Norway (2005/2006).
  - duration of active job search changed from one week to four weeks: Korea (1999/2000). This change occurred in June 2005 and data were revised since 2000 to take into account the new criteria.
  - other minor changes: Australia (2000/2001).
- Changes in the questionnaire with impact on employment and unemployment estimates: Spain (2004/2005), and unemployment estimates for Sweden (2004/2005) and Norway (2005/2006).
- Change from seasonal to calendar quarters: Slovak Republic (1999/2000) and the United Kingdom (2005/2006). However, there is no break in series between 2005 and 2006 for the United Kingdom as calendar-quarter based historical series are available since 1992.
- Introduction of new EU-harmonised questionnaire: Sweden (2004/2005).
- Change in lower age limit from 16 to 15 years: Norway (2005/2006). Moreover, since 2006, age is defined as completed years at the time of the reference week, instead of completed years at the end of the year, as earlier.
- Inclusion of population controls based on census results in the estimation process: Spain (1995/1996), United Kingdom (revised series 1992), United States (1999/2000).

Further explanations on breaks in series and their impact on employment and unemployment levels and on ratios can be found at: *www.oecd.org/employment/outlook*.

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Table A. **Standardised unemployment rates in 27 OECD countries**

As a percentage of civilian labour force

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Australia	6.7	8.2	8.2	8.3	7.7	6.9	6.3	6.7	6.4	5.9	5.4	5.1	4.8	4.4
Austria	..	3.9	4.4	4.4	4.5	3.9	3.7	3.6	4.2	4.3	4.8	5.2	4.7	4.4
Belgium	6.6	9.7	9.6	9.2	9.3	8.5	6.9	6.6	7.5	8.2	8.4	8.4	8.3	7.5
Canada	8.1	9.5	9.6	9.1	8.3	7.6	6.8	7.2	7.7	7.6	7.2	6.8	6.3	6.0
Czech Republic	..	4.1	3.9	4.8	6.4	8.6	8.7	8.0	7.3	7.8	8.3	7.9	7.1	5.3
Denmark	7.2	6.8	6.3	5.2	4.9	5.1	4.3	4.5	4.6	5.4	5.5	4.8	3.9	3.8
Finland	3.2	15.1	14.9	12.7	11.4	10.3	9.6	9.1	9.1	9.1	8.8	8.4	7.7	6.9
France	8.4	11.0	11.5	11.4	11.0	10.4	9.0	8.3	8.6	9.0	9.3	9.3	9.2	8.3
Germany[a]	4.8	8.0	8.7	9.4	9.0	8.3	7.5	7.6	8.4	9.3	9.8	10.6	9.8	8.4
Greece	6.3	9.0	9.7	9.6	11.0	12.0	11.2	10.6	10.3	9.7	10.5	9.9	8.9	8.3
Hungary	..	10.4	9.6	9.0	8.4	6.9	6.4	5.7	5.8	5.9	6.1	7.2	7.5	7.4
Ireland	13.4	12.3	11.6	9.9	7.6	5.7	4.2	4.0	4.5	4.7	4.5	4.3	4.4	4.5
Italy	8.9	11.2	11.2	11.2	11.4	11.0	10.1	9.1	8.6	8.4	8.0	7.7	6.8	6.1
Japan	2.1	3.1	3.4	3.4	4.1	4.7	4.7	5.0	5.4	5.3	4.7	4.4	4.1	3.9
Korea	2.4	2.1	2.0	2.6	7.0	6.6	4.4	4.0	3.3	3.6	3.7	3.7	3.5	3.2
Luxembourg	1.7	2.9	2.9	2.7	2.7	2.4	2.3	2.0	2.7	3.7	5.1	4.5	4.8	4.7
Netherlands	5.9	6.6	6.0	4.9	3.8	3.2	2.8	2.3	2.8	3.7	4.6	4.7	3.9	3.2
New Zealand	7.8	6.3	6.1	6.6	7.4	6.8	6.0	5.3	5.2	4.6	3.9	3.7	3.8	3.6
Norway	5.8	5.5	4.8	4.0	3.2	3.2	3.4	3.6	3.9	4.5	4.4	4.6	3.5	2.6
Poland	..	15.4	14.1	10.9	10.2	13.4	16.1	18.2	19.9	19.6	19.0	17.7	13.8	9.6
Portugal	4.8	7.1	7.2	6.6	5.0	4.4	3.9	4.0	5.0	6.3	6.7	7.6	7.6	8.0
Slovak Republic	..	13.1	11.3	11.9	12.6	16.4	18.8	19.3	18.7	17.6	18.2	16.3	13.4	11.1
Spain	13.0	18.4	17.8	16.6	15.0	12.5	11.1	10.4	11.1	11.1	10.6	9.2	8.5	8.3
Sweden	1.7	8.8	9.6	9.9	8.2	6.7	5.6	4.9	5.0	5.6	6.3	7.3	7.0	6.1
Switzerland	..	3.5	3.9	4.2	3.5	3.0	2.6	2.6	3.2	4.3	4.4	4.4	4.0	3.6
United Kingdom	6.9	8.5	7.9	6.8	6.1	6.0	5.5	5.0	5.1	4.9	4.7	4.8	5.3	5.3
United States	5.6	5.6	5.4	4.9	4.5	4.2	4.0	4.7	5.8	6.0	5.5	5.1	4.6	4.6
EU-15[b]	7.4	10.0	10.1	9.8	9.3	8.6	7.7	7.2	7.6	7.9	8.1	8.1	7.7	7.0
OECD Europe[b]	7.4	10.1	10.1	9.6	9.1	8.9	8.4	8.1	8.5	8.8	8.9	8.8	8.1	7.1
Total OECD[b]	6.1	7.2	7.2	6.9	6.8	6.7	6.2	6.4	6.9	7.1	6.9	6.7	6.1	5.6

a) For 1990, the data refer to western Germany; subsequent data concern the whole of Germany.

b) For above countries only.

Note: In so far as possible, the data have been adjusted to ensure comparability over time and to conform to the guidelines of the International Labour Office. All series are benchmarked to labour-force-survey-based estimates. In countries with annual surveys, monthly estimates are obtained by interpolation/extrapolation and by incorporating trends in administrative data, where available. The annual figures are then calculated by averaging the monthly estimates (for both unemployed and the labour force). For countries with monthly or quarterly surveys, the annual estimates are obtained by averaging the monthly or quarterly estimates, respectively. For several countries, the adjustment procedure used is similar to that of the Bureau of Labor Statistics, U.S. Department of Labor. For EU countries, the procedures are similar to those used in deriving the Comparable Unemployment Rates of the Statistical Office of the European Communities. Minor differences may appear mainly because of various methods of calculating and applying adjustment factors, and because EU estimates are based on the civilian labour force. For a fuller description, please refer to the following URL: *www.oecd.org/std*.

Source: OECD (2008), *OECD Main Economic Indicators,* Paris, May.

StatLink http://dx.doi.org/10.1787/350154584051

Table B. **Employment/population ratios, activity and unemployment rates**[a]

Persons aged 15-64 years (percentages)

	Employment/population ratio						Labour force participation rate						Unemployment rate					
	1994	2003	2004	2005	2006	2007	1994	2003	2004	2005	2006	2007	1994	2003	2004	2005	2006	2007
Australia	66.0	70.0	70.3	71.6	72.2	72.9	73.2	74.6	74.5	75.5	75.8	76.2	9.9	6.1	5.6	5.2	4.9	4.4
Austria	68.4	68.9	67.8	68.6	70.2	71.4	71.0	72.0	71.3	72.4	73.7	74.7	3.6	4.3	5.0	5.2	4.8	4.5
Belgium	55.7	59.3	60.5	61.0	60.4	61.6	61.7	64.3	65.3	66.4	65.9	66.7	9.7	7.7	7.4	8.1	8.4	7.7
Canada	67.0	72.2	72.5	72.5	72.9	73.6	74.9	78.2	78.2	77.8	77.9	78.4	10.5	7.7	7.3	6.8	6.3	6.1
Czech Republic	69.2	64.9	64.2	64.8	65.3	66.1	72.4	70.4	70.1	70.4	70.3	69.8	4.3	7.8	8.4	8.0	7.2	5.4
Denmark	72.4	75.1	76.0	75.5	76.9	77.3	78.8	79.4	80.2	79.4	80.1	80.3	8.1	5.5	5.3	4.9	4.0	3.6
Finland	60.7	67.9	67.8	68.5	69.6	70.5	72.7	74.7	74.4	74.8	75.4	75.7	16.5	9.0	8.9	8.4	7.7	6.9
France[b]	58.4	63.3	63.1	63.9	63.8	64.4	66.6	69.2	69.3	70.1	70.0	70.1	12.4	8.5	8.9	8.9	8.8	8.1
Germany[b]	64.5	64.6	65.0	65.5	67.2	68.9	70.5	71.3	72.6	73.8	75.0	75.6	8.5	9.4	10.4	11.3	10.4	8.8
Greece	54.1	58.9	59.6	60.3	61.0	61.5	59.5	65.1	66.5	66.8	67.0	67.0	9.1	9.5	10.4	9.8	8.9	8.2
Hungary	53.5	57.0	56.8	56.9	57.3	57.3	60.0	60.6	60.5	61.4	62.0	61.9	10.8	5.9	6.1	7.2	7.5	7.4
Iceland[c]	78.5	84.1	82.8	84.4	85.3	85.7	83.0	87.0	85.5	86.7	88.0	87.8	5.4	3.4	3.1	2.7	3.0	2.3
Ireland	51.9	64.9	65.4	67.1	68.2	69.0	61.1	68.0	68.5	70.2	71.4	72.3	15.1	4.5	4.5	4.4	4.5	4.6
Italy	51.5	56.2	57.4	57.5	58.4	58.7	58.0	61.6	62.5	62.4	62.7	62.5	11.1	8.7	8.1	7.8	6.9	6.2
Japan	69.3	68.4	68.7	69.3	70.0	70.7	71.4	72.3	72.2	72.6	73.1	73.6	3.0	5.4	4.9	4.6	4.3	4.1
Korea	62.8	63.0	63.6	63.7	63.8	63.9	64.4	65.4	66.1	66.3	66.2	66.2	2.6	3.7	3.8	3.9	3.6	3.4
Luxembourg	60.2	62.2	62.5	63.6	63.6	63.0	62.3	64.6	65.8	66.6	66.7	65.6	3.5	3.7	5.1	4.5	4.7	3.9
Mexico	58.7	58.8	59.9	59.6	61.0	61.1	61.4	60.7	62.2	61.9	63.0	63.3	4.4	3.1	3.8	3.6	3.3	3.5
Netherlands	63.9	71.8	71.2	71.1	72.4	74.1	68.6	75.1	75.1	75.1	75.7	76.9	6.8	4.4	5.1	5.2	4.4	3.7
New Zealand	68.0	72.5	73.5	74.6	75.2	75.4	74.1	76.1	76.6	77.5	78.1	78.3	8.2	4.7	4.0	3.8	3.8	3.7
Norway[c]	72.2	75.8	75.6	75.2	75.5	76.9	76.4	79.3	79.1	78.9	78.2	78.9	5.4	4.5	4.5	4.7	3.5	2.6
Poland	58.3	51.4	51.9	53.0	54.5	57.0	68.4	64.2	64.2	64.6	63.4	63.2	14.8	20.0	19.3	18.0	14.0	9.7
Portugal	64.0	67.1	67.8	67.5	67.9	67.8	69.0	72.0	72.9	73.4	73.9	74.1	7.2	6.8	7.0	8.1	8.1	8.5
Slovak Republic	59.8	57.7	57.0	57.7	59.4	60.7	69.3	70.0	69.7	68.9	68.5	68.2	13.7	17.6	18.2	16.2	13.3	11.0
Spain[c]	47.4	60.7	62.0	64.3	65.7	66.6	62.4	68.5	69.7	70.8	71.9	72.6	24.0	11.4	11.0	9.2	8.6	8.3
Sweden[c]	71.5	74.3	73.5	73.9	74.5	75.7	79.2	78.9	78.7	80.1	80.2	80.6	9.7	5.8	6.6	7.8	7.1	6.2
Switzerland	75.6	77.9	77.4	77.2	77.9	78.6	78.7	81.3	81.0	80.8	81.2	81.6	4.0	4.2	4.4	4.5	4.1	3.7
Turkey	52.4	45.5	46.1	45.9	45.9	45.8	57.5	51.1	51.5	51.3	51.1	51.0	8.8	10.8	10.6	10.5	10.1	10.1
United Kingdom[c]	68.7	72.6	72.7	72.6	72.5	72.3	76.0	76.3	76.2	76.2	76.7	76.3	9.7	4.9	4.7	4.7	5.4	5.3
United States[c]	72.0	71.2	71.2	71.5	72.0	71.8	76.7	75.8	75.4	75.4	75.5	75.3	6.2	6.1	5.6	5.1	4.7	4.7
EU-15	59.9	64.5	64.9	65.4	66.3	66.6	67.5	70.0	70.7	71.3	71.9	72.0	11.2	8.0	8.2	8.2	7.8	7.6
EU-19	59.9	63.1	63.4	64.0	64.9	65.4	67.5	69.3	69.9	70.4	70.8	70.9	11.3	9.0	9.2	9.1	8.4	7.7
OECD Europe	59.4	61.1	61.5	61.9	62.7	63.2	66.6	67.2	67.7	68.1	68.4	68.6	10.9	9.1	9.2	9.1	8.4	7.8
Total OECD	64.1	64.8	65.2	65.5	66.2	66.6	69.5	69.8	70.1	70.3	70.6	70.7	7.8	7.1	7.0	6.7	6.2	5.9

Table B. **Employment/population ratios, activity and unemployment rates**[a] *(cont.)*

Men aged 15-64 years (percentages)

	Employment/population ratio						Labour force participation rate						Unemployment rate					
	1994	2003	2004	2005	2006	2007	1994	2003	2004	2005	2006	2007	1994	2003	2004	2005	2006	2007
Australia	75.0	77.1	77.6	78.5	78.8	79.6	83.5	82.1	82.1	82.7	82.8	83.0	10.2	6.1	5.5	5.0	4.8	4.1
Austria	78.0	76.4	74.9	75.4	76.9	78.4	80.7	79.9	78.5	79.3	80.4	81.7	3.2	4.4	4.6	5.0	4.4	4.0
Belgium	66.5	67.1	67.9	67.7	67.0	68.2	72.0	72.6	72.7	73.1	72.7	73.2	7.7	7.5	6.7	7.4	7.8	6.7
Canada	73.0	76.4	76.7	76.7	76.8	77.2	82.0	83.1	82.9	82.5	82.2	82.5	11.0	8.0	7.6	7.1	6.6	6.4
Czech Republic	77.5	73.4	72.4	73.3	73.7	74.8	80.4	78.2	77.9	78.4	78.2	78.1	3.6	6.1	7.1	6.5	5.9	4.3
Denmark	77.6	79.7	79.9	80.1	80.6	81.3	83.7	84.0	84.2	83.6	83.4	84.0	7.3	5.2	5.1	4.2	3.4	3.3
Finland	62.6	70.1	70.0	70.5	71.8	72.4	76.3	77.2	76.7	76.8	77.5	77.4	17.9	9.1	8.7	8.2	7.3	6.5
France[b]	66.1	69.1	68.7	69.3	69.0	69.1	74.1	74.8	74.7	75.4	75.1	74.8	10.8	7.7	8.0	8.1	8.1	7.7
Germany[b]	74.0	70.4	70.8	71.4	72.8	74.8	79.8	78.0	79.2	80.6	81.4	81.7	7.2	9.7	10.7	11.5	10.5	8.5
Greece	72.2	73.5	74.0	74.5	74.6	74.9	77.0	78.3	79.1	79.2	79.1	78.9	6.2	6.1	6.5	5.9	5.7	5.0
Hungary	59.6	63.4	63.1	63.1	63.8	64.0	67.8	67.6	67.2	67.9	68.7	69.0	12.1	6.1	6.1	7.0	7.2	7.2
Iceland[c]	82.4	86.8	86.2	87.4	88.7	89.5	86.8	90.1	89.1	89.8	91.4	91.6	5.1	3.7	3.3	2.7	3.0	2.3
Ireland	64.8	74.6	75.1	76.2	77.4	77.4	76.2	78.4	79.1	80.0	81.2	81.4	15.0	4.9	5.0	4.7	4.7	4.9
Italy	67.8	69.7	69.7	69.7	70.5	70.7	74.2	74.8	74.5	74.4	74.6	74.4	8.6	6.8	6.4	6.3	5.5	5.0
Japan	81.9	79.8	80.0	80.4	81.0	81.7	84.4	84.6	84.2	84.4	84.8	85.2	2.9	5.7	5.1	4.7	4.4	4.1
Korea	76.3	75.0	75.2	75.0	74.6	74.7	78.6	78.0	78.3	78.2	77.7	77.6	2.9	3.9	4.0	4.1	4.0	3.8
Luxembourg	74.9	73.3	72.8	73.3	72.6	72.4	77.3	75.5	75.6	76.0	75.3	75.5	3.0	3.0	3.7	3.5	3.6	4.1
Mexico	82.9	80.8	81.0	80.2	81.6	80.9	86.4	83.0	83.7	83.1	84.2	83.7	4.1	2.7	3.2	3.5	3.1	3.3
Netherlands	74.9	79.3	78.0	77.4	78.7	80.0	79.6	82.7	82.1	81.4	81.9	82.7	5.9	4.2	5.0	4.9	4.0	3.2
New Zealand	76.2	79.4	80.8	81.5	82.1	82.1	83.4	83.1	83.8	84.4	85.1	85.0	8.6	4.4	3.6	3.5	3.6	3.4
Norway[c]	76.8	78.7	78.4	78.3	78.6	79.7	81.6	82.8	82.5	82.3	81.4	81.8	6.0	5.0	4.9	4.9	3.5	2.6
Poland	64.9	56.7	57.4	59.0	60.9	63.6	75.0	70.2	70.4	71.0	70.1	70.0	13.4	19.3	18.5	16.9	13.1	9.1
Portugal	73.5	73.9	74.1	73.4	73.9	73.9	78.4	78.5	79.0	79.0	79.5	79.4	6.3	5.9	6.2	7.1	7.0	7.0
Slovak Republic	67.2	63.4	63.2	64.6	67.0	68.4	77.6	76.7	76.5	76.4	76.3	75.8	13.3	17.4	17.4	15.4	12.2	9.8
Spain[c]	63.3	74.5	74.9	76.4	77.3	77.4	78.5	81.1	81.6	82.2	82.5	82.7	19.4	8.2	8.2	7.1	6.4	6.4
Sweden[c]	72.2	75.7	75.0	75.9	76.8	78.0	81.3	80.8	80.7	82.5	82.6	82.9	11.1	6.4	7.0	7.9	7.0	5.9
Switzerland	86.3	85.1	84.5	83.9	84.7	85.6	89.5	88.5	88.0	87.4	87.8	88.2	3.6	3.9	4.0	4.0	3.5	3.0
Turkey	74.6	65.9	67.9	68.2	68.0	67.9	82.0	74.0	76.1	76.2	75.5	75.5	9.0	11.0	10.8	10.5	9.9	10.0
United Kingdom[c]	75.3	78.9	78.9	78.8	78.4	78.4	85.1	83.6	83.1	83.0	83.2	83.1	11.5	5.5	5.0	5.1	5.8	5.6
United States[c]	79.0	76.9	77.2	77.6	78.1	77.8	84.3	82.2	81.9	81.8	81.9	81.7	6.2	6.4	5.7	5.1	4.7	4.8
EU-15	70.5	72.7	72.8	73.2	73.7	74.0	78.4	78.5	78.7	79.1	79.4	79.5	10.0	7.3	7.5	7.6	7.2	6.9
EU-19	69.9	71.0	71.1	71.6	72.3	72.8	77.9	77.5	77.6	78.1	78.3	78.4	10.2	8.3	8.4	8.4	7.7	7.1
OECD Europe	70.7	70.6	70.9	71.4	72.0	72.4	78.5	77.2	77.6	78.0	78.1	78.2	9.9	8.6	8.6	8.5	7.9	7.3
Total OECD	75.4	74.6	74.8	75.1	75.7	75.9	81.4	80.1	80.2	80.3	80.5	80.5	7.4	6.9	6.7	6.5	6.0	5.7

Table B. **Employment/population ratios, activity and unemployment rates**[a] *(cont.)*

Women aged 15-64 years (percentages)

	Employment/population ratio						Labour force participation rate						Unemployment rate					
	1994	2003	2004	2005	2006	2007	1994	2003	2004	2005	2006	2007	1994	2003	2004	2005	2006	2007
Australia	56.9	62.9	63.1	64.7	65.5	66.1	62.8	67.1	66.9	68.4	68.9	69.4	9.5	6.2	5.7	5.3	5.0	4.8
Austria	58.9	61.6	60.7	62.0	63.5	64.4	61.3	64.3	64.2	65.6	67.0	67.8	4.0	4.2	5.4	5.5	5.3	5.1
Belgium	44.8	51.4	53.0	54.1	53.6	54.9	51.2	55.8	57.7	59.5	58.9	60.2	12.5	8.0	8.3	9.0	9.0	8.8
Canada	61.1	67.9	68.4	68.3	69.0	70.1	67.8	73.2	73.4	73.1	73.5	74.3	9.8	7.2	6.9	6.5	6.1	5.7
Czech Republic	61.0	56.3	56.0	56.3	56.8	57.3	64.4	62.5	62.2	62.4	62.3	61.5	5.2	9.9	10.0	9.8	8.9	6.8
Denmark	67.1	70.5	72.0	70.8	73.2	73.3	73.8	74.8	76.1	75.1	76.7	76.4	9.0	5.8	5.5	5.6	4.6	4.1
Finland	58.7	65.7	65.5	66.5	67.3	68.5	69.1	72.1	72.0	72.9	73.2	73.9	14.9	8.9	9.0	8.7	8.1	7.3
France[b]	50.8	57.6	57.7	58.5	58.8	59.8	59.3	63.7	64.0	64.9	65.0	65.5	14.4	9.5	9.9	9.8	9.7	8.6
Germany[b]	54.7	58.7	59.2	59.6	61.4	62.9	60.9	64.5	65.8	66.9	68.5	69.3	10.1	8.9	10.1	11.0	10.3	9.1
Greece	37.1	44.5	45.5	46.2	47.5	48.1	43.2	52.1	54.1	54.6	55.0	55.1	14.0	14.5	16.0	15.3	13.5	12.8
Hungary	47.8	50.9	50.7	51.0	51.2	50.9	52.7	53.9	54.0	55.1	55.5	55.1	9.3	5.6	6.1	7.5	7.9	7.7
Iceland[c]	74.6	81.2	79.4	81.2	81.6	81.7	79.1	83.9	81.8	83.4	84.2	83.6	5.7	3.1	3.0	2.7	3.1	2.4
Ireland	38.9	55.2	55.6	57.9	58.7	60.3	45.8	57.4	57.8	60.2	61.3	63.0	15.2	3.9	3.8	3.9	4.2	4.3
Italy	35.4	42.7	45.2	45.3	46.3	46.6	41.9	48.3	50.6	50.4	50.8	50.7	15.5	11.7	10.6	10.1	8.8	7.9
Japan	56.5	56.8	57.4	58.1	58.8	59.5	58.3	59.9	60.2	60.8	61.3	61.9	3.1	5.1	4.7	4.4	4.1	3.9
Korea	49.8	51.1	52.2	52.5	53.1	53.2	50.8	52.9	54.1	54.5	54.8	54.8	2.0	3.5	3.5	3.6	3.1	2.8
Luxembourg	44.9	50.9	51.9	53.7	54.6	53.5	47.0	53.5	55.8	57.0	58.2	55.4	4.3	4.7	7.1	5.8	6.3	3.5
Mexico	36.2	39.1	40.9	41.6	42.9	43.6	38.1	40.6	43.0	43.2	44.5	45.3	4.9	3.7	4.8	3.7	3.6	3.8
Netherlands	52.6	64.2	64.3	64.8	66.0	68.1	57.3	67.3	67.8	68.6	69.4	71.1	8.1	4.6	5.2	5.6	4.8	4.2
New Zealand	59.9	65.7	66.5	68.0	68.4	69.0	64.9	69.2	69.6	70.8	71.4	71.8	7.7	5.1	4.5	4.1	4.1	3.9
Norway[c]	67.5	72.7	72.7	72.0	72.3	74.0	70.9	75.8	75.7	75.4	74.8	75.9	4.8	4.0	3.9	4.4	3.4	2.5
Poland	51.9	46.2	46.4	47.0	48.2	50.6	62.1	58.4	58.2	58.3	56.8	56.5	16.4	20.8	20.2	19.4	15.1	10.4
Portugal	55.0	60.6	61.7	61.7	62.0	61.9	60.0	65.6	67.0	67.9	68.4	68.8	8.3	7.7	8.0	9.2	9.5	10.1
Slovak Republic	52.6	52.2	50.9	50.9	51.9	53.0	61.2	63.5	62.9	61.5	60.9	60.7	14.1	17.8	19.1	17.2	14.7	12.6
Spain[c]	31.5	46.8	49.0	51.9	54.0	55.5	46.3	55.7	57.7	59.1	61.1	62.3	31.8	16.0	15.1	12.2	11.6	10.9
Sweden[c]	70.7	72.8	71.8	71.8	72.1	73.2	77.0	76.8	76.6	77.7	77.7	78.2	8.2	5.2	6.2	7.6	7.2	6.4
Switzerland	64.9	70.7	70.3	70.4	71.1	71.6	68.0	74.1	73.9	74.3	74.7	75.0	4.4	4.6	4.8	5.2	4.8	4.6
Turkey	30.4	25.2	24.3	23.7	23.8	23.8	33.2	28.1	27.0	26.5	26.7	26.6	8.3	10.5	10.0	10.6	10.6	10.5
United Kingdom[c]	62.1	66.4	66.6	66.7	66.8	66.3	67.1	69.2	69.6	69.6	70.3	69.8	7.4	4.1	4.3	4.2	5.0	4.9
United States[c]	65.2	65.7	65.4	65.6	66.1	65.9	69.4	69.7	69.2	69.2	69.3	69.1	6.1	5.7	5.5	5.2	4.7	4.6
EU-15	49.3	56.2	57.1	57.7	58.8	59.1	56.5	61.6	62.8	63.5	64.3	64.5	12.7	8.8	9.1	9.0	8.7	8.4
EU-19	49.9	55.2	55.9	56.5	57.5	58.1	57.2	61.2	62.1	62.8	63.4	63.5	12.8	9.9	10.1	10.0	9.2	8.5
OECD Europe	48.0	51.7	52.1	52.5	53.3	54.0	54.8	57.2	57.8	58.3	58.7	59.0	12.3	9.7	9.9	9.9	9.2	8.5
Total OECD	52.9	55.3	55.7	56.2	56.9	57.4	57.8	59.7	60.1	60.4	60.9	61.1	8.4	7.3	7.3	7.0	6.5	6.2

a) Ratios refer to persons aged 15 to 64 years who are in employment or in the labour force divided by the working age population, or in unemployment divided by the labour force.

b) Data for 2007 are Secretariat estimates obtained by applying percentage point changes between 2006 and 2007 estimates from the European Labour Force Survey to national estimates for 2006.

c) Refers to persons aged 16 to 64. For Norway up to 2005.

Source: OECD database on Labour Force Statistics (see URLs at the beginning of the Annex). For Belgium, Denmark, Greece and Luxembourg data are from the European Union Labour Force Survey.

StatLink http://dx.doi.org/10.1787/350174480750

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Table C. **Employment/population ratios, activity and unemployment rates by selected age groups**

Both sexes (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Australia	Unemployment rates	17.1	11.6	10.8	10.0	9.4	7.6	4.2	3.9	3.7	3.4	9.5	3.6	3.2	3.2	2.7
	Labour force participation rates	70.7	70.6	71.3	71.0	70.8	79.7	80.9	82.0	82.3	82.8	44.8	53.9	55.5	57.4	58.3
	Employment/population ratios	58.6	62.4	63.6	63.9	64.2	73.6	77.4	78.8	79.2	80.0	40.5	52.0	53.7	55.6	56.7
Austria	Unemployment rates	5.0	9.7	10.3	9.1	8.7	3.3	4.2	4.4	4.1	3.8	3.4	3.8	3.6	3.5	3.0
	Labour force participation rates	62.3	57.4	59.2	59.4	60.8	82.5	86.2	86.4	87.1	87.4	29.4	29.9	33.0	36.8	39.8
	Employment/population ratios	59.2	51.9	53.1	54.0	55.5	79.8	82.6	82.6	83.5	84.0	28.4	28.8	31.8	35.5	38.6
Belgium	Unemployment rates	21.8	17.5	19.9	18.9	19.2	8.4	6.6	7.2	7.5	6.8	4.9	3.6	4.4	5.4	3.8
	Labour force participation rates	35.2	34.0	33.2	32.3	33.1	79.9	82.8	84.4	84.5	85.1	23.5	31.3	33.5	32.2	35.2
	Employment/population ratios	27.5	28.1	26.6	26.2	26.8	73.1	77.3	78.3	78.2	79.3	22.4	30.1	32.1	30.4	33.8
Canada	Unemployment rates	15.9	13.4	12.4	11.6	11.2	9.4	6.0	5.8	5.3	5.1	9.2	5.9	5.4	5.2	5.0
	Labour force participation rates	63.9	67.0	65.9	66.4	67.0	83.3	86.5	86.3	86.2	86.6	48.1	57.3	57.9	58.7	60.1
	Employment/population ratios	53.8	58.0	57.8	58.7	59.5	75.5	81.3	81.3	81.6	82.2	43.6	53.9	54.8	55.6	57.1
Czech Republic	Unemployment rates	8.7	20.4	19.3	17.5	10.7	3.4	7.3	7.1	6.4	4.9	3.5	5.4	5.2	5.3	4.6
	Labour force participation rates	52.0	35.8	33.9	33.5	31.9	89.3	87.8	88.3	88.1	87.8	33.5	45.1	47.0	47.7	48.2
	Employment/population ratios	47.5	28.5	27.3	27.7	28.5	86.3	81.4	82.0	82.5	83.5	32.3	42.6	44.6	45.2	46.0
Denmark	Unemployment rates	10.2	7.8	7.9	7.6	7.2	7.8	4.7	4.2	3.3	2.7	6.5	5.6	4.9	3.7	4.2
	Labour force participation rates	69.1	66.4	67.2	69.0	72.6	87.2	88.2	87.7	88.4	88.5	53.7	65.5	62.9	63.2	61.3
	Employment/population ratios	62.1	61.3	62.0	63.7	67.4	80.5	84.0	83.9	85.5	86.1	50.2	61.8	59.8	60.9	58.7
Finland	Unemployment rates	31.2	19.5	18.9	17.6	15.7	14.1	7.3	6.9	6.1	5.3	19.0	7.3	6.9	6.7	6.5
	Labour force participation rates	46.3	51.3	51.9	53.6	55.0	87.1	87.3	87.8	87.8	88.0	41.3	55.0	56.4	58.4	58.8
	Employment/population ratios	31.9	41.3	42.1	44.1	46.4	74.9	81.0	81.7	82.5	83.3	33.5	51.0	52.6	54.5	55.0
France[a]	Unemployment rates	27.5	19.7	20.2	21.3	19.6	11.2	7.8	7.8	7.6	6.8	7.0	5.6	5.2	5.7	6.6
	Labour force participation rates	30.4	36.5	38.5	38.4	38.8	85.9	87.3	87.6	87.8	88.1	35.9	39.9	40.9	40.5	41.3
	Employment/population ratios	22.0	29.3	30.7	30.2	31.2	76.3	80.5	80.7	81.2	82.1	33.4	37.6	38.7	38.1	37.9
Germany[a]	Unemployment rates	8.2	12.6	15.2	13.6	12.4	8.1	9.7	10.4	9.6	7.9	11.6	12.5	12.7	12.4	11.8
	Labour force participation rates	56.0	48.0	50.2	50.9	51.3	82.9	86.5	86.4	87.1	87.1	40.6	47.8	52.1	54.9	58.0
	Employment/population ratios	51.4	41.9	42.6	44.0	44.9	76.2	78.1	77.4	78.8	80.2	35.9	41.8	45.5	48.1	52.0
Greece	Unemployment rates	27.7	26.5	25.3	24.5	22.0	7.0	9.1	8.9	8.0	7.6	3.1	4.3	3.4	3.6	3.4
	Labour force participation rates	36.9	37.3	33.9	32.5	31.0	73.7	81.1	81.6	81.9	82.0	40.7	41.2	43.1	44.0	43.6
	Employment/population ratios	26.7	27.4	25.3	24.5	24.2	68.6	73.7	74.3	75.3	75.7	39.5	39.4	41.6	42.4	42.1
Hungary	Unemployment rates	20.9	15.5	19.4	19.1	18.0	9.3	5.5	6.4	6.8	6.8	7.0	3.1	3.9	3.9	4.2
	Labour force participation rates	39.0	27.9	27.1	26.8	25.6	79.0	77.9	78.8	79.6	80.0	18.3	32.0	34.3	34.9	34.5
	Employment/population ratios	30.8	23.6	21.8	21.7	21.0	71.7	73.6	73.7	74.2	74.6	17.0	31.1	33.0	33.6	33.1

Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Both sexes (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Iceland[b]	Unemployment rates	11.5	8.1	7.2	8.4	7.2	4.2	2.0	1.7	1.9	1.3	3.8	2.7	1.5	1.6	0.9
	Labour force participation rates	58.5	72.1	77.1	79.5	80.1	91.3	89.8	89.7	90.9	90.6	88.1	84.3	86.1	86.3	85.7
	Employment/population ratios	51.7	66.3	71.6	72.9	74.3	87.5	88.0	88.2	89.1	89.4	84.7	82.0	84.8	84.9	84.9
Ireland	Unemployment rates	24.2	8.1	8.3	8.3	8.7	13.4	3.9	3.7	3.9	4.1	8.5	2.4	3.0	2.4	2.6
	Labour force participation rates	44.2	48.6	50.6	52.8	53.4	72.4	79.6	80.8	81.3	82.1	43.2	50.7	53.3	54.7	55.5
	Employment/population ratios	33.5	44.7	46.4	48.4	48.8	62.7	76.5	77.8	78.2	78.8	39.5	49.5	51.7	53.4	54.1
Italy	Unemployment rates	30.5	23.5	24.0	21.6	20.3	8.2	6.9	6.7	5.9	5.3	3.4	4.1	3.5	2.9	2.4
	Labour force participation rates	40.7	35.6	33.5	32.5	30.9	71.7	77.5	77.4	77.8	77.6	30.4	31.8	32.6	33.4	34.6
	Employment/population ratios	28.3	27.2	25.5	25.5	24.7	65.8	72.1	72.2	73.3	73.5	29.4	30.5	31.4	32.5	33.8
Japan	Unemployment rates	5.5	9.5	8.6	8.0	7.7	2.4	4.4	4.2	3.9	3.7	3.5	4.4	4.1	3.9	3.4
	Labour force participation rates	47.6	44.2	44.8	45.0	44.9	81.4	82.2	82.5	82.8	83.3	66.1	66.0	66.6	67.3	68.4
	Employment/population ratios	45.0	40.0	40.9	41.4	41.4	79.5	78.6	79.0	79.6	80.2	63.7	63.0	63.9	64.7	66.1
Korea	Unemployment rates	7.2	10.5	10.2	10.0	8.8	1.9	3.2	3.4	3.2	3.1	0.6	2.2	2.5	2.3	2.2
	Labour force participation rates	37.2	34.8	33.3	30.2	28.2	75.1	75.9	76.0	76.3	76.4	63.3	59.8	60.2	60.7	62.0
	Employment/population ratios	34.5	31.2	29.9	27.2	25.7	73.6	73.4	73.4	73.9	74.0	62.9	58.5	58.7	59.3	60.6
Luxembourg	Unemployment rates	7.9	16.9	13.7	16.2	14.9	3.0	4.4	3.9	4.1	3.3	0.7	1.5	2.1	1.4	0.7
	Labour force participation rates	46.5	28.0	28.8	27.8	26.0	75.8	83.0	83.9	84.5	82.8	23.3	30.9	32.4	33.6	34.5
	Employment/population ratios	42.8	23.3	24.9	23.3	22.1	73.5	79.3	80.7	81.0	80.1	23.2	30.4	31.7	33.2	34.3
Mexico	Unemployment rates	7.1	7.6	6.6	6.2	6.7	3.3	2.8	2.8	2.5	2.7	1.9	1.4	2.1	1.7	1.6
	Labour force participation rates	54.1	48.0	46.8	47.8	47.4	67.2	70.7	70.7	71.7	72.3	53.5	54.5	53.7	55.9	55.6
	Employment/population ratios	50.3	44.3	43.7	44.8	44.2	65.0	68.7	68.8	69.9	70.3	52.4	53.8	52.6	55.0	54.7
Netherlands	Unemployment rates	10.2	9.2	9.6	7.6	7.3	6.3	4.4	4.4	3.6	2.7	3.5	3.8	4.5	4.4	4.1
	Labour force participation rates	61.7	69.6	68.5	69.2	70.5	78.7	84.3	84.6	85.1	85.9	30.0	46.0	47.0	49.1	52.2
	Employment/population ratios	55.4	63.2	61.9	63.9	65.4	73.7	80.6	80.9	82.0	83.6	29.0	44.2	44.9	46.9	50.1
New Zealand	Unemployment rates	15.0	9.3	9.4	9.6	9.7	6.6	2.9	2.7	2.6	2.5	4.7	2.5	1.9	2.0	1.4
	Labour force participation rates	66.5	62.6	62.8	65.0	65.0	81.5	83.2	84.2	84.3	84.3	49.7	68.9	71.0	71.8	73.1
	Employment/population ratios	56.5	56.8	56.9	58.8	58.7	76.2	80.8	82.0	82.1	82.2	47.3	67.2	69.7	70.4	72.0
Norway[b]	Unemployment rates	12.6	11.7	12.0	8.6	7.3	4.5	3.8	4.0	2.9	1.9	2.6	1.1	1.7	1.1	1.0
	Labour force participation rates	55.4	61.6	60.2	58.1	59.4	85.1	86.5	86.6	87.0	87.5	63.3	68.8	68.8	68.2	69.7
	Employment/population ratios	48.4	54.4	52.9	53.1	55.1	81.3	83.1	83.2	84.4	85.8	61.6	68.0	67.6	67.4	69.0
Poland	Unemployment rates	32.6	40.8	37.8	29.8	21.7	12.8	16.9	16.0	12.2	8.4	7.0	11.6	11.2	8.5	6.8
	Labour force participation rates	41.5	33.9	33.5	34.2	33.0	84.7	82.2	82.8	81.7	81.7	37.0	31.7	32.8	30.7	31.8
	Employment/population ratios	28.0	20.0	20.9	24.0	25.8	73.8	68.3	69.5	71.8	74.9	34.4	28.0	29.1	28.1	29.7

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Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Both sexes (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Portugal	Unemployment rates	14.1	15.3	16.1	16.2	16.6	6.0	6.1	7.3	7.3	7.8	4.0	5.6	6.2	6.3	6.5
	Labour force participation rates	47.2	43.6	43.0	42.7	41.9	83.8	86.3	87.1	87.7	87.8	47.9	53.2	53.8	53.4	54.4
	Employment/population ratios	40.5	36.9	36.1	35.8	34.9	78.7	81.1	80.8	81.3	81.0	45.9	50.3	50.5	50.1	50.9
Slovak Republic	Unemployment rates	27.3	32.7	29.9	26.6	20.1	11.0	16.0	14.4	11.8	10.1	9.0	15.4	13.3	9.7	8.1
	Labour force participation rates	47.3	39.4	36.5	35.1	34.5	88.0	88.9	87.9	87.5	86.8	23.5	31.7	35.1	36.8	38.8
	Employment/population ratios	34.4	26.5	25.6	25.7	27.6	78.4	74.7	75.3	77.2	78.0	21.3	26.8	30.4	33.2	35.7
Spain[b]	Unemployment rates	42.9	22.0	19.7	17.9	18.2	20.9	9.8	8.0	7.5	7.2	12.4	7.1	6.1	5.7	5.9
	Labour force participation rates	49.4	49.2	52.1	52.7	52.4	73.9	80.6	80.9	82.0	82.8	37.3	44.4	45.9	46.8	47.4
	Employment/population ratios	28.3	38.4	41.9	43.3	42.9	58.4	72.7	74.4	75.8	76.8	32.7	41.3	43.1	44.1	44.6
Sweden[a]	Unemployment rates	22.7	17.0	22.3	21.3	18.9	8.1	5.5	6.2	5.3	4.4	6.9	4.9	4.5	4.4	3.9
	Labour force participation rates	53.5	51.5	54.7	56.0	57.1	89.2	87.7	89.5	89.4	90.0	66.5	73.1	72.8	73.0	73.0
	Employment/population ratios	41.3	42.8	42.5	44.0	46.3	81.9	82.9	83.9	84.7	86.1	61.9	69.5	69.6	69.8	70.1
Switzerland	Unemployment rates	5.8	7.7	8.8	7.7	7.1	3.6	4.0	3.8	3.5	3.1	4.1	3.2	3.7	3.0	3.1
	Labour force participation rates	64.0	67.0	65.6	68.6	67.4	86.2	88.2	88.5	88.3	88.9	63.7	67.4	67.6	67.8	69.3
	Employment/population ratios	60.3	61.9	59.9	63.3	62.6	83.2	84.7	85.1	85.2	86.1	61.1	65.2	65.1	65.7	67.2
Turkey	Unemployment rates	16.0	19.7	19.3	18.7	19.6	6.2	8.7	8.7	8.4	8.3	2.3	3.1	3.4	3.8	3.8
	Labour force participation rates	51.2	39.3	38.7	37.9	37.8	63.7	59.2	59.3	59.2	59.1	41.8	34.1	31.9	31.3	30.6
	Employment/population ratios	43.0	31.6	31.2	30.8	30.4	59.8	54.1	54.1	54.2	54.2	40.8	33.1	30.8	30.1	29.4
United Kingdom[b]	Unemployment rates	16.1	10.9	12.2	13.9	14.4	8.2	3.6	3.4	4.1	3.7	9.1	3.1	2.6	2.9	3.3
	Labour force participation rates	70.1	67.4	66.7	66.6	65.3	83.4	83.8	84.0	84.6	84.5	52.1	58.0	58.2	59.1	59.3
	Employment/population ratios	58.8	60.1	58.6	57.3	55.9	76.5	80.7	81.1	81.2	81.3	47.4	56.2	56.7	57.4	57.4
United States[b]	Unemployment rates	12.5	11.8	11.3	10.5	10.5	5.0	4.6	4.1	3.8	3.7	4.1	3.8	3.3	3.0	3.1
	Labour force participation rates	66.4	61.1	60.8	60.6	59.4	83.4	82.8	82.8	82.9	83.0	56.8	62.3	62.9	63.7	63.8
	Employment/population ratios	58.1	53.9	53.9	54.2	53.1	79.2	79.0	79.3	79.8	79.9	54.4	59.9	60.8	61.8	61.8
EU-15	Unemployment rates	20.8	15.7	16.4	15.8	15.6	9.7	7.3	7.2	6.8	6.6	8.4	6.6	6.3	6.2	6.2
	Labour force participation rates	49.2	47.9	48.8	49.0	48.8	80.5	83.7	83.9	84.5	84.6	39.4	45.5	47.2	48.2	48.8
	Employment/population ratios	39.0	40.4	40.8	41.2	41.2	72.7	77.6	77.9	78.7	79.1	36.1	42.5	44.2	45.2	45.8
EU-19	Unemployment rates	21.4	18.0	18.3	17.2	16.1	9.8	8.2	8.0	7.3	6.7	8.2	6.8	6.6	6.3	6.2
	Labour force participation rates	48.3	45.5	46.1	46.3	45.9	81.1	83.6	83.9	84.3	84.4	38.4	44.0	45.6	46.4	47.0
	Employment/population ratios	38.0	37.3	37.7	38.3	38.5	73.1	76.8	77.1	78.1	78.7	35.3	41.0	42.6	43.5	44.1
OECD Europe	Unemployment rates	20.1	18.0	18.2	17.1	16.3	9.4	8.1	8.0	7.3	6.8	7.6	6.4	6.3	6.0	5.9
	Labour force participation rates	49.1	44.8	45.2	45.2	45.0	79.4	80.6	80.7	81.0	81.2	39.2	43.9	45.1	45.8	46.3
	Employment/population ratios	39.2	36.7	36.9	37.4	37.7	72.0	74.0	74.3	75.1	75.7	36.2	41.1	42.3	43.0	43.6
Total OECD	Unemployment rates	14.3	13.6	13.3	12.4	12.1	6.7	6.0	5.9	5.4	5.1	5.4	4.8	4.6	4.3	4.1
	Labour force participation rates	53.3	49.8	49.8	49.8	49.4	79.8	80.5	80.6	80.9	81.1	48.7	53.4	54.4	55.2	55.8
	Employment/population ratios	45.7	43.1	43.2	43.6	43.4	74.5	75.6	75.9	76.6	77.0	46.1	50.8	51.9	52.8	53.4

Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Men (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Australia	Unemployment rates	17.7	12.0	11.1	10.5	9.4	7.8	4.1	3.7	3.4	3.0	11.4	4.0	3.6	3.6	2.8
	Labour force participation rates	73.0	71.7	72.5	72.3	71.9	91.6	89.9	90.3	90.4	90.8	61.7	64.9	66.3	67.4	67.8
	Employment/population ratios	60.1	63.1	64.4	64.7	65.1	84.4	86.2	87.0	87.2	88.1	54.7	62.3	63.9	65.0	65.9
Austria	Unemployment rates	4.7	9.3	10.7	8.8	8.3	2.9	3.8	4.0	3.6	3.3	3.8	4.2	4.1	4.3	2.9
	Labour force participation rates	65.3	61.7	63.6	63.9	65.0	93.1	92.9	92.8	93.2	93.7	41.3	40.6	43.1	47.3	51.3
	Employment/population ratios	62.3	56.0	56.8	58.2	59.6	90.4	89.4	89.1	89.9	90.6	39.8	38.9	41.3	45.3	49.8
Belgium	Unemployment rates	20.5	15.8	20.6	18.4	16.2	6.4	6.0	6.3	7.0	6.2	4.5	4.1	4.4	4.7	2.8
	Labour force participation rates	37.3	35.8	34.8	35.9	35.2	92.1	91.1	91.8	91.9	92.6	34.5	41.0	43.2	40.1	42.2
	Employment/population ratios	29.7	30.2	27.6	29.3	29.5	86.2	85.7	86.0	85.4	86.8	33.0	39.3	41.3	38.3	41.0
Canada	Unemployment rates	17.9	14.9	14.2	12.9	12.3	9.6	6.1	5.8	5.4	5.3	9.7	6.1	5.4	5.3	5.2
	Labour force participation rates	65.9	67.8	66.1	66.5	67.4	91.2	91.6	91.5	91.1	91.1	59.5	66.0	66.7	66.3	67.1
	Employment/population ratios	54.1	57.7	56.7	57.9	59.1	82.5	86.0	86.1	86.2	86.2	53.7	62.0	63.1	62.8	63.6
Czech Republic	Unemployment rates	7.9	21.1	19.4	16.6	10.6	2.5	5.6	5.3	4.7	3.5	3.5	4.9	4.5	5.1	4.5
	Labour force participation rates	59.9	40.0	38.7	37.7	36.7	95.3	94.6	94.8	94.8	95.0	49.0	60.1	62.2	62.7	62.4
	Employment/population ratios	55.2	31.6	31.2	31.4	32.8	92.9	89.2	89.8	90.4	91.7	47.3	57.2	59.4	59.5	59.6
Denmark	Unemployment rates	10.2	8.5	6.1	7.6	7.5	6.7	4.4	3.7	2.6	2.3	6.3	5.5	4.8	3.4	3.5
	Labour force participation rates	72.1	69.0	70.6	68.2	73.8	91.9	91.3	91.1	91.6	92.3	63.8	73.3	70.2	70.5	66.9
	Employment/population ratios	64.8	63.1	66.3	63.0	68.3	85.7	87.3	87.7	89.2	90.2	59.8	69.3	66.8	68.1	64.6
Finland	Unemployment rates	31.5	19.6	18.4	16.9	14.8	15.5	7.0	6.5	5.6	4.8	20.4	7.6	7.2	6.7	6.9
	Labour force participation rates	51.2	53.8	53.6	56.3	56.3	90.2	90.0	90.3	90.3	90.3	43.9	55.7	56.5	58.7	59.2
	Employment/population ratios	35.1	43.2	43.7	46.7	47.9	76.2	83.7	84.4	85.2	85.9	35.0	51.5	52.5	54.8	55.1
France[a]	Unemployment rates	24.1	18.9	19.2	20.1	18.0	9.6	6.8	6.8	6.7	6.3	7.2	5.4	5.3	5.9	7.1
	Labour force participation rates	33.2	40.1	42.3	42.2	42.5	95.1	94.0	94.0	94.2	94.0	42.1	43.8	43.9	43.1	42.6
	Employment/population ratios	25.2	32.5	34.2	33.8	34.8	85.9	87.6	87.6	87.9	88.1	39.1	41.4	41.6	40.5	39.6
Germany[a]	Unemployment rates	8.2	14.2	16.1	14.3	12.9	6.5	9.9	10.6	9.6	7.5	10.5	12.3	12.6	12.0	10.2
	Labour force participation rates	58.8	50.9	53.5	54.0	53.6	92.9	93.0	93.6	93.8	93.8	53.1	57.8	61.3	63.7	66.5
	Employment/population ratios	53.9	43.7	44.9	46.3	46.7	86.8	83.9	83.7	84.8	86.7	47.5	50.7	53.6	56.1	59.7
Greece	Unemployment rates	19.8	18.8	17.5	17.3	14.1	4.8	5.4	5.2	4.9	4.6	3.3	3.9	3.1	3.2	2.9
	Labour force participation rates	41.8	40.5	37.1	36.4	34.4	94.5	94.7	94.7	94.6	94.5	60.1	58.7	60.7	61.2	60.3
	Employment/population ratios	33.5	32.9	30.6	30.1	29.6	90.0	89.6	89.8	89.9	90.1	58.1	56.4	58.8	59.3	58.6
Hungary	Unemployment rates	24.6	16.2	19.7	18.6	17.6	10.2	5.3	6.0	6.4	6.5	6.8	3.2	4.3	4.0	4.5
	Labour force participation rates	42.7	31.4	30.3	30.1	29.3	86.9	85.0	85.5	86.5	86.9	28.4	39.7	42.4	43.2	43.6
	Employment/population ratios	32.2	26.3	24.4	24.5	24.2	78.0	80.5	80.3	81.0	81.3	26.5	38.4	40.6	41.4	41.7

Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Men (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Iceland[b]	Unemployment rates	13.0	9.3	8.5	9.2	8.0	3.5	1.9	1.6	1.8	1.2	3.8	2.9	0.9	1.5	0.9
	Labour force participation rates	57.9	71.8	75.2	77.6	80.0	96.1	94.2	94.3	95.8	95.3	95.9	89.7	90.1	90.6	90.4
	Employment/population ratios	50.4	65.1	68.8	70.4	73.6	92.7	92.4	92.8	94.1	94.2	92.3	87.1	89.3	89.3	89.6
Ireland	Unemployment rates	25.4	8.7	9.2	8.8	9.3	13.4	4.5	4.1	4.1	4.3	8.6	3.0	3.1	2.6	2.7
	Labour force participation rates	48.7	52.7	53.4	57.2	56.9	91.3	91.6	92.1	92.2	91.8	64.9	66.6	67.8	68.4	70.0
	Employment/population ratios	36.3	48.1	48.5	52.2	51.6	79.0	87.4	88.3	88.4	87.9	59.3	64.6	65.7	66.6	68.1
Italy	Unemployment rates	26.3	20.7	21.5	19.1	18.2	6.1	5.2	5.1	4.5	4.0	3.4	4.1	3.6	2.8	2.6
	Labour force participation rates	46.9	39.3	38.1	37.8	36.1	90.8	91.3	91.2	91.3	91.0	48.1	44.0	44.3	45.0	46.3
	Employment/population ratios	34.5	31.2	29.9	30.6	29.6	85.3	86.5	86.6	87.2	87.3	46.5	42.2	42.7	43.7	45.1
Japan	Unemployment rates	5.6	10.6	9.9	8.8	8.3	2.0	4.3	4.0	3.9	3.6	4.5	5.3	5.0	4.5	4.1
	Labour force participation rates	48.0	44.0	44.5	44.7	45.1	97.5	96.2	96.0	96.1	96.3	85.0	82.5	83.1	83.8	84.9
	Employment/population ratios	45.4	39.4	40.1	40.8	41.3	95.5	92.1	92.1	92.4	92.8	81.2	78.1	78.9	80.0	81.5
Korea	Unemployment rates	9.2	12.2	12.2	11.7	11.4	2.5	3.6	3.7	3.6	3.6	0.9	2.7	3.1	3.0	2.7
	Labour force participation rates	31.8	28.8	26.7	24.3	23.1	94.6	91.7	91.3	90.8	90.5	79.2	73.6	74.5	74.9	76.8
	Employment/population ratios	28.9	25.3	23.5	21.4	20.5	92.3	88.4	87.9	87.5	87.3	78.5	71.6	72.2	72.6	74.7
Luxembourg	Unemployment rates	8.5	12.1	11.7	17.0	17.5	2.5	3.3	2.9	2.7	3.2	0.4	1.3	2.9	0.5	1.1
	Labour force participation rates	47.9	29.6	32.1	30.6	33.6	94.9	95.3	95.5	95.3	94.1	33.6	38.8	39.4	38.9	42.7
	Employment/population ratios	43.8	26.0	28.4	25.4	27.7	92.6	92.2	92.8	92.7	91.0	33.5	38.3	38.3	38.7	42.2
Mexico	Unemployment rates	6.5	5.9	6.1	5.4	6.2	3.2	2.4	2.8	2.5	2.5	2.0	1.4	2.5	1.8	2.0
	Labour force participation rates	72.6	63.5	61.3	62.6	61.7	96.1	95.2	95.1	95.5	95.3	82.4	79.3	79.3	82.1	80.9
	Employment/population ratios	67.9	59.8	57.6	59.2	57.8	93.0	92.8	92.5	93.1	92.9	80.7	78.2	77.3	80.6	79.2
Netherlands	Unemployment rates	10.9	9.6	9.5	7.1	6.5	5.2	4.2	4.0	3.2	2.2	2.7	4.3	4.8	4.5	4.5
	Labour force participation rates	62.6	70.2	68.8	70.0	71.0	92.3	91.8	91.3	91.7	91.7	41.8	58.0	57.9	59.3	63.3
	Employment/population ratios	55.8	63.5	62.3	65.1	66.4	87.5	88.0	87.6	88.8	89.6	40.7	55.5	55.1	56.6	60.4
New Zealand	Unemployment rates	15.6	8.7	9.1	9.3	9.6	7.0	2.5	2.4	2.4	2.2	5.4	2.4	1.8	1.8	1.5
	Labour force participation rates	70.4	65.9	65.6	67.8	67.3	92.3	91.6	92.5	92.4	92.3	62.8	78.2	79.7	81.4	82.2
	Employment/population ratios	59.4	60.1	59.6	61.5	60.8	85.8	89.4	90.3	90.2	90.3	59.4	76.4	78.3	79.9	81.0
Norway[b]	Unemployment rates	13.1	12.6	12.5	8.6	7.9	5.0	4.3	4.2	3.1	1.9	3.1	1.5	2.1	1.3	1.1
	Labour force participation rates	57.8	61.9	61.0	58.2	58.6	90.6	90.1	90.1	90.6	90.9	71.5	74.3	74.6	74.1	74.7
	Employment/population ratios	50.2	54.1	53.3	53.2	54.0	86.0	86.2	86.3	87.8	89.2	69.3	73.2	73.1	73.2	73.9
Poland	Unemployment rates	30.8	39.0	36.7	28.3	20.0	11.3	16.0	14.5	11.2	7.8	7.5	12.9	12.6	9.8	7.4
	Labour force participation rates	45.2	37.7	37.2	37.5	36.5	90.9	88.0	88.9	88.2	87.9	46.7	41.3	43.4	42.6	44.8
	Employment/population ratios	31.3	23.0	23.6	26.9	29.2	80.6	74.0	76.0	78.3	81.1	43.2	36.0	37.9	38.4	41.4

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Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Men (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Portugal	Unemployment rates	12.3	13.5	13.7	14.5	13.5	5.0	5.1	6.2	5.8	6.1	5.0	6.0	6.9	7.3	7.1
	Labour force participation rates	51.6	47.6	46.9	46.6	45.3	93.6	92.2	92.5	92.9	92.8	63.6	62.8	62.4	62.7	63.0
	Employment/population ratios	45.2	41.2	40.5	39.8	39.2	88.9	87.4	86.7	87.4	87.2	60.4	59.1	58.1	58.2	58.6
Slovak Republic	Unemployment rates	28.0	34.2	30.7	26.3	20.3	10.4	14.6	13.2	10.4	8.6	8.1	15.6	13.1	9.8	7.7
	Labour force participation rates	52.7	43.1	40.6	39.3	38.7	95.0	93.7	93.8	93.8	93.0	40.9	52.0	55.1	55.3	56.9
	Employment/population ratios	38.0	28.4	28.1	29.0	30.9	85.1	80.0	81.4	84.1	85.0	37.6	43.8	47.9	49.9	52.6
Spain[b]	Unemployment rates	37.4	18.7	16.7	15.0	15.2	16.4	6.9	5.9	5.4	5.4	13.3	6.0	5.4	4.8	4.9
	Labour force participation rates	55.0	54.8	57.2	57.1	57.2	93.1	92.5	92.4	92.5	92.6	56.6	62.7	63.2	63.5	63.1
	Employment/population ratios	34.4	44.5	47.7	48.6	48.5	77.8	86.1	86.9	87.6	87.6	49.1	58.9	59.7	60.4	60.0
Sweden[a]	Unemployment rates	25.3	17.8	23.0	21.1	18.4	9.3	5.7	6.2	5.1	4.1	8.5	5.8	5.4	4.9	4.3
	Labour force participation rates	53.5	51.4	53.9	55.2	56.5	91.3	90.1	92.4	92.5	92.9	70.5	76.0	76.4	76.2	76.4
	Employment/population ratios	40.0	42.2	41.5	43.5	46.1	82.8	85.0	86.6	87.7	89.0	64.5	71.6	72.2	72.4	73.1
Switzerland	Unemployment rates	5.4	8.0	8.5	7.9	6.8	3.1	3.5	3.2	2.7	2.3	4.6	3.1	3.7	2.8	2.6
	Labour force participation rates	63.2	68.1	66.6	70.1	70.2	98.2	95.7	95.6	95.5	95.8	82.9	79.1	77.8	77.1	78.4
	Employment/population ratios	59.8	62.6	60.9	64.6	65.4	95.2	92.3	92.6	92.9	93.6	79.1	76.6	74.9	74.9	76.4
Turkey	Unemployment rates	17.5	20.1	19.3	18.2	19.4	6.2	9.0	8.9	8.5	8.3	3.0	4.1	4.5	4.9	4.9
	Labour force participation rates	67.2	53.1	52.9	52.0	52.1	93.7	89.2	89.4	88.6	88.5	59.5	49.0	47.4	46.3	45.1
	Employment/population ratios	55.5	42.5	42.7	42.6	42.0	87.9	81.1	81.4	81.1	81.1	57.7	47.0	45.3	44.0	42.9
United Kingdom[b]	Unemployment rates	19.2	11.8	13.7	15.8	16.0	9.7	3.8	3.6	4.2	3.7	11.6	3.9	3.3	3.3	4.1
	Labour force participation rates	75.1	70.2	70.0	69.1	68.2	92.9	91.0	91.0	91.7	91.6	64.0	68.0	67.9	68.3	68.9
	Employment/population ratios	60.7	61.9	60.4	58.1	57.3	83.9	87.5	87.7	87.8	88.3	56.6	65.4	65.7	66.0	66.1
United States[b]	Unemployment rates	13.2	12.6	12.4	11.2	11.6	4.9	4.6	3.9	3.6	3.7	4.4	3.9	3.3	3.0	3.2
	Labour force participation rates	70.3	63.6	62.9	63.3	61.5	91.7	90.5	90.5	90.6	90.9	65.5	68.7	69.3	69.6	69.6
	Employment/population ratios	61.0	55.5	55.2	56.2	54.4	87.2	86.3	86.9	87.3	87.5	62.6	66.0	67.0	67.5	67.4
EU-15	Unemployment rates	19.8	15.3	16.1	15.5	15.2	8.5	6.4	6.4	6.1	5.8	8.7	6.6	6.4	6.1	6.1
	Labour force participation rates	53.3	51.2	52.3	52.4	52.2	92.8	92.3	92.5	92.7	92.7	52.5	55.8	56.8	57.5	58.1
	Employment/population ratios	42.7	43.4	43.9	44.3	44.2	85.0	86.4	86.5	87.1	87.3	48.0	52.1	53.2	54.0	54.5
EU-19	Unemployment rates	20.5	17.6	18.0	16.8	15.6	8.6	7.3	7.2	6.5	6.0	8.5	7.0	6.7	6.3	6.1
	Labour force participation rates	52.5	48.9	49.7	49.7	49.4	92.6	91.8	92.1	92.3	92.2	51.3	54.5	55.6	56.2	56.8
	Employment/population ratios	41.7	40.2	40.7	41.4	41.7	84.6	85.2	85.5	86.3	86.7	47.0	50.7	51.9	52.7	53.3
OECD Europe	Unemployment rates	19.6	17.9	18.0	16.8	16.0	8.2	7.4	7.3	6.7	6.2	7.9	6.6	6.4	6.1	5.9
	Labour force participation rates	55.1	50.0	50.5	50.4	50.2	92.8	91.5	91.8	91.8	91.8	52.5	54.7	55.5	55.9	56.5
	Employment/population ratios	44.3	41.0	41.4	42.0	42.2	85.2	84.7	85.1	85.7	86.1	48.4	51.1	52.0	52.6	53.1
Total OECD	Unemployment rates	14.4	13.7	13.7	12.6	12.3	6.1	5.7	5.5	5.0	4.8	5.9	5.1	4.9	4.5	4.4
	Labour force participation rates	59.0	54.5	54.3	54.5	54.0	93.3	92.0	92.1	92.1	92.2	62.7	64.8	65.6	66.1	66.6
	Employment/population ratios	50.6	47.1	46.9	47.7	47.3	87.6	86.8	87.1	87.5	87.8	59.0	61.5	62.4	63.2	63.7

Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Women (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Australia	Unemployment rates	16.4	11.1	10.5	9.5	9.3	7.3	4.4	4.2	4.0	3.9	5.5	2.9	2.6	2.8	2.6
	Labour force participation rates	68.3	69.4	70.0	69.6	69.7	67.7	71.9	73.8	74.3	74.8	27.7	42.8	44.6	47.4	48.8
	Employment/population ratios	57.1	61.6	62.7	63.0	63.3	62.8	68.8	70.7	71.3	71.9	26.2	41.5	43.4	46.1	47.5
Austria	Unemployment rates	5.2	10.1	9.9	9.3	9.1	3.8	4.8	4.9	4.8	4.5	2.7	3.0	2.6	2.3	3.1
	Labour force participation rates	59.2	53.2	54.8	55.1	56.7	71.6	79.6	79.9	80.9	81.1	18.4	19.9	23.5	26.9	28.9
	Employment/population ratios	56.1	47.8	49.4	49.9	51.5	68.9	75.8	76.0	77.0	77.5	17.9	19.3	22.9	26.3	28.0
Belgium	Unemployment rates	23.4	19.5	19.1	19.5	22.6	11.2	7.4	8.2	8.1	7.5	5.9	2.8	4.2	6.6	5.4
	Labour force participation rates	33.0	32.2	31.5	28.6	31.0	67.2	74.3	76.8	77.0	77.5	13.2	21.8	24.0	24.3	28.3
	Employment/population ratios	25.3	25.9	25.5	23.0	24.0	59.7	68.8	70.5	70.8	71.6	12.4	21.2	23.0	22.7	26.8
Canada	Unemployment rates	13.7	11.7	10.6	10.3	10.0	9.0	5.9	5.7	5.2	4.7	8.4	5.7	5.3	5.1	4.9
	Labour force participation rates	61.9	66.2	65.8	66.4	66.5	75.4	81.5	81.1	81.3	82.1	36.9	48.8	49.4	51.4	53.3
	Employment/population ratios	53.4	58.4	58.8	59.5	59.8	68.6	76.7	76.5	77.1	78.2	33.8	46.0	46.8	48.7	50.7
Czech Republic	Unemployment rates	9.8	19.5	19.1	18.6	11.0	4.4	9.3	9.3	8.3	6.7	3.7	6.2	6.3	5.6	4.8
	Labour force participation rates	43.7	31.5	28.8	29.1	26.9	83.2	80.9	81.6	81.3	80.3	20.0	31.3	33.1	34.0	35.2
	Employment/population ratios	39.4	25.4	23.3	23.7	23.9	79.6	73.4	73.9	74.5	74.9	19.3	29.4	31.0	32.1	33.5
Denmark	Unemployment rates	10.2	7.1	9.8	7.6	6.8	9.0	5.1	4.9	4.1	3.2	6.7	5.8	5.1	4.0	5.2
	Labour force participation rates	65.9	63.9	63.9	69.8	71.4	82.7	84.9	84.1	85.1	84.6	43.1	57.6	55.7	55.8	55.7
	Employment/population ratios	59.1	59.4	57.6	64.5	66.5	75.2	80.6	80.0	81.7	81.8	40.2	54.2	52.9	53.5	52.9
Finland	Unemployment rates	30.7	19.4	19.4	18.4	16.8	12.5	7.6	7.3	6.6	5.8	17.5	7.0	6.5	6.6	6.0
	Labour force participation rates	41.1	48.7	50.2	50.8	53.7	84.0	84.6	85.2	85.3	85.6	38.9	54.3	56.4	58.1	58.3
	Employment/population ratios	28.5	39.3	40.4	41.4	44.7	73.5	78.1	79.0	79.7	80.7	32.1	50.4	52.7	54.3	54.8
France[a]	Unemployment rates	31.7	20.7	21.5	22.9	21.5	13.1	9.0	8.9	8.5	7.4	6.6	5.9	5.2	5.6	6.0
	Labour force participation rates	27.6	32.9	34.6	34.6	35.2	76.7	80.9	81.3	81.7	82.4	30.1	36.2	37.9	38.0	38.0
	Employment/population ratios	18.8	26.1	27.1	26.6	27.6	66.7	73.6	74.0	74.7	76.4	28.1	34.0	36.0	35.9	35.7
Germany[a]	Unemployment rates	8.3	10.8	14.0	12.6	11.8	10.1	9.6	10.2	9.5	8.5	13.5	12.7	13.0	13.0	10.5
	Labour force participation rates	53.0	45.1	46.7	47.6	48.7	72.6	79.7	79.1	80.3	80.3	28.3	37.8	43.2	46.3	49.8
	Employment/population ratios	48.6	40.2	40.1	41.6	43.0	65.3	72.1	71.0	72.6	73.6	24.5	33.0	37.6	40.3	44.6
Greece	Unemployment rates	36.9	35.6	34.7	33.9	32.1	10.7	14.4	14.2	12.3	11.8	2.6	5.1	4.0	4.4	4.4
	Labour force participation rates	32.6	34.1	30.6	28.5	27.6	53.9	67.5	68.3	69.1	69.3	23.0	25.3	26.9	28.0	28.0
	Employment/population ratios	20.6	22.0	20.0	18.8	18.8	48.1	57.8	58.6	60.6	61.1	22.4	24.0	25.8	26.7	26.8
Hungary	Unemployment rates	16.5	14.4	19.1	19.8	18.6	8.1	5.6	6.9	7.2	7.2	7.2	2.9	3.5	3.9	3.9
	Labour force participation rates	35.3	24.3	23.8	23.4	21.8	71.5	71.0	72.2	72.9	73.2	10.2	25.8	27.7	28.2	27.3
	Employment/population ratios	29.5	20.8	19.3	18.8	17.8	65.7	67.0	67.2	67.6	67.9	9.4	25.0	26.8	27.1	26.2

Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Women (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Iceland[b]	Unemployment rates	10.1	6.8	6.0	7.5	6.3	5.0	2.0	1.8	2.1	1.6	3.8	2.5	2.2	1.7	0.9
	Labour force participation rates	59.1	72.5	79.2	81.7	80.1	86.3	85.3	85.1	85.6	85.4	80.5	78.8	81.9	81.7	80.7
	Employment/population ratios	53.1	67.5	74.5	75.6	75.0	82.0	83.6	83.5	83.8	84.1	77.4	76.9	80.2	80.3	80.0
Ireland	Unemployment rates	22.5	7.4	7.2	7.7	7.9	13.4	3.2	3.2	3.6	3.7	8.1	1.4	2.7	2.1	2.5
	Labour force participation rates	39.6	44.5	47.7	48.2	49.8	53.6	67.7	69.3	70.2	72.2	21.5	34.5	38.4	40.8	40.8
	Employment/population ratios	30.6	41.2	44.3	44.4	45.9	46.5	65.5	67.1	67.7	69.5	19.7	34.0	37.4	40.0	39.8
Italy	Unemployment rates	36.5	27.2	27.4	25.3	23.3	11.8	9.2	9.0	7.8	7.1	3.4	4.0	3.2	2.9	2.1
	Labour force participation rates	34.4	31.7	28.7	26.9	25.5	52.6	63.6	63.6	64.3	64.1	14.2	20.4	21.5	22.5	23.5
	Employment/population ratios	21.8	23.1	20.8	20.1	19.5	46.3	57.8	57.9	59.3	59.6	13.7	19.6	20.8	21.9	23.0
Japan	Unemployment rates	5.3	8.3	7.4	7.2	7.1	2.8	4.5	4.4	3.9	3.9	1.9	3.0	2.7	2.8	2.4
	Labour force participation rates	47.1	44.3	45.0	45.3	44.7	65.3	68.1	68.8	69.3	70.1	48.1	50.1	50.8	51.5	52.5
	Employment/population ratios	44.6	40.6	41.7	42.0	41.5	63.4	65.0	65.7	66.6	67.4	47.2	48.6	49.4	50.1	51.2
Korea	Unemployment rates	6.0	9.4	9.0	9.0	7.1	1.0	2.7	2.9	2.5	2.4	0.2	1.5	1.6	1.2	1.4
	Labour force participation rates	41.8	40.1	39.0	35.5	32.7	54.8	59.6	60.4	61.5	62.0	49.5	46.6	46.5	47.0	47.6
	Employment/population ratios	39.3	36.3	35.5	32.3	30.4	54.2	58.0	58.6	60.0	60.5	49.4	45.9	45.7	46.4	46.9
Luxembourg	Unemployment rates	7.2	22.5	16.2	15.2	9.9	3.9	6.1	5.3	5.8	3.4	1.2	2.0	0.9	2.5	0.0
	Labour force participation rates	45.0	26.4	25.5	25.0	18.1	55.7	70.4	72.2	73.8	71.4	13.4	22.6	25.1	28.5	25.9
	Employment/population ratios	41.8	20.5	21.3	21.2	16.3	53.5	66.2	68.4	69.5	69.0	13.2	22.2	24.9	27.8	25.9
Mexico	Unemployment rates	8.3	10.6	7.4	7.4	7.5	3.5	3.3	2.8	2.6	3.1	1.6	1.4	1.1	1.3	0.6
	Labour force participation rates	35.8	33.2	33.3	34.3	34.1	41.3	49.5	50.0	51.3	52.6	25.8	31.8	30.7	32.2	32.9
	Employment/population ratios	32.8	29.7	30.8	31.8	31.5	39.8	47.8	48.6	50.0	51.0	25.4	31.3	30.4	31.8	32.7
Netherlands	Unemployment rates	9.4	8.9	9.7	8.2	8.1	7.8	4.6	4.8	4.1	3.3	5.2	2.8	4.0	4.2	3.6
	Labour force participation rates	60.7	69.0	68.1	68.4	70.1	64.5	76.6	77.8	78.4	80.1	18.5	33.8	36.0	38.7	41.1
	Employment/population ratios	55.0	62.9	61.5	62.7	64.4	59.4	73.1	74.0	75.1	77.4	17.5	32.8	34.5	37.1	39.6
New Zealand	Unemployment rates	14.3	10.1	9.8	10.0	9.8	6.0	3.3	3.0	2.9	2.9	3.6	2.6	1.9	2.2	1.3
	Labour force participation rates	62.6	59.3	59.9	62.2	62.6	71.1	75.2	76.4	76.7	76.8	36.7	59.6	62.5	62.3	64.1
	Employment/population ratios	53.7	53.3	54.1	55.9	56.4	66.9	72.7	74.1	74.4	74.6	35.4	58.1	61.3	61.0	63.3
Norway[b]	Unemployment rates	12.1	10.7	11.5	8.7	6.6	3.8	3.3	3.8	2.8	2.0	1.9	0.6	1.3	1.0	0.8
	Labour force participation rates	53.0	61.3	59.4	58.1	60.3	79.4	82.8	83.0	83.4	84.0	55.4	63.1	62.9	62.2	64.6
	Employment/population ratios	46.6	54.7	52.5	53.0	56.3	76.4	80.0	79.9	81.0	82.3	54.3	62.7	62.1	61.6	64.0
Poland	Unemployment rates	34.7	43.3	39.2	31.6	23.8	14.5	18.0	17.7	13.4	9.1	6.4	9.5	9.0	6.2	5.7
	Labour force participation rates	37.9	29.9	29.8	30.7	29.3	78.6	76.4	76.7	75.4	75.6	28.7	23.3	23.5	20.3	20.6
	Employment/population ratios	24.8	17.0	18.1	21.0	22.4	67.2	62.7	63.1	65.3	68.8	26.8	21.0	21.4	19.0	19.4

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Table C. **Employment/population ratios, activity and unemployment rates by selected age groups** *(cont.)*

Women (percentages)

		15 to 24					25 to 54					55 to 64				
		1994	2004	2005	2006	2007	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Portugal	Unemployment rates	16.3	17.6	19.1	18.4	20.3	7.2	7.1	8.5	9.0	9.6	2.4	5.1	5.3	5.2	5.8
	Labour force participation rates	42.6	39.5	38.8	38.7	38.4	74.4	80.6	81.8	82.7	82.8	34.2	44.8	46.1	45.1	46.7
	Employment/population ratios	35.7	32.5	31.4	31.6	30.6	69.0	74.9	74.9	75.3	74.9	33.4	42.5	43.7	42.8	44.0
Slovak Republic	Unemployment rates	26.5	30.8	28.8	27.0	19.9	11.6	17.5	15.7	13.5	11.9	12.3	14.9	13.8	9.4	9.1
	Labour force participation rates	41.8	35.6	32.3	30.6	30.1	81.1	84.0	82.1	81.2	80.5	9.2	14.8	18.2	21.0	23.3
	Employment/population ratios	30.7	24.6	23.0	22.3	24.1	71.7	69.3	69.1	70.2	71.0	8.0	12.6	15.7	19.0	21.2
Spain[b]	Unemployment rates	50.1	26.4	23.5	21.6	21.9	28.6	13.8	10.9	10.5	9.7	9.9	9.4	7.5	7.4	7.7
	Labour force participation rates	43.7	43.4	46.8	48.1	47.4	54.6	68.3	69.0	71.2	72.7	19.4	27.2	29.6	31.0	32.5
	Employment/population ratios	21.8	32.0	35.8	37.7	37.0	39.0	58.9	61.5	63.7	65.6	17.5	24.6	27.4	28.7	30.0
Sweden[a]	Unemployment rates	19.9	16.1	21.6	21.5	19.5	6.8	5.2	6.3	5.5	4.7	5.2	4.0	3.4	3.8	3.5
	Labour force participation rates	53.4	51.6	55.6	56.8	57.8	86.9	85.3	86.5	86.2	87.1	62.6	70.2	69.2	69.8	69.6
	Employment/population ratios	42.7	43.3	43.6	44.6	46.5	81.1	80.8	81.1	81.5	83.0	59.3	67.4	66.9	67.1	67.2
Switzerland	Unemployment rates	6.1	7.4	9.1	7.5	7.4	4.2	4.6	4.6	4.5	4.1	3.2	3.4	3.7	3.3	3.8
	Labour force participation rates	64.8	65.9	64.7	67.0	64.5	74.1	80.8	81.3	81.2	81.9	47.2	55.9	57.7	58.6	60.3
	Employment/population ratios	60.8	61.1	58.8	62.0	59.7	70.9	77.1	77.5	77.6	78.5	45.7	54.0	55.6	56.6	58.1
Turkey	Unemployment rates	13.4	18.9	19.3	19.8	20.0	6.0	7.5	8.2	8.2	8.1	0.7	0.7	0.5	0.8	1.1
	Labour force participation rates	35.8	26.1	25.1	24.6	24.4	33.1	28.6	28.5	29.0	29.0	24.8	19.8	17.0	16.8	16.5
	Employment/population ratios	31.0	21.1	20.2	19.8	19.6	31.1	26.4	26.2	26.6	26.6	24.6	19.7	16.9	16.6	16.4
United Kingdom[b]	Unemployment rates	12.6	9.9	10.6	11.8	12.7	6.4	3.4	3.2	3.9	3.7	5.3	2.1	1.7	2.4	2.2
	Labour force participation rates	65.1	64.6	63.5	64.1	62.5	74.1	76.8	77.2	77.9	77.6	40.7	48.3	48.9	50.2	50.1
	Employment/population ratios	56.9	58.2	56.7	56.5	54.6	69.3	74.2	74.7	74.9	74.7	38.5	47.3	48.1	49.0	49.0
United States[b]	Unemployment rates	11.6	11.0	10.1	9.7	9.4	5.0	4.6	4.4	3.9	3.8	3.9	3.7	3.3	2.9	3.0
	Labour force participation rates	62.5	58.7	58.6	57.9	57.2	75.3	75.3	75.3	75.5	75.4	48.9	56.3	57.0	58.2	58.3
	Employment/population ratios	55.3	52.2	52.6	52.3	51.8	71.5	71.8	72.0	72.5	72.5	47.0	54.3	55.1	56.5	56.6
EU-15	Unemployment rates	21.9	16.1	16.8	16.2	16.2	11.4	8.3	8.2	7.8	7.5	7.9	6.5	6.2	6.4	6.3
	Labour force participation rates	45.1	44.6	45.2	45.5	45.3	68.0	75.1	75.4	76.3	76.5	27.0	35.6	37.9	39.3	39.9
	Employment/population ratios	35.2	37.4	37.6	38.1	38.0	60.3	68.9	69.2	70.4	70.8	24.9	33.2	35.5	36.8	37.4
EU-19	Unemployment rates	22.5	18.4	18.7	17.6	16.7	11.4	9.3	9.1	8.3	7.6	7.7	6.6	6.4	6.4	6.2
	Labour force participation rates	44.1	42.1	42.5	42.7	42.3	69.5	75.4	75.7	76.3	76.5	26.4	34.0	36.1	37.1	37.6
	Employment/population ratios	34.2	34.3	34.5	35.2	35.3	61.6	68.4	68.8	70.0	70.6	24.3	31.8	33.8	34.8	35.3
OECD Europe	Unemployment rates	20.8	18.1	18.5	17.5	16.7	10.9	9.0	8.9	8.2	7.5	7.0	6.2	6.0	6.0	5.9
	Labour force participation rates	43.0	39.5	39.7	39.8	39.6	66.0	69.5	69.7	70.2	70.6	26.8	33.6	35.3	36.1	36.7
	Employment/population ratios	34.0	32.4	32.3	32.8	33.0	58.8	63.3	63.4	64.4	65.3	24.9	31.5	33.2	34.0	34.5
Total OECD	Unemployment rates	14.3	13.4	12.8	12.3	11.8	7.5	6.5	6.4	5.8	5.5	4.6	4.4	4.1	4.0	3.8
	Labour force participation rates	47.6	45.1	45.2	45.1	44.8	66.4	69.1	69.3	69.8	70.2	35.7	42.6	43.8	44.9	45.5
	Employment/population ratios	40.8	39.0	39.4	39.6	39.5	61.5	64.6	64.9	65.8	66.4	34.0	40.8	42.0	43.1	43.7

a) Data for 2007 are Secretariat estimates obtained by applying percentage point changes between 2006 and 2007 estimates from the European Labour Force Survey to national estimates for 2006.

b) Age group 15-24 refers to 16-24. For Norway up to 2005.

Source: OECD database on Labour Force Statistics (see URLs at the beginning of the Annex). For Belgium, Denmark, Greece and Luxembourg, data are from the European Union Labour Force Survey

StatLink http://dx.doi.org/10.1787/350215616030

Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2006***

Persons aged 25-64 (percentages)

		Both sexes			Men			Women		
		Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education
Australia	Unemployment rates	5.6	3.8	2.3	6.0	3.3	2.0	5.2	4.7	2.5
	Labour force participation rates	67.2	83.5	86.3	80.1	90.8	92.1	57.5	73.1	81.4
	Employment/population ratios	63.5	80.4	84.4	75.3	87.8	90.3	54.5	69.6	79.3
Austria	Unemployment rates	7.9	3.7	2.5	8.7	3.3	2.0	7.3	4.1	3.2
	Labour force participation rates	60.5	78.7	88.1	72.8	84.3	90.5	54.1	72.5	84.7
	Employment/population ratios	55.7	75.8	85.9	66.4	81.5	88.7	50.2	69.5	82.0
Belgium	Unemployment rates	12.3	6.7	3.7	10.7	5.5	3.5	14.8	8.4	4.0
	Labour force participation rates	55.9	78.5	86.9	68.6	86.0	90.4	43.0	70.4	83.6
	Employment/population ratios	49.0	73.2	83.6	61.2	81.2	87.2	36.6	64.5	80.2
Canada	Unemployment rates	9.3	5.6	4.1	8.8	5.7	4.1	10.1	5.6	4.1
	Labour force participation rates	62.7	80.6	86.2	72.9	86.4	90.5	51.4	73.8	82.5
	Employment/population ratios	56.9	76.0	82.6	66.5	81.5	86.7	46.4	69.7	79.1
Czech Republic	Unemployment rates	22.3	5.5	2.2	23.4	4.2	2.1	21.7	7.3	2.4
	Labour force participation rates	56.6	80.0	87.0	68.7	88.1	93.0	50.8	71.3	79.7
	Employment/population ratios	43.9	75.6	85.1	52.6	84.5	91.1	39.8	66.1	77.9
Denmark	Unemployment rates	5.5	2.7	3.2	4.7	2.1	2.7	6.4	3.6	3.6
	Labour force participation rates	66.4	83.5	90.3	74.4	87.4	92.4	59.7	78.8	88.4
	Employment/population ratios	62.8	81.3	87.4	70.9	85.6	90.0	55.9	76.0	85.2
Finland	Unemployment rates	10.1	7.0	3.7	9.2	6.4	3.2	11.5	7.8	4.0
	Labour force participation rates	65.0	81.3	88.2	68.7	83.9	90.6	60.3	78.2	86.5
	Employment/population ratios	58.4	75.6	85.0	62.4	78.5	87.7	53.4	72.1	83.0
France	Unemployment rates	11.0	6.6	5.1	10.0	5.5	5.1	12.0	8.0	5.1
	Labour force participation rates	65.3	80.9	87.5	73.2	85.5	91.4	58.4	75.7	84.1
	Employment/population ratios	58.1	75.6	83.0	65.8	80.8	86.8	51.4	69.7	79.8
Germany	Unemployment rates	19.9	9.9	4.8	21.4	10.1	4.5	18.4	9.7	5.3
	Labour force participation rates	67.1	80.5	88.6	82.2	86.6	91.8	56.9	74.5	84.2
	Employment/population ratios	53.8	72.5	84.3	64.6	77.8	87.6	46.4	67.3	79.8
Greece	Unemployment rates	7.2	8.7	6.1	4.8	4.7	4.3	11.8	13.8	8.2
	Labour force participation rates	64.1	76.4	88.8	83.9	90.3	91.6	43.8	63.9	85.7
	Employment/population ratios	59.5	69.7	83.3	79.9	86.0	87.6	38.6	55.1	78.6
Hungary	Unemployment rates	14.8	6.1	2.2	15.2	5.5	2.2	14.4	6.8	2.2
	Labour force participation rates	44.8	74.9	83.7	54.2	81.7	88.4	38.5	67.5	79.9
	Employment/population ratios	38.2	70.4	81.8	46.0	77.2	86.4	32.9	62.9	78.1
Iceland	Unemployment rates	2.5	c	c	c	c	c	c	c	c
	Labour force participation rates	85.7	90.3	92.9	91.7	94.3	96.4	80.2	83.8	90.0
	Employment/population ratios	83.6	88.6	92.0	89.4	93.1	95.6	78.3	81.5	89.0

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Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2006*** *(cont.)*

Persons aged 25-64 (percentages)

		Both sexes			Men			Women		
		Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education
Ireland	Unemployment rates	5.7	3.2	2.2	5.8	3.1	2.4	5.6	3.4	2.1
	Labour force participation rates	62.3	79.9	88.4	78.9	92.3	94.1	42.0	67.9	83.5
	Employment/population ratios	58.7	77.3	86.5	74.3	89.5	91.8	39.7	65.6	81.8
Italy	Unemployment rates	6.9	4.6	4.8	5.3	3.4	3.7	10.2	6.1	5.9
	Labour force participation rates	56.4	78.0	84.7	75.5	86.9	89.5	37.1	68.9	80.5
	Employment/population ratios	52.5	74.4	80.6	71.5	83.9	86.1	33.3	64.7	75.8
Japan	Unemployment rates	..	4.6	3.0	..	4.9	3.0	..	4.1	3.0
	Labour force participation rates	..	76.6	82.2	..	91.8	95.7	..	62.3	67.9
	Employment/population ratios	..	73.1	79.8	..	87.3	92.8	..	59.8	65.9
Korea	Unemployment rates	2.6	3.5	2.9	3.7	4.0	3.0	1.7	2.5	2.7
	Labour force participation rates	67.9	72.9	79.5	81.2	88.3	91.9	59.4	57.0	62.4
	Employment/population ratios	66.2	70.3	77.2	78.2	84.8	89.2	58.4	55.5	60.8
Luxembourg	Unemployment rates	4.9	3.8	2.9	2.8	2.5	2.3	7.4	5.6	3.5
	Labour force participation rates	63.9	76.3	87.7	78.8	84.6	91.5	51.8	67.4	83.3
	Employment/population ratios	60.8	73.4	85.2	76.6	82.5	89.4	47.9	63.7	80.4
Mexico	Unemployment rates	2.2	2.6	2.9	2.3	2.4	2.8	2.2	2.8	3.1
	Labour force participation rates	64.3	75.1	85.8	92.9	95.5	94.2	41.1	58.7	75.5
	Employment/population ratios	62.8	73.1	83.3	90.7	93.2	91.5	40.2	57.0	73.2
Netherlands	Unemployment rates	4.8	3.5	2.3	4.0	3.1	2.3	5.8	3.9	2.3
	Labour force participation rates	63.6	82.0	88.4	79.8	87.6	90.8	50.3	76.1	85.7
	Employment/population ratios	60.6	79.1	86.4	76.6	84.8	88.7	47.4	73.2	83.7
New Zealand	Unemployment rates	3.1	2.2	2.4	3.1	1.9	2.1	3.2	2.6	2.6
	Labour force participation rates	72.9	86.4	86.6	82.9	93.3	93.7	64.5	76.4	81.2
	Employment/population ratios	70.6	84.5	84.6	80.4	91.5	91.7	62.5	74.4	79.0
Norway	Unemployment rates	4.7	2.1	1.8	4.9	1.9	2.0	4.4	2.5	1.5
	Labour force participation rates	67.9	84.9	90.8	74.5	88.7	93.0	61.7	80.0	88.6
	Employment/population ratios	64.7	83.1	89.2	70.8	87.0	91.2	59.0	78.0	87.3
Poland	Unemployment rates	16.5	10.6	5.0	14.9	8.5	4.7	19.7	12.6	5.3
	Labour force participation rates	64.2	73.4	87.9	74.5	82.9	91.1	51.0	66.4	85.5
	Employment/population ratios	53.6	65.6	83.5	63.4	75.8	86.8	40.9	58.1	81.0
Portugal	Unemployment rates	7.6	7.1	5.4	6.2	6.5	4.5	9.4	7.8	6.0
	Labour force participation rates	77.6	86.4	91.3	85.8	88.4	92.7	69.2	84.4	90.4
	Employment/population ratios	71.7	80.2	86.4	80.4	82.7	88.5	62.7	77.8	85.0
Slovak Republic	Unemployment rates	44.0	10.0	2.6	48.2	8.7	2.0	40.8	11.7	3.3
	Labour force participation rates	41.9	79.9	87.1	54.1	88.1	92.6	35.7	71.4	81.2
	Employment/population ratios	23.5	71.9	84.9	28.0	80.4	90.8	21.2	63.0	78.6

Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2006*** *(cont.)*

Persons aged 25-64 (percentages)

		Both sexes			Men			Women		
		Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education	Less than upper secondary education	Upper secondary education	Tertiary education
Spain	Unemployment rates	9.0	6.9	5.5	6.3	4.6	4.1	13.8	9.8	6.9
	Labour force participation rates	65.7	81.6	88.2	83.3	90.8	91.9	47.6	72.1	84.6
	Employment/population ratios	59.8	75.9	83.4	78.1	86.6	88.2	41.0	65.0	78.7
Sweden	Unemployment rates	7.3	5.1	4.2	6.7	4.9	4.5	8.5	5.2	4.0
	Labour force participation rates	72.2	86.3	91.1	79.6	89.9	92.0	62.4	82.2	90.4
	Employment/population ratios	66.9	81.9	87.3	74.3	85.5	87.9	57.1	77.9	86.8
Switzerland	Unemployment rates	7.6	3.2	2.2	5.9	2.7	1.9	9.0	3.7	2.9
	Labour force participation rates	70.7	82.8	92.2	81.9	90.6	95.5	63.0	76.5	86.3
	Employment/population ratios	65.3	80.1	90.2	77.1	88.1	93.7	57.3	73.7	83.8
Turkey	Unemployment rates	8.3	9.0	6.9	8.8	7.5	5.9	6.5	16.5	9.0
	Labour force participation rates	53.5	69.0	81.0	82.0	88.7	87.6	23.5	33.5	69.9
	Employment/population ratios	49.0	62.7	75.5	74.8	82.1	82.4	22.0	28.0	63.6
United Kingdom	Unemployment rates	5.7	4.0	2.2	6.5	3.9	2.5	4.9	4.1	2.0
	Labour force participation rates	70.3	84.1	90.1	77.3	88.1	92.1	64.6	79.1	88.0
	Employment/population ratios	66.3	80.7	88.1	72.3	84.7	89.8	61.5	75.9	86.3
United States	Unemployment rates	8.3	4.6	2.5	7.6	4.8	2.7	9.4	4.3	2.3
	Labour force participation rates	63.2	76.9	84.9	76.2	83.9	90.2	48.3	70.0	80.0
	Employment/population ratios	58.0	73.3	82.7	70.4	79.9	87.7	43.8	67.0	78.2
EU-19[a]	Unemployment rates	11.8	6.1	3.7	11.3	5.1	3.3	12.9	7.3	4.2
	Labour force participation rates	62.3	80.1	88.1	74.4	87.0	91.5	51.4	73.1	84.7
	Employment/population ratios	55.5	75.3	84.8	66.6	82.6	88.5	45.2	67.8	81.2
Total OECD[a]	Unemployment rates	9.6	5.4	3.5	9.5	4.7	3.2	10.6	6.5	3.9
	Labour force participation rates	64.1	80.0	87.4	76.9	88.2	92.0	52.7	71.1	82.5
	Employment/population ratios	58.4	75.9	84.4	70.3	84.2	89.1	47.6	66.7	79.4

* At the time this report is sent to print (June 2008), the data in the table are provisional until *Education at a Glance* is printed (September 2008).

.. : included in upper secondary education

c: Below reliability thresholds.

Source: OECD (2008), *Education at a Glance - OECD Indicators,* Paris, September.

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Table E. **Incidence and composition of part-time employment**[a]

Percentages

	Part-time employment as a proportion of total employment									
	Men					Women				
	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Australia[b,c]	..	12.0	12.0	12.4	12.4	..	38.4	39.9	39.1	38.5
Austria	..	3.7	4.6	5.4	5.2	..	29.4	29.4	31.4	31.5
Belgium	4.4	6.3	6.2	6.7	6.3	30.0	34.5	33.4	34.7	32.9
Canada	10.8	10.9	10.8	10.9	11.0	28.8	27.2	26.9	26.2	26.1
Czech Republic	2.1	1.5	1.6	1.6	1.7	5.6	5.2	5.5	5.6	5.9
Denmark	9.8	11.5	11.8	11.4	12.4	26.2	24.0	24.4	25.6	23.9
Finland	6.5	8.0	7.9	8.1	8.2	11.5	14.9	14.8	14.9	15.5
France	5.3	4.7	5.2	5.2	5.0	24.5	23.4	23.0	22.6	23.1
Germany	3.0	6.3	7.4	7.6	7.9	28.0	37.0	39.4	39.1	39.2
Greece	5.0	3.0	3.0	4.0	4.1	13.1	10.8	11.1	12.9	13.6
Hungary	..	1.9	1.8	1.5	1.6	..	4.8	5.0	4.2	4.2
Iceland	9.2	7.8	7.3	7.6	8.0	37.9	26.4	26.6	26.0	25.4
Ireland	6.4	6.9	7.1	7.7	7.6	25.5	34.7	35.0	34.9	35.6
Italy	4.2	5.6	5.1	5.3	5.4	20.6	28.7	29.2	29.4	29.9
Japan[d]	7.5	8.8	8.8	8.5	9.2	26.9	31.3	31.7	31.3	32.6
Korea[e]	2.9	5.9	6.5	6.3	6.3	6.8	11.9	12.5	12.3	12.5
Luxembourg	1.9	1.8	1.6	1.5	1.6	25.7	29.6	30.7	27.2	28.8
Mexico	..	8.1	..	..	..	..	27.6	..	..	..
Netherlands	11.3	15.1	15.3	15.8	16.2	54.5	60.2	60.9	59.7	60.0
New Zealand	9.0	10.7	10.2	10.1	11.2	36.1	35.4	35.3	34.5	34.7
Norway	7.7	10.3	10.0	10.6	10.5	37.7	33.2	32.9	32.9	31.6
Poland	..	7.5	7.1	6.5	6.0	..	17.5	17.4	16.3	15.0
Portugal	4.9	5.8	5.9	5.9	6.3	15.2	14.0	14.4	13.2	14.3
Slovak Republic	1.3	1.6	1.4	1.3	1.2	4.4	4.5	4.1	4.1	4.4
Spain	2.4	2.7	4.0	3.9	3.8	14.3	17.6	22.1	21.4	20.9
Sweden	7.1	8.5	8.5	8.4	9.5	24.9	20.8	19.0	19.0	19.7
Switzerland[c]	6.8	8.1	8.0	8.8	8.7	44.9	45.2	45.7	45.7	45.6
Turkey	4.9	3.7	3.2	4.4	4.6	18.5	14.8	13.4	17.8	19.2
United Kingdom	7.0	9.7	9.8	9.9	9.9	41.2	40.3	39.1	38.8	38.6
United States[f]	8.5	8.1	7.8	7.8	7.6	20.4	18.8	18.3	17.8	17.9
EU-15[g]	5.0	6.5	7.0	7.1	7.2	28.3	31.1	31.8	31.6	31.7
EU-19[g]	4.8	6.3	6.7	6.8	6.8	27.1	28.6	29.2	29.0	28.9
OECD Europe[g]	4.9	6.0	6.3	6.5	6.6	27.0	28.1	28.6	28.6	28.7
Total OECD[g]	5.7	7.3	7.3	7.4	7.5	21.5	25.4	25.4	25.1	25.3

Table E. **Incidence and composition of part-time employment**[a] *(cont.)*

Percentages

	Part-time employment as a proportion of total employment					Women's share in part-time employment				
	1994	2004	2005	2006	2007	1994	2004	2005	2006	2007
Australia[b,c]	..	23.8	24.5	24.4	24.1	..	72.2	73.1	72.1	71.6
Austria	..	15.4	16.0	17.3	17.2	..	86.9	84.4	83.1	83.5
Belgium	14.6	18.9	18.5	19.3	18.3	81.8	81.3	81.7	81.1	81.2
Canada	18.9	18.5	18.3	18.1	18.2	68.9	68.8	68.6	68.1	68.0
Czech Republic	3.6	3.1	3.3	3.3	3.5	67.7	72.9	72.8	72.8	72.3
Denmark	17.3	17.3	17.6	18.1	17.7	69.4	64.5	63.8	66.2	62.8
Finland	8.9	11.3	11.2	11.4	11.7	62.8	63.3	63.6	62.9	63.7
France	13.8	13.3	13.4	13.3	13.4	78.6	80.7	79.2	78.8	80.3
Germany	13.5	20.1	21.8	22.0	22.2	87.1	82.8	81.4	81.2	80.7
Greece	7.8	6.0	6.1	7.5	7.8	59.1	68.9	69.5	67.0	67.9
Hungary	..	3.3	3.2	2.7	2.8	..	67.7	70.5	70.4	68.6
Iceland	22.6	16.6	16.4	16.0	15.9	78.3	75.0	76.2	74.2	72.7
Ireland	13.5	19.3	19.6	19.9	20.3	70.3	80.3	80.2	78.7	79.6
Italy	10.0	14.8	14.6	14.9	15.1	72.6	77.1	79.0	78.4	78.5
Japan[d]	15.4	18.1	18.3	18.0	18.9	71.1	71.4	71.8	72.4	71.5
Korea[e]	4.5	8.4	9.0	8.8	8.9	61.3	59.0	57.9	58.5	58.9
Luxembourg	10.7	13.2	13.9	12.7	13.1	88.6	91.9	93.2	93.1	93.1
Mexico	..	15.1	..	..	..	..	65.1	..	..	..
Netherlands	28.9	35.0	35.7	35.5	36.1	76.8	76.0	76.3	75.5	75.4
New Zealand	21.0	22.0	21.7	21.3	22.0	76.1	73.6	74.8	74.4	72.6
Norway	21.5	21.1	20.8	21.1	20.4	80.6	74.1	74.6	73.5	72.9
Poland	..	12.0	11.7	10.8	10.1		65.7	66.5	67.0	67.0
Portugal	9.5	9.6	9.8	9.3	10.0	71.3	67.0	67.9	65.8	66.1
Slovak Republic	2.7	2.8	2.6	2.5	2.6	72.0	69.0	69.2	70.0	74.0
Spain	6.4	8.5	11.3	11.1	10.9	75.5	81.0	78.9	79.3	79.8
Sweden	15.8	14.4	13.5	13.4	14.4	76.8	69.5	67.1	67.3	65.0
Switzerland[c]	23.2	24.9	25.1	25.5	25.4	83.3	82.1	82.6	81.2	81.3
Turkey	8.8	6.6	5.8	7.9	8.4	61.0	59.4	59.4	58.6	59.7
United Kingdom	22.4	24.0	23.5	23.4	23.3	82.7	78.3	77.8	77.6	77.4
United States[f]	14.2	13.2	12.8	12.6	12.6	68.4	68.3	68.4	67.8	68.4
EU-15[g]	14.6	17.3	18.0	18.0	18.1	80.1	78.9	78.4	78.1	78.0
EU-19[g]	14.1	16.1	16.7	16.6	16.7	79.9	78.1	77.7	77.5	77.4
OECD Europe[g]	13.8	15.4	15.8	16.0	16.1	78.7	77.4	77.1	76.6	76.6
Total OECD[g]	12.3	15.1	15.3	15.2	15.4	73.2	72.5	73.2	72.9	72.8

a) Part-time employment refers to persons who usually work less than 30 hours per week in their main job. Data include only persons declaring usual hours.

b) New series based on usual weekly hours worked available since 2001 replacing the old series based on weekly-actual hours.

c) Part-time employment based on hours worked at all jobs.

d) New series of part-time workers working less than 30 weekly actual hours available only since 2000. This series replaces previous series on part-time work of less than 35 weekly actual hours. Figures estimated for 1994 by backdating the series on part-time work of less than 30 hours prior to 2000 in line with the trend observed in the series of part-time work of less than 35 hours.

e) Data are based on actual hours worked.

f) Data are for wage and salary workers only.

g) For above countries only.

Sources and definitions: OECD database on Labour Force Statistics (see URLs at the beginning of the Annex). For Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, data are from the European Union Labour Force Survey. See OECD (1997), "Definition of Part-time Work for the Purpose of International Comparisons", Labour Market and Social Policy Occasional Paper No. 22, available on Internet (*www.oecd.org/els/workingpapers*).

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Table F. **Average annual hours actually worked per person in employment**[a]

	1979	1983	1994	2002	2003	2004	2005	2006	2007
Total employment									
Australia	1 823	1 774	1 807	1 740	1 737	1 747	1 732	1 723	1 722
Austria	..	..	..	1 632	1 642	1 650	1 656	1 655	1 652
Belgium	..	1 768	1 646	1 579	1 575	1 549	1 565	1 571	1 566
Canada	1 825	1 768	1 762	1 744	1 734	1 753	1 738	1 738	1 736
Czech Republic	..	..	2 043	1 980	1 972	1 986	2 002	1 997	1 985
Denmark	1 636	1 638	1 548	1 579	1 577	1 579	1 564	1 574	..
Finland[b]	..	1 809	1 777	1 686	1 669	1 688	1 666	1 660	1 651
Finland[c]	1 869	1 823	1 775	1 728	1 720	1 724	1 718	1 714	1 698
France[d]	1 855	1 758	1 675	1 536	1 531	1 558	1 550	1 568	1 561
Germany	..	..	1 547	1 445	1 439	1 442	1 435	1 433	1 433
Western Germany	1 770	1 705	1 515	1 428	1 422	1 426	1 419	1 418	1 419
Greece	..	2 152	2 092	2 087	2 087	2 060	2 053	..	..
Hungary	..	2 112	2 032	2 026	1 997	1 996	1 994	1 989	1 986
Iceland[d]	1 875	1 860	1 813	1 812	1 807	1 810	1 794	1 795	1 807
Ireland	..	1 981	1 883	1 695	1 671	1 668	1 654	1 640	1 630
Italy	..	1 876	1 857	1 831	1 826	1 826	1 819	1 814	1 824
Japan	2 126	2 095	1 898	1 798	1 799	1 787	1 775	1 784	1 785
Korea	..	2 923	2 651	2 465	2 434	2 394	2 354	2 305	..
Luxembourg	..	1 779	1 709	1 634	1 630	1 586	1 570	1 604	1 542
Mexico	..	..	..	1 888	1 857	1 849	1 909	1 883	1 871
Netherlands	..		1 411	1 348	1 363	1 362	1 375	1 391	1 392
New Zealand	..	..	1 849	1 817	1 813	1 827	1 810	1 787	1 771
Norway	1 580	1 553	1 505	1 414	1 399	1 417	1 420	1 408	1 411
Poland	..	..	..	1 979	1 984	1 983	1 994	1 985	1 976
Portugal	..	..	1 838	1 767	1 742	1 763	1 752	1 758	1 728
Slovak Republic	..	..	1 854	1 746	1 673	1 708	1 741	1 749	..
Spain	1 930	1 825	1 733	1 721	1 706	1 690	1 672	1 655	1 652
Sweden	1 530	1 532	1 608	1 534	1 559	1 575	1 607	1 576	1 562
Switzerland	1 819	1 760	1 725	1 629	1 639	1 669	1 669	1 657	..
Turkey	..	..	..	..	..	..	1 918	1 918	..
United Kingdom	1 818	1 717	1 740	1 696	1 677	1 672	1 676	1 669	1 670
United States	1 825	1 816	1 833	1 807	1 797	1 799	1 795	1 797	1 794

Table F. **Average annual hours actually worked per person in employment**[a] *(cont.)*

	1979	1983	1994	2002	2003	2004	2005	2006	2007
Dependent employment									
Austria[d]	..	..	..	1 493	1 484	1 533	1 494	1 486	1 474
Belgium	..		1 562	1 510	1 449	1 441	1 450	1 460	1 461
Canada	1 791	1 743	1 746	1 738	1 727	1 744	1 735	1 734	1 733
Czech Republic	..	..	1 974	1 896	1 882	1 900	1 923	1 922	1 914
Denmark	1 600	1 614	1 524	1 542	1 540	1 544	1 530	1 541	..
Finland[b]	..	..	1 670	1 609	1 596	1 622	1 605	1 600	1 594
France[d]	1 710	1 608	1 563	1 443	1 439	1 466	1 459	1 465	1 457
Germany	..	..	1 474	1 365	1 360	1 364	1 354	1 351	1 353
Western Germany	1 689	1 621	1 435	1 345	1 341	1 347	1 338	1 336	1 339
Greece	..	1 766	1 792	1 818	1 812	1 803	1 811	1 797	1 783
Hungary	..	1 829	1 759	1 766	1 777	1 807	1 803	1 799	1 780
Iceland[d]	..	..	1 774	1 740	1 782	1 823	1 816	1 813	1 822
Ireland	..	1 702	1 652	1 667	1 583	1 570	1 562	1 557	1 543
Japan[e]	2 114	2 098	1 904	1 837	1 846	1 840	1 829	1 842	1 850
Japan[f]	..	..	1 910	1 825	1 828	1 816	1 802	1 811	1 808
Korea[g]	..	2 734	2 471	2 410	2 390	2 380	2 351	2 302	2 266
Korea[f]	..	2 714	2 453	2 395	2 378	2 366	2 341	2 294	2 261
Luxembourg	..	1 638	1 598	1 582	1 555	1 535	1 524	1 580	1 541
Mexico	..	..	..	1 945	1 908	1 919	1 970	1 944	1 933
Netherlands	1 591	1 530	1 388	1 317	1 309	1 312	1 322	1 336	..
New Zealand	..	..	1 772	1 758	1 758	1 787	1 777	1 760	1 751
Poland	..	..	..	1 958	1 956	1 957	1 970	1 958	1 953
Portugal	..	..	1 690	1 686	1 677	1 690	1 680	1 694	1 675
Slovak Republic	..	..	1 942	1 950	1 898	1 913	1 942	1 944	1 947
Spain	1 844	1 750	1 666	1 682	1 667	1 654	1 640	1 624	1 621
United Kingdom	1 753	1 655	1 696	1 674	1 655	1 649	1 655	1 648	1 655
United States	1 828	1 827	1 839	1 810	1 800	1 803	1 800	1 801	1 798

a) The concept used is the total number of hours worked over the year divided by the average number of people in employment. The data are intended for comparisons of trends over time; they are unsuitable for comparisons of the level of average annual hours of work for a given year, because of differences in their sources. Part-time workers are covered as well as full-time workers.

b) Data estimated from the Labour Force Survey.

c) Data estimated from national accounts.

d) Data for the years 2006 and 2007 are estimates.

e) Data refer to establishments with 30 or more regular employees.

f) Data refer to establishments with five or more regular employees.

g) Data refer to establishments with ten or more regular employees.

Sources and definitions:

The series on annual hours actually worked per person in **total employment** presented in this table for all 30 OECD countries are now consistent with the series retained for the calculation of productivity measures in the OECD Productivity database (*www.oecd.org/statistics/productivity/compendium*). Hours actually worked per person in employment are according to National Accounts concepts for 16 countries: Austria, Canada, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Korea, Norway, the Slovak Republic, Spain, Sweden, Switzerland and Turkey. Secretariat estimates for Belgium, Ireland, Luxembourg, the Netherlands (for total employment only) and Portugal for annual hours worked based on the European Labour Force Survey. For the remaining countries, the sources and methodologies are the same as those presented in the previous edition of the *OECD Employment Outlook*, as are estimates reported for **dependent employment** for 26 countries.

Country specific notes can be found at: *www.oecd.org/employment/outlook.*

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Table G. **Incidence of long-term unemployment**[a, b, c, d, e]

As a percentage of total unemployment

	1994		2004		2005		2006		2007	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	52.6	36.1	33.5	20.5	30.2	17.7	30.6	17.8	27.1	15.5
Austria	31.8	18.4	46.3	27.6	43.2	25.3	44.2	27.3	44.2	26.8
Belgium	75.2	58.3	68.9	49.6	68.3	51.6	69.0	55.6	68.1	50.0
Canada	32.7	17.9	17.8	9.5	17.2	9.6	16.0	8.7	14.8	7.5
Czech Republic	41.9	22.3	71.6	51.8	72.7	53.6	75.0	55.2	71.6	53.4
Denmark	54.0	32.1	45.0	22.6	43.8	25.9	33.7	20.4	29.5	18.2
Finland	..	..	40.8	23.4	41.8	24.9	39.7	24.8	37.9	23.0
France	61.7	38.5	60.6	40.9	60.4	41.4	61.0	42.2	..	..
Germany	63.8	44.3	67.6	51.8	70.9	54.1	73.1	57.3	71.3	56.6
Greece	72.8	50.5	74.4	54.8	72.6	53.7	75.2	55.6	68.2	50.3
Hungary	62.6	41.3	61.7	45.1	63.4	46.1	62.9	46.1	64.0	47.5
Iceland	(32.2)	(15.1)	(21.3)	(11.2)	(21.7)	(13.3)	(13.6)	(7.3)	(11.1)	(8.0)
Ireland	80.7	64.3	55.0	34.3	52.6	34.3	53.2	34.3	50.1	30.3
Italy	79.5	61.5	65.5	49.7	67.7	52.2	68.5	52.9	65.4	49.9
Japan	36.1	17.5	50.0	33.7	49.1	33.3	48.1	33.0	48.2	32.0
Korea	20.7	5.4	11.4	1.1	11.6	0.8	11.3	1.1	11.7	0.6
Luxembourg[f]	(54.7)	(29.6)	(44.9)	(21.0)	(51.1)	(26.4)	(50.1)	(29.5)	(54.7)	(33.5)
Mexico	..	..	5.1	1.1	6.8	2.3	6.2	2.5	5.4	2.7
Netherlands	77.5	49.4	55.1	32.5	59.9	40.1	62.7	45.2	59.1	41.7
New Zealand	50.4	32.7	23.9	11.7	21.5	9.4	20.0	7.1	16.7	5.7
Norway	43.7	28.8	25.3	9.2	25.3	9.5	32.3	14.1	25.1	8.5
Poland	65.2	40.4	68.7	47.9	71.6	52.2	69.1	50.4	64.3	45.9
Portugal	57.2	43.4	65.0	43.2	69.3	48.6	70.5	51.8	67.6	47.3
Slovak Republic	63.9	42.6	77.0	60.6	81.4	68.1	84.3	73.1	82.3	70.8
Spain	73.4	56.2	58.0	37.7	47.7	32.6	44.4	29.5	42.6	27.6
Sweden	46.7	25.7	37.3	18.9	..	..	..	..	27.3	13.0
Switzerland	50.1	29.0	53.9	33.5	59.1	39.0	58.6	39.1	56.6	40.8
Turkey	68.9	45.9	56.9	39.2	55.6	39.6	51.4	35.8	46.3	30.4
United Kingdom	63.4	45.4	38.8	21.4	38.2	22.4	40.9	22.1	41.5	24.7
United States	20.3	12.2	21.9	12.7	19.6	11.8	17.6	10.0	17.6	10.0
EU-15[g]	67.6	48.4	60.3	42.3	61.2	44.2	61.5	44.7	58.7	42.3
EU-19[g]	66.9	47.0	62.5	44.0	63.7	46.3	63.4	46.4	60.1	43.6
OECD Europe[g]	66.9	46.7	61.6	43.2	62.5	45.3	61.7	44.9	58.1	41.7
Total OECD[h]	52.6	35.5	46.7	31.7	46.9	32.8	45.8	32.1	42.6	29.3

Table G. **Incidence of long-term unemployment among men**[a, b, c, d, e] *(cont.)*

As a percentage of male unemployment

	1994		2004		2005		2006		2007	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	56.9	39.9	37.0	23.4	33.8	20.2	33.1	20.1	27.7	16.5
Austria	30.8	18.4	46.5	28.6	42.9	25.6	46.2	29.5	43.9	26.6
Belgium	72.4	53.4	70.7	50.4	65.7	50.4	68.1	54.7	67.7	49.1
Canada	34.5	19.5	18.9	10.4	17.8	10.1	16.1	9.1	15.7	8.4
Czech Republic	40.4	21.7	69.2	49.3	71.9	52.9	72.7	53.9	70.5	51.7
Denmark	52.1	31.9	47.4	22.5	49.3	29.7	36.3	20.7	29.2	18.4
Finland	..	..	43.7	25.3	44.9	27.9	42.3	28.0	41.0	26.5
France	60.3	37.4	60.7	40.8	58.8	40.5	60.9	42.8	..	..
Germany	60.4	41.2	65.7	50.5	70.1	53.7	72.8	57.8	71.6	57.5
Greece	65.8	41.3	67.1	47.2	64.5	43.1	72.4	48.1	61.4	42.1
Hungary	65.0	43.6	62.6	47.0	64.0	47.9	62.9	47.1	63.8	47.3
Iceland	(29.7)	(14.0)	(16.2)	(8.8)	(17.5)	(10.5)	(15.4)	9.2)	(11.2)	(9.5)
Ireland	83.0	68.5	61.7	40.8	60.0	42.4	59.2	40.8	54.9	36.0
Italy	77.4	59.6	63.8	47.3	66.2	50.5	66.2	50.8	64.3	47.3
Japan	40.2	21.4	56.1	40.2	56.3	40.3	55.5	40.9	55.7	40.3
Korea	22.8	6.4	13.4	1.4	12.9	1.0	12.2	1.2	13.9	0.7
Luxembourg[f]	(59.6)	(33.8)	(44.9)	(22.2)	(53.3)	(33.8)	(53.7)	(34.4)	(61.1)	(39.1)
Mexico	..	..	6.0	1.1	6.1	2.2	6.3	2.7	5.3	3.0
Netherlands	74.3	50.0	58.2	36.0	63.8	44.7	64.3	46.8	61.5	43.9
New Zealand	55.7	37.2	26.8	13.7	24.3	12.6	21.9	8.8	18.3	6.1
Norway	43.5	28.1	28.2	10.7	27.0	10.4	35.9	16.8	26.7	9.9
Poland	61.8	36.8	67.9	46.9	70.4	51.3	68.3	49.0	64.1	45.8
Portugal	54.2	42.3	64.7	43.8	66.5	47.1	68.0	50.3	66.5	48.2
Slovak Republic	63.8	41.7	76.5	60.8	81.0	68.7	84.3	73.9	82.8	72.3
Spain	68.5	49.5	53.8	33.2	42.9	28.2	40.3	25.9	38.3	23.9
Sweden	50.0	29.1	39.7	20.9	..	..	..	..	29.9	14.5
Switzerland	47.4	22.9	50.2	31.5	58.8	37.1	54.4	35.0	55.9	37.9
Turkey	66.8	43.7	55.0	37.0	53.0	36.9	48.6	32.6	42.7	27.1
United Kingdom	68.6	51.2	43.0	25.0	43.2	26.2	46.4	27.5	46.8	29.7
United States	22.2	13.9	23.0	13.7	20.7	12.6	18.6	10.7	18.2	10.7
EU-15[g]	66.0	46.9	59.4	41.5	60.6	43.7	61.6	45.3	58.9	42.8
EU-19[g]	65.3	45.4	61.6	43.2	63.0	45.8	63.3	46.6	60.2	43.9
OECD Europe[g]	65.2	45.0	60.3	41.9	61.1	44.1	60.6	44.0	56.9	40.7
Total OECD[g]	52.0	34.9	46.8	31.8	46.7	32.7	45.8	32.3	42.3	29.3

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Table G. **Incidence of long-term unemployment among women**[a, b, c, d, e] *(cont.)*
As a percentage of female unemployment

	1994		2004		2005		2006		2007	
	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over	6 months and over	12 months and over
Australia	46.3	30.5	29.4	17.1	26.2	14.9	27.7	15.2	26.5	14.4
Austria	33.1	18.5	46.1	26.5	43.5	24.9	42.1	25.1	44.5	27.1
Belgium	77.7	62.6	67.0	48.8	71.0	52.7	70.0	56.5	68.5	51.0
Canada	30.1	15.6	16.4	8.4	16.4	9.1	15.9	8.3	13.7	6.3
Czech Republic	43.1	22.8	73.8	54.1	73.4	54.2	77.0	56.3	72.5	54.7
Denmark	55.8	32.4	42.5	22.7	39.1	22.7	31.6	20.2	29.9	17.9
Finland	..	..	37.8	21.4	38.6	21.9	37.2	21.8	34.9	19.5
France	63.1	39.5	60.5	41.0	61.8	42.3	61.1	41.7	..	..
Germany	67.1	47.2	70.3	53.7	72.0	54.5	73.6	56.6	70.9	55.6
Greece	78.0	57.2	78.7	59.2	77.2	59.6	77.0	60.1	72.1	54.9
Hungary	58.9	37.6	60.7	42.8	62.7	44.2	62.8	45.1	64.2	47.9
Iceland	(34.9)	(16.3)	(26.9)	(14.0)	(26.9)	(16.6)	(11.7)	(5.3)	(10.9)	(5.7)
Ireland	76.8	57.4	42.7	22.3	40.4	21.1	44.0	24.5	42.7	21.9
Italy	81.5	63.3	67.0	52.0	69.1	53.8	70.7	54.8	66.4	52.3
Japan	30.5	12.2	40.2	23.1	38.3	22.6	36.8	20.8	36.7	19.4
Korea	16.1	3.2	8.2	0.6	9.3	0.4	9.6	0.9	7.4	0.3
Luxembourg[f]	(48.9)	(24.6)	(45.0)	(20.1)	(49.4)	(20.5)	(47.6)	(26.0)	(44.3)	(24.5)
Mexico	..	..	4.1	1.1	7.8	2.6	6.1	2.3	5.4	2.3
Netherlands	80.9	48.7	51.7	28.8	55.6	35.0	61.1	43.6	56.8	39.8
New Zealand	42.8	26.2	21.3	9.9	18.7	6.2	18.1	5.5	15.2	5.4
Norway	43.9	29.8	21.3	7.0	23.2	8.5	28.1	11.1	23.2	6.9
Poland	68.4	43.8	69.5	49.0	72.9	53.1	70.0	52.0	64.5	46.0
Portugal	60.1	44.3	65.2	42.6	72.0	49.9	72.7	53.3	68.5	46.7
Slovak Republic	64.1	43.5	77.6	60.3	82.0	67.4	84.3	72.3	81.9	69.4
Spain	78.4	63.0	61.1	41.1	51.4	36.0	47.5	32.2	45.9	30.5
Sweden	41.8	20.5	34.2	16.4	..	..	..	..	24.6	11.4
Switzerland	53.0	35.4	57.5	35.6	59.4	40.7	62.2	42.6	57.1	43.0
Turkey	74.7	51.9	62.5	45.6	63.1	47.4	58.6	44.2	56.3	39.5
United Kingdom	53.3	33.9	33.0	16.4	31.0	16.9	33.5	14.9	34.6	18.2
United States	18.1	10.2	20.5	11.4	18.4	10.8	16.5	9.2	16.8	9.0
EU-15[g]	69.4	50.0	61.3	43.2	61.9	44.6	61.3	44.2	58.4	41.9
EU-19[g]	68.7	48.7	63.4	44.9	64.5	46.8	63.4	46.2	59.9	43.2
OECD Europe[g]	68.8	48.6	63.1	44.7	64.2	46.6	62.9	45.8	59.5	42.8
Total OECD[g]	53.2	36.2	46.5	31.5	47.1	32.8	45.9	32.0	43.0	29.4

a) While data from labour force surveys make international comparisons easier, compared to a mixture of survey and registration data, they are not perfect. Questionnaire wording and design, survey timing, differences across countries in the age groups covered, and other reasons mean that care is required in interpreting cross-country differences in levels.

b) The duration of unemployment database maintained by the OECD Secretariat is composed of detailed duration categories disaggregated by age and sex. All totals are derived by adding each component. Thus, the total for men is derived by adding the number of unemployed men by each duration and age group category. Since published data are usually rounded to the nearest thousand, this method sometimes results in slight differences between the percentages shown here and those that would be obtained using the available published figures.

c) Data are averages of monthly figures for Australia, Canada, Sweden and the United States, averages of quarterly figures for the Czech Republic, Hungary, Norway, New Zealand, Poland, the Slovak Republic and Spain, averages of semi annual figures for Turkey until 1999 and quarterly averages since 2000. The reference period for the remaining countries is as follows (among EU countries it occasionally varies from year to year): Austria, March, and since 2004 all weeks of the first quarter; Belgium, April, and since 1999 all weeks of the second quarter; Denmark, April-May; Finland, autumn prior to 1995, spring between 1995 and 1998, and averages of monthly figures since 1999; France, March and since 2003 all weeks of the first quarter; Germany, April, and since 2005 all weeks of the second quarter; Greece, March-July; Iceland, April; Ireland, May; Italy, April and since 2004 all weeks of the second quarter; Japan, February; Luxembourg, April and since 2003 all weeks of the year; Mexico, April; the Netherlands, March-June; Portugal, February-April; Switzerland, second quarter; and the United Kingdom, March-May.

d) Data refer to persons aged 15 and over in Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Poland, Portugal, the Slovak Republic, Switzerland and Turkey; and aged 16 and over in Iceland, Spain, the United Kingdom and the United States. Data for Finland refer to persons aged 15-64. Data for Hungary refer to persons aged 15-74, for Norway to persons aged 16-74 and for Sweden to persons aged 16-64.

e) Persons for whom no duration of unemployment was specified are excluded.

f) Data in brackets are based on small sample sizes and, therefore, must be treated with care.

g) For above countries only.

Source: OECD database on Labour Force Statistics (see URLs at the beginning of the Annex).

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Table H. **Earnings dispersion[a], gender wage gap[b] and incidence of low pay[c]**

	Ratio of 9th to 1st earnings deciles		Ratio of 9th to 5th earnings deciles		Ratio of 5th to 1st earnings deciles		Gender wage gap (%)		Incidence of low pay (%)	
	1996	2006	1996	2006	1996	2006	1996	2006	1996	2006
Australia	2.95	3.26	1.82	1.90	1.62	1.71	15	17	13.1	15.2
Austria	..	..	..	..	..	..	23	22	..	15.8
Canada	3.53	3.74	1.76	1.87	2.00	2.00	25	21	22.0	22.2
Czech Republic	2.80	3.10	1.71	1.80	1.63	1.73	21	18	14.4	..
Denmark	2.49	2.67	1.70	1.73	1.47	1.54	14	11	..	..
Finland	2.29	2.49	1.64	1.75	1.40	1.42	21	19	..	6.9
France	3.09	2.91	1.93	1.98	1.60	1.47	10	12	..	..
Germany	2.91	3.26	1.82	1.73	1.60	1.89	24	23	13.6	17.5
Hungary	4.01	4.56	2.10	2.34	1.90	1.94	18	0	21.0	23.1
Ireland	3.93	3.92	2.02	2.05	1.95	1.91	22	14	20.4	21.2
Japan	3.00	3.11	1.85	1.86	1.62	1.67	37	33	15.3	16.1
Korea	4.04	4.56	2.00	2.22	2.02	2.11	42	38	24.6	24.5
Netherlands	2.78	2.91	1.71	1.76	1.62	1.65	22	17	13.9	..
New Zealand	2.53	2.86	1.57	1.79	1.61	1.60	22	10	17.0	14.5
Norway	1.95	2.11	1.42	1.47	1.37	1.44	..	..	..	..
Poland	3.50	4.21	1.99	2.16	1.76	1.95	20	10	18.4	23.5
Spain	4.22	3.53	2.10	2.14	2.01	1.65	..	..	15.2	16.2
Sweden	2.27	2.31	1.63	1.67	1.40	1.38	16	15	5.7	6.5
Switzerland	2.41	2.65	1.60	1.81	1.51	1.47	25	19	..	..
United Kingdom	..	3.63	..	1.98	..	1.83	26	21	..	21.0
United States	4.63	4.84	2.20	2.30	2.11	2.10	24	19	25.1	24.2
OECD[d]	**3.12**	**3.33**	**1.82**	**1.92**	**1.69**	**1.72**	**22**	**18**	**17.1**	**17.9**

a) Earnings dispersion is measured by the ratio of 9th to 1st deciles limits of earnings, 9th to 5th deciles and 5th to 1st deciles. Data refer to 1995 (instead of 1996) for Spain; to 1997 for Australia, Canada, Ireland and Norway; and to 2000 for Korea. They refer to 2002 (instead of 2006) for Norway and Spain; to 2004 for Poland and Sweden; and to 2005 for Finland, France, Germany and the Netherlands.

b) The gender wage gap is calculated as the difference between median earnings of men and women relative to median earnings of men. Data refer to 1997 (instead of 1996) for Australia, Canada and Ireland; and to 2000 for Austria. They refer to 2004 (instead of 2006) for Poland and Sweden; and to 2005 for Finland, France, Germany and the Netherlands.

c) The incidence of low pay refers to the share of workers earning less than two-thirds of median earnings. Data refer to 1993 (instead of 1996) for Ireland; to 1995 for Spain; to 1997 for Australia, Canada and Sweden; and to 2000 for Korea. They refer to 2002 (instead of 2005) for Spain; to 2004 for Poland and Sweden; and to 2005 for Finland and Germany.

d) Unweighted average for countries shown in the table.

Note: Estimates of earnings used in the calculations refer to gross earnings of full-time wage and salary workers. Further information on the national data sources and earnings concepts used in the caculations can be found at: *www.oecd.org/employment/outlook*.

Source: OECD database on Earnings Distribution.

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Table I. **Average annual wages in the total economy**

Average gross annual wages per full-time and full-year equivalent dependent employee in the total economy[a]

	Level of average wages in 2006 in current USD	Level of average wages in 2006 in USD PPPs	Average annual growth rates of real average wages[b] (%)			
			1990-1995	1995-2000	2000-2005	2006
Australia	45 183	43 266	1.0	1.9	1.6	2.3
Austria	41 837	38 948	1.8	0.4	0.9	1.9
Belgium	45 401	42 333	1.8	1.3	0.3	1.3
Canada	39 742	36 609	-0.2	2.0	1.2	2.5
Czech Republic	11 292	18 080	5.8	3.0	5.0	4.6
Denmark	56 598	40 265	0.8	1.6	1.5	1.9
Finland	39 891	33 306	0.0	1.3	2.5	1.8
France	39 868	35 645	1.1	1.3	1.3	0.9
Germany	38 626	35 258	2.1	0.8	0.2	-0.3
Greece	25 934	29 661	3.3	1.9	3.4	3.5
Hungary	12 097	20 005	5.4	0.5	7.0	2.0
Ireland	55 985	44 538	2.5	1.9	2.9	1.6
Italy	31 995	29 844	-0.7	0.8	0.2	-0.2
Japan	36 601	34 236	1.3	0.5	0.2	0.1
Korea	25 379	32 472	4.5	-0.1	2.1	1.5
Luxembourg	59 638	50 152	1.9	1.2	1.5	0.8
Netherlands	45 337	41 764	0.3	0.0	0.5	-0.1
Norway	56 629	41 983	1.2	1.9	3.6	2.3
Poland	10 121	16 267	4.0	5.0	1.0	1.9
Portugal	18 455	21 080	1.6	2.6	0.4	-2.6
Slovak Republic	8 675	14 992	5.8	5.0	2.9	4.3
Spain	27 735	28 821	1.9	-0.5	-0.4	-0.7
Sweden	40 086	32 328	-0.2	3.2	1.5	2.1
Switzerland	60 384	45 251	0.9	1.0	1.2	1.4
United Kingdom	47 248	41 612	0.9	2.5	1.6	1.7
United States	47 688	47 688	1.0	2.9	0.2	1.7
OECD Europe[c]	37 516	34 322	1.4	1.4	1.0	0.7
EU-15[c]	38 759	34 651	1.0	1.1	0.7	0.4
EU-19[c]	36 706	33 958	1.4	1.4	0.9	0.6
Total OECD[c]	39 743	38 252	1.2	1.8	0.6	1.1

a) Average annual wages per full-time equivalent dependent employee are obtained by dividing the National Accounts based total wage bill by the average number of employees in the total economy, which is then multiplied by the ratio of average usual weekly hours per full-time employee to average usually weekly hours for all employees. For more details, see: *www.oecd.org/employment/outlook.*

b) Average annual wages are deflated by a price deflator for private final consumption expenditures.

c) Aggregates are computed on the basis of 2000 GDP weights expressed in 2000 purchasing power parities and include the countries shown.

Source: OECD estimates based on OECD National Accounts database and OECD (2008), *OECD Economic Outlook,* No. 82, Paris, December.

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Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a]

Programme categories and sub-categories	Australia[b]						Austria						Belgium						Canada[m]					
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force		
	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07
1. PES and administration[a]	**0.22**	**0.21**	**0.19**				**0.17**	**0.17**	**0.17**				**0.20**	**0.20**	**0.21**				**0.18**	**0.16**	**0.15**			
of which: 1.1. Placement and related services[a]	0.16	0.13	0.12				0.07	0.07	0.08				0.03	0.04	0.04				0.04 [n]	0.04 [n]	0.04 [n]			
1.2. Benefit administration[a]	0.03	0.04	0.03				0.02 [e]	0.02 [e]	0.02 [e]				0.06 [i,j]	0.05 [i,j]	0.05 [i,j]				0.04	0.04	0.03			
2. Training	**0.01** [c]	**0.01** [c]	**0.01** [c]	**0.45**	**0.44**	**0.17**	**0.29** [f]	**0.33** [f]	**0.40** [f]	**1.67** [g]	**1.89** [g]	**2.22** [g]	**0.19**	**0.20**	**0.20**	**2.26** [g]	**1.84** [g]	**2.07** [g]	**0.09**	**0.08**	**0.08**	**1.48**	**1.58**	**1.56**
2.1. Institutional training	0.01	0.01	0.01	0.20	0.19	0.04	0.22	0.25	0.31	2.49	2.85	3.43	0.19	0.20	0.20	2.21	1.87	2.07	0.07	0.07	0.07	1.08	1.15	1.16
2.2. Workplace training	-	-	-	0.14	0.14	0.13	0.03	0.03	0.02	0.26	0.34	0.19	-	-	-	0.28	0.21	0.24	0.01	0.01	0.01	0.10	0.14	0.14
2.3. Alternate training	-	-	-	0.11	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4. Special support for apprenticeship[a]	-	-	-	-	-	-	0.02	0.02	0.04	0.23	0.31	0.58	-	-	-	0.11	0.11	0.13	0.01	0.01	0.01	0.30	0.29	0.25
4. Employment incentives[a]	**0.01**	**0.01**	**0.01**	**-**	**-**	**-**	**0.06**	**0.05**	**0.06**	**1.09**	**1.11**	**1.50**	**0.20** [k]	**0.21** [k]	**0.21** [k]	**2.47**	**2.53**	**2.50**	**0.01**	**0.01**	**0.01**	**0.17**	**0.15**	**0.14**
4.1. Recruitment incentives	0.01	0.01	0.01	-	-	-	0.04	0.04	0.04	0.34	0.35	0.41	0.13	0.14	0.14	1.48	1.48	1.47	0.01	0.01	0.01	0.17	0.15	0.14
4.2. Employment maintenance incentives	-	-	-	-	-	-	0.02	0.02	0.01	0.75	0.77	1.10	-	-	-	-	-	-	-	-	-	-	-	-
5. Supported employment and rehabilitation	**0.05**	**0.05**	**0.05**	**0.87**	**0.95**	**0.97**	**0.04**	**0.04**	**0.04**	**..**	**..**	**..**	**0.12**	**0.12**	**0.12**	**0.72**	**0.67**	**0.83**	**0.02**	**0.02**	**0.02**	**..**	**..**	**..**
5.1 Supported employment	0.04	0.04	0.04	0.70	0.78	0.82	0.04	0.04	0.04	..	..	..	0.01	0.09	0.11	0.08	0.48	0.75	-	-	-	0.07	0.06	0.05
5.2 Rehabilitation	0.02	0.01	0.02	0.17	0.18	0.15	-	-	-	-	-	-	-	-	0.01	-	0.02	0.05	0.02	0.02	0.01	..	..	..
6. Direct job creation	**0.09** [c]	**0.08** [c]	**0.07** [c]	**0.70**	**0.69**	**0.64**	**0.04**	**0.04**	**0.04**	**0.12**	**0.14**	**0.19**	**0.43** [i]	**0.34** [i]	**0.35** [i]	**2.23**	**2.15**	**2.35**	**0.02**	**0.02**	**0.02**	**0.07**	**0.06**	**0.06**
7. Start-up incentives	**0.01**	**0.01**	**0.01**	**0.05**	**0.05**	**0.06**	**-**	**0.01**	**0.01**	**0.02**	**0.06**	**0.05**	**-**	**-**	**-**	**0.02**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.12**	**0.12**	**0.11**
8. Out-of-work income maintenance and support[a]	**0.64**	**0.56**	**0.50**	**5.33**	**4.95**	**4.53**	**1.10**	**1.23**	**1.14**	**5.67**	**5.67**	**5.30**	**1.49**	**1.49**	**1.40**	**13.64**	**13.79**	**13.18**	**0.69**	**0.62**	**0.60**	**..**	**..**	**..**
8.1. Full unemployment benefits	0.63 [d]	0.56 [d]	0.50 [d]	5.33	4.95	4.53	0.94	1.09	1.01	5.60	5.60	5.25	1.28	1.29	1.23	10.88	10.93	10.56	0.69	0.62	0.60	..	..	..
of which: Unemployment insurance	-	-	-	-	-	-	0.58	0.67	0.61	3.19	3.21	2.99	1.28 [l]	1.29 [l]	1.23 [l]	10.88	10.93	10.56	0.69	0.62	0.60	..	..	..
8.2, 8.3. Partial and part-time unemployment benefits	-	-	-	-	-	-	0.02	0.01	0.01	0.06	0.07	0.05	0.14	0.14	0.13	2.77	2.86	2.62	-	-	-	-	-	-
8.4, 8.5. Redundancy and bankrupcy compensation	0.01	0.01	0.01	-	-	-	0.14	0.13	0.12	-	-	-	0.07	0.06	0.04	-	-	-	-	-	-	-	-	-
9. Early retirement[a]	**-**	**-**	**-**	**-**	**-**	**-**	**0.30**	**0.28**	**0.25**	**1.72**	**1.57**	**1.47**	**0.43**	**0.42**	**0.41**	**2.48**	**2.40**	**2.41**	**-**	**-**	**-**	**..**	**..**	**..**
TOTAL (1-9)	**1.03**	**0.94**	**0.85**				**2.00**	**2.13**	**2.10**				**3.07**	**2.99**	**2.90**				**1.04**	**0.94**	**0.90**			
Active measures (1-7)	0.40	0.38	0.34				0.60	0.62	0.71				1.15	1.08	1.09				0.36 [o]	0.32 [o]	0.31 [o]			
of which: Categories 1.1 plus 2-7	0.33	0.30	0.27				0.51	0.53	0.62				0.98	0.91	0.93				0.21 [o]	0.20 [o]	0.19 [o]			
Categories 2-7 only	0.17	0.17	0.15	2.07	2.14	1.83	0.43	0.46	0.54	2.93 [h]	3.23 [h]	4.00 [h]	0.95	0.88	0.89	7.71	7.21	7.77	0.17 [o]	0.16 [o]	0.16 [o]	2.23 [o,p]	2.45 [o,p]	2.37 [o,p]
Passive measures (8-9)	0.64	0.56	0.50	5.33	4.95	4.53	1.40	1.51	1.39	7.39	7.24	6.78	1.93	1.91	1.81	16.12	16.19	15.59	0.69	0.62	0.60	..	..	..

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook*. Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).
b) Fiscal years starting on July 1st.
c) Income support payments to participants in training (Category 2) and Work for the Dole (Category 6) are usually unemployment benefits, reported in Category 8. Payments to participants in measures for Indigenous Australians CDEP are reported in Category 6.
d) Includes Mature Age, Partner Allowances (benefit only) and Youth Allowances. Excludes Widow Allowances.
e) Staff costs of the unemployment insurance service.
f) Includes Employment Foundations established by enterprises in cases of large-scale manpower reductions, which have not been allocated across sub-categories.
g) Adjustments for double-counting (relevant in cases of simultaneous participation in two or more programmes *e.g.* the budget for training centres and training subsistence allowances) are applied to database totals for the main categories (*e.g.* 2. "Training" or 8. "Out-of-work income maintenance and support"), but not to sub-category data.
h) Participant stocks for Category 5 "Supported employment and rehabilitation" are not included.
i) ONEM administration costs for "local employment agencies" are included in Category 6; costs of the new measure "titres-services" are not included.
j) Does not include administration costs of union benefit payment organisations.
k) Includes the income guarantee allowance for part-time workers. This resembles regular unemployment benefit paid at a reduced rate in the case of part-time work or part-time earnings. It has not been allocated across sub-categories.
l) Data are revised from those previously published with the exclusion of benefits paid to people who are not available for work.
m) Fiscal years starting on April 1st.
n) Employment Assistance Service.
o) Includes the Aboriginal Human Resources Development Agreement, which has not been allocated across sub-categories.
p) Participant stocks for Category 5.2 "Rehabilitation" are not included.

Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a] *(cont.)*

Programme categories and sub-categories	Czech Republic						Denmark						Finland						France					
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force		
	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006
1. PES and administration[a]	**0.12**	**0.13**	**0.13**				**0.33**	**..**	**..**				**0.18**	**0.18**	**0.17**				**0.23**	**0.23**	**0.24**			
of which: 1.1. Placement and related services[a]	0.04	0.04	0.04				0.05	..	..				0.10	0.10	0.10				0.15	0.16	0.17			
1.2. Benefit administration[a]	..	..	..				0.17 [b]	..	..				0.05 [g]	0.05 [g]	0.05 [g]				0.08	0.08	0.08			
2. Training	**0.02**	**0.01**	**0.01**	**0.15**	**0.12**	**0.14**	**0.54**	**..**	**..**	**1.78**	**..**	**..**	**0.40**	**0.37**	**0.37**	**1.92**	**1.86**	**1.86**	**0.31** [f]	**0.29** [f]	**0.29** [f]	**1.94**	**1.98**	**2.01**
2.1. Institutional training	-	-	-	-	-	-	0.52 [c]	..	..	1.56	..	..	0.32	0.29	0.30	1.25	1.18	1.18	0.09	0.13	0.12	0.62	0.88	0.84
2.2. Workplace training	-	-	-	-	-	-	-	..	..	-	..	..	0.06	0.06	0.06	0.50	0.51	0.53	-	-	-	-	-	-
2.3. Alternate training	-	-	-	-	-	-	-	..	..	-	..	..	-	-	-	-	-	-	0.04	-	-	0.32	0.01	0.01
2.4. Special support for apprenticeship[a]	-	-	-	-	-	-	0.02	..	..	0.21	..	..	0.01	0.02	0.01	0.17	0.17	0.15	0.08	0.08	0.08	1.01	1.00	1.03
4. Employment incentives[a]	**0.05**	**0.04**	**0.03**	**0.47**	**0.45**	**0.32**	**0.47**	**..**	**..**	**1.26**	**..**	**..**	**0.17** [h]	**0.16** [h]	**0.15** [h]	**1.05** [h]	**1.00** [h]	**0.88** [h]	**0.12**	**0.12**	**0.12**	**1.78**	**1.91**	**2.02**
4.1. Recruitment incentives	0.05	0.04	0.03	0.46	0.41	0.29	0.47	..	..	1.26	..	..	0.12	0.11	0.10	0.77	0.74	0.60	0.12	0.12	0.12	1.78	1.91	2.02
4.2. Employment maintenance incentives	-	-	-	0.02	0.04	0.03	-	..	..	-	..	..	-	-	-	-	-	-	-	-	-	-	-	-
5. Supported employment and rehabilitation	**0.03**	**0.03**	**0.05**	**..**	**0.31**	**0.40**	**0.51**	**..**	**..**	**2.13**	**..**	**..**	**0.10**	**0.10**	**0.10**	**0.30**	**0.32**	**0.34**	**0.06**	**0.07**	**0.07**	**0.45**	**0.46**	**0.47**
5.1 Supported employment	0.03	0.03	0.05	..	0.31	0.40	0.23	..	..	1.24	..	..	0.02	0.02	0.02	0.10	0.12	0.13	0.06	0.07	0.07	0.45	0.46	0.47
5.2 Rehabilitation	-	-	-	-	-	-	0.28	..	..	0.89	..	..	0.08	0.08	0.07	0.20	0.20	0.20	-	-	-	-	-	-
6. Direct job creation	**0.03**	**0.03**	**0.03**	**0.19**	**0.18**	**0.18**	**-**	**..**	**..**	**-**	**..**	**..**	**0.08**	**0.07**	**0.09**	**0.42**	**0.37**	**0.51**	**0.23**	**0.18**	**0.19**	**1.15**	**0.96**	**1.01**
7. Start-up incentives	**0.01**	**-**	**-**	**0.12**	**0.11**	**0.08**	**-**	**..**	**..**	**-**	**..**	**..**	**0.01**	**0.02**	**0.02**	**0.10**	**0.14**	**0.16**	**-**	**-**	**0.01**	**0.19**	**0.24**	**0.28**
8. Out-of-work income maintenance and support[a]	**0.25**	**0.24**	**0.23**	**3.29**	**2.68**	**2.56**	**1.94**	**..**	**..**	**6.96**	**..**	**..**	**1.56**	**1.47**	**1.29**	**11.45**	**9.70**	**8.73**	**1.63**	**1.53**	**1.35**	**9.73**	**9.32**	**8.99**
8.1. Full unemployment benefits	0.25	0.24	0.23	3.29	2.68	2.56	1.92 [d]	..	..	6.96	..	..	1.43	1.35	1.18	10.22	8.57	7.67	1.63	1.53	1.35	9.71	9.30	8.98
of which: Unemployment insurance	0.25	0.24	0.23	3.29	2.68	2.56	1.55 [e]	..	..	5.85	..	..	0.89	0.85	0.75	4.86	4.02	3.61	1.48	1.38	1.19	8.22	7.77	7.43
8.2, 8.3. Partial and part-time unemployment benefits	-	-	-	-	-	-	-	..	..	-	..	..	0.11	0.11	0.10	1.22	1.13	1.06	-	-	-	0.01	0.01	0.01
8.4, 8.5. Redundancy and bankrupcy compensation	-	-	0.01	-	-	-	0.02	..	..	-	..	..	0.01	0.01	0.01	-	-	-	-	-	-	-	-	-
9. Early retirement[a]	**-**	**-**	**-**	**-**	**-**	**-**	**0.72** [f]	**..**	**..**	**2.75**	**..**	**..**	**0.48**	**0.44**	**0.40**	**1.96**	**1.82**	**1.74**	**0.08**	**0.06**	**0.05**	**0.45**	**0.38**	**0.30**
TOTAL (1-9)	**0.50**	**0.49**	**0.49**				**4.51**	**..**	**..**				**2.98**	**2.79**	**2.58**				**2.66**	**2.49**	**2.32**			
Active measures (1-7)	0.25	0.25	0.26				1.85	..	..				0.95	0.89	0.89				0.95	0.90	0.92			
of which: Categories 1.1 plus 2-7	0.17	0.16	0.17				1.56	..	..				0.87	0.81	0.82				0.87	0.82	0.85			
Categories 2-7 only	0.13	0.12	0.13	0.96	1.16	1.13	1.52	..	..	5.17	..	..	0.77	0.71	0.72	3.80	3.69	3.74	0.72	0.66	0.68	5.52	5.55	5.78
Passive measures (8-9)	0.25	0.24	0.23	3.29	2.68	2.56	2.66	..	..	9.70	..	..	2.03	1.90	1.69	13.40	11.52	10.47	1.71	1.59	1.39	10.17	9.70	9.29

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook* . Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).

b) Three-quarters of the administration costs of independent unemployment insurance funds (the last quarter is an estimate for administration of benefits outside the scope of this database), which provide some placement-related services.

c) Includes income support paid to participants in "Specially arranged activation", but not the corresponding services.

d) Includes social assistance benefits paid to unemployed but not inactive recipients.

e) Includes part-time and partial benefits.

f) Early retirement benefits (efterløn) only when paid to recipients who entered the scheme from unemployment.

g) Includes the administration costs of independent unemployment insurance funds.

h) The totals shown for Category 4 include non-zero spending on Eurostat Category 3 "Job rotation and sharing" in Finland, Germany, Italy, Spain and Sweden.

i) Includes training allowances which have not been allocated across sub-categories.

Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a] *(cont.)*

Programme categories and sub-categories	Germany						Greece			Hungary						Ireland					
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force		
	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006
1. PES and administration[a]	**0.30**	**0.36**	**0.27**				**..**	**..**	**..**	**0.10**	**0.09**	**0.09**				**0.13** [e]	**0.12** [e]	**0.12** [e]			
of which: 1.1. Placement and related services[a]	0.13	0.14	0.13				0.02	0.01	..	-	-	-				0.05	0.04	0.04			
1.2. Benefit administration[a]	0.06	0.06	0.05				..	..	..	..	..	..				0.03 [f]	0.03 [f]	0.03 [f]			
2. Training	**0.36** [b]	**0.24** [b]	**0.33** [b,c]	**2.61** [b]	**2.29** [b]	**3.82** [b,c]	**0.03**	**0.04**	**..**	**0.05**	**0.04**	**0.06**	**0.50**	**0.34**	**0.33**	**0.24** [g]	**0.24** [g]	**0.24** [g]	**1.47** [g]	**1.37** [g]	**1.28** [g]
2.1. Institutional training	0.23	0.13	0.21	1.12	0.89	1.36	0.01	0.01	..	0.05	0.04	0.06	0.49	0.34	0.33	0.13	0.13	0.13	0.87	0.80	0.73
2.2. Workplace training	-	-	-	-	-	-	-	-	..	-	-	-	0.01	-	-	-	-	-	0.01	-	-
2.3. Alternate training	-	-	-	0.01	-	-	0.02	0.03	..	-	-	-	-	-	-	0.07	0.07	0.07	0.36	0.35	0.33
2.4. Special support for apprenticeship[a]	0.07	0.06	0.08	0.57	0.57	0.70	-	-	..	-	-	-	-	-	-	-	-	-	-	-	-
4. Employment incentives[a]	**0.09** [d]	**0.05** [d]	**0.06** [d]	**0.48** [d]	**0.27** [d]	**0.31** [d]	**0.06**	**0.02**	**..**	**0.10**	**0.10**	**0.08**	**1.03**	**0.87**	**0.84**	**0.07**	**0.05**	**0.03**	**0.43**	**0.31**	**0.20**
4.1. Recruitment incentives	0.08	0.05	0.06	0.47	0.26	0.31	0.06	0.02	..	0.09	0.09	0.08	0.96	0.77	0.78	0.07	0.05	0.03	0.43	0.31	0.20
4.2. Employment maintenance incentives	-	-	-	-	-	-	-	-	..	0.01	0.01	0.01	0.07	0.10	0.05	-	-	-	-	-	-
5. Supported employment and rehabilitation	**0.15** [b]	**0.13** [b]	**0.01**	**0.42** [b]	**0.39** [b]	**0.06**	**-**	**-**	**..**	**-**	**-**	**-**	**-**	**-**	**-**	**0.01**	**0.01**	**0.01**	**0.06**	**0.09**	**0.07**
5.1 Supported employment	0.01	0.01	0.01	0.05	0.05	0.04	-	-	..	-	-	-	-	-	-	0.01	0.01	0.01	0.06	0.09	0.07
5.2 Rehabilitation	0.13	0.11	- [c]	0.35	0.32	- [c]	-	-	..	-	-	-	-	-	-	-	-	-	-	-	-
6. Direct job creation	**0.13**	**0.10**	**0.09**	**0.68**	**0.89**	**0.91**	**-**	**-**	**..**	**0.05**	**0.06**	**0.05**	**0.44**	**0.39**	**0.40**	**0.20**	**0.21**	**0.21**	**1.26**	**1.21**	**1.13**
7. Start-up incentives	**0.13**	**0.09**	**0.12**	**0.63**	**0.83**	**1.00**	**0.05**	**-**	**..**	**0.01**	**0.01**	**-**	**0.13**	**0.10**	**0.08**	**-**	**-**	**-**	**0.36**	**0.26**	**0.21**
8. Out-of-work income maintenance and support[a]	**2.27**	**2.29**	**2.04**	**10.73**	**16.47**	**17.45**	**0.40**	**0.40**	**..**	**0.37**	**0.38**	**0.35**	**2.98**	**3.08**	**3.36**	**0.83**	**0.77**	**0.80**	**8.05**	**7.29**	**7.03**
8.1. Full unemployment benefits	2.17	2.20	1.98	10.15	10.96	11.15	0.35	0.34	..	0.37	0.38	0.35	2.98	3.08	3.36	0.73	0.67	0.70	8.05	7.29	7.03
of which: Unemployment insurance	1.31	1.20	0.99	4.61	4.21	4.23	0.34	0.34	..	0.34	0.35	0.32	2.64	2.66	2.13	0.31	0.26	0.26	3.74	3.12	2.94
8.2, 8.3. Partial and part-time unemployment benefits	0.04	0.04	0.03	0.57	0.48	0.34	0.06	0.05	..	-	-	-	-	-	-	-	-	-	-	-	-
8.4, 8.5. Redundancy and bankrupcy compensation	0.06	0.05	0.04	-	-	-	-	-	..	-	-	-	-	-	-	0.11	0.10	0.10	-	-	-
9. Early retirement[a]	**0.04**	**0.05**	**0.05**	**0.20**	**0.22**	**0.25**	**-**	**-**	**..**	**0.01**	**0.01**	**0.01**	**0.14**	**0.13**	**0.12**	**0.06**	**0.06**	**0.06**	**0.58**	**0.55**	**0.53**
TOTAL (1-9)	**3.46**	**3.31**	**2.97**				**..**	**..**	**..**	**0.68**	**0.69**	**0.64**				**1.55**	**1.46**	**1.48**			
Active measures (1-7)	1.15	0.97	0.88				..	..	..	0.30	0.30	0.28				0.65	0.63	0.61			
of which: Categories 1.1 plus 2-7	0.98	0.75	0.74				0.16	0.07	..	0.20	0.20	0.19				0.57	0.55	0.53			
Categories 2-7 only	0.85	0.61	0.61	4.83	4.67	6.11	0.14	0.06	..	0.20	0.20	0.19	2.10	1.70	1.64	0.52	0.51	0.49	3.58	3.24	2.90
Passive measures (8-9)	2.32	2.34	2.09	10.93	16.69	17.70	0.40	0.40	..	0.37	0.39	0.36	3.12	3.21	3.49	0.90	0.83	0.86	8.63	7.84	7.56

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook* . Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).

b) Includes Länder spending which has not been allocated across sub-categories.

c) Starting 2006, expenditure on rehabilitation has been reallocated, mainly to Category 2.

d) The totals shown for Category 4 include non-zero spending on Eurostat Category 3 "Job rotation and sharing" in Finland, Germany, Italy, Spain and Sweden.

e) Category 1 includes the Local Employment Service, Job Clubs, and the overheads, pension and staff costs of the employment and training organisation FÁS, except for Training Services (which are allocated to Category 2) and Services to Business.

f) Secretariat estimate based on the ratio of benefit administration costs to benefits paid for a wider range of benefits (as reported in annual reports of DSFA, the social affairs ministry).

g) Includes the Local Training Initiative and Specialist Training Providers programmes which have not been allocated across sub-categories.

Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a] *(cont.)*

Programme categories and sub-categories	Italy						Japan[f]			Korea			Luxembourg						Mexico		
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Public expenditure as a percentage of GDP			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP		
	2004	2005	2006	2004	2005	2006	2004-05	2005-06	2006-07	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006
1. PES and administration[a]	**0.09**	**0.09**	**0.09**				**0.21**	**0.19**	**0.14**	**0.03**	**0.03**	**0.03**	**0.06**	**0.06**	**0.06**				**-** [l]	**-** [l]	**-** [l]
of which: 1.1. Placement and related services[a]	0.01	0.01	-				0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02				-	-	-
1.2. Benefit administration[a]	0.05 [b]	0.05 [b]	0.05 [b]				-	-	-	0.01	0.01	0.01	0.01	0.01	0.01				..	..	..
2. Training	**0.22**	**0.20**	**0.22**	**..**	**..**	**..**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.05**	**0.11**	**0.12**	**0.12**	**0.92**	**1.01**	**1.09**	**0.01** [m]	**0.01** [m]	**0.01** [m]
2.1. Institutional training	0.01	-	0.01	..	..	..	0.04 [g]	0.04 [g]	0.03 [g]	0.04 [i]	0.04 [i]	0.04 [i]	0.01	0.02	0.01	-	-	-	..	..	..
2.2. Workplace training	0.03	0.01	0.01	0.50	0.30	0.23	-	-	-	-	-	-	0.08	0.08	0.09	0.71	0.78	0.83	..	..	..
2.3. Alternate training	-	-	0.05	..	..	..	-	-	-	-	-	-	0.01	0.01	0.02	0.11	0.13	0.16	..	..	..
2.4. Special support for apprenticeship[a]	0.14 [c]	0.15 [c]	0.13 [c]	..	..	..	-	-	-	-	-	0.01	-	0.01	0.01	0.09	0.10	0.10	..	..	..
4. Employment incentives[a]	**0.25** [d]	**0.21** [d]	**0.18** [d]	**3.21** [d]	**2.78** [d]	**2.42** [d]	**0.02**	**0.02**	**0.01**	**0.01**	**0.02**	**0.03**	**0.13** [j]	**0.19** [j]	**0.20** [j]	**2.51** [j]	**2.93** [j]	**3.08** [j]	**-**	**-**	**-**
4.1. Recruitment incentives	0.25 [e]	0.21 [e]	0.18 [e]	3.13	2.70	2.33	0.02	0.02	0.01	0.01	0.02	0.03	0.02	0.02	0.02	0.92	1.14	1.25	-	-	-
4.2. Employment maintenance incentives	-	-	-	0.01	-	-	-	-	-	-	-	-	-	0.03	0.05	-	-	-	-	-	-
5. Supported employment and rehabilitation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.03**	**0.02**	**-**	**0.01**	**0.01**	**0.01**	**0.03**	**0.02**	**0.02**	**-**	**-**	**-**
5.1 Supported employment	-	-	-	-	-	-	-	-	-	0.02	0.02	-	0.01	0.01	0.01	0.03	0.02	0.02	-	-	-
5.2 Rehabilitation	-	-	-	-	-	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-
6. Direct job creation	**0.01**	**0.01**	**0.01**	**0.21**	**0.18**	**0.14**	**-**	**-**	**-**	**-**	**-**	**0.01**	**0.15** [k]	**0.13** [k]	**0.10** [k]	**1.09** [k]	**0.93** [k]	**0.82** [k]	**0.01**	**-**	**-**
7. Start-up incentives	**0.05**	**0.05**	**0.04**	**0.06**	**0.04**	**0.03**	**-**	**-**	**-**	**0.01**	**0.01**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.01** [n]	**0.01** [n]	**-**
8. Out-of-work income maintenance and support[a]	**0.64**	**0.72**	**0.69**	**2.56**	**2.85**	**2.73**	**0.46** [h]	**0.44** [h]	**0.40** [h]	**0.19**	**0.22**	**0.24**	**0.44**	**0.47**	**0.42**	**3.04**	**3.65**	**3.46**	**-**	**-**	**-**
8.1. Full unemployment benefits	0.54	0.61	0.58	2.02	2.27	2.17	0.46	0.43	0.40	0.19	0.22	0.24	0.40	0.40	0.36	2.38	2.43	2.35	-	-	-
of which: Unemployment insurance	0.47	0.53	0.51	1.97	2.22	2.13	..	..	..	0.19	0.22	0.24	..	..	..	..	..	..	-	-	-
8.2, 8.3. Partial and part-time unemployment benefits	0.10	0.11	0.11	0.54	0.58	0.56	-	-	-	-	-	-	0.02	0.04	0.04	0.66	1.22	1.11	-	-	-
8.4, 8.5. Redundancy and bankrupcy compensation	-	-	-	-	-	-	0.01	-	-	-	-	-	0.02	0.03	0.02	-	-	-	-	-	-
9. Early retirement[a]	**0.10**	**0.10**	**0.11**	**0.46**	**0.39**	**0.32**	**-**	**-**	**-**	**-**	**-**	**-**	**0.20**	**0.19**	**0.17**	**0.66**	**0.65**	**0.60**	**-**	**-**	**-**
TOTAL (1-9)	**1.36**	**1.38**	**1.32**				**0.73**	**0.68**	**0.59**	**0.31**	**0.34**	**0.37**	**1.11**	**1.17**	**1.08**				**0.03**	**0.02**	**0.01**
Active measures (1-7)	0.62	0.56	0.53				0.27	0.25	0.19	0.12	0.13	0.13	0.47	0.51	0.49				0.03	0.02	0.01
of which: Categories 1.1 plus 2-7	0.54	0.48	0.45				0.07	0.07	0.06	0.11	0.11	0.11	0.43	0.47	0.46				0.03	0.02	0.01
Categories 2-7 only	0.53	0.47	0.45	..	..	..	0.06	0.06	0.05	0.09	0.10	0.10	0.41	0.45	0.44	4.54	4.90	5.02	0.03	0.02	0.01
Passive measures (8-9)	0.74	0.81	0.79	3.02	3.24	3.05	0.45 [h]	0.43 [h]	0.40 [h]	0.19	0.22	0.24	0.64	0.66	0.59	3.70	4.31	4.06	-	-	-

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook* . Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).

b) Secretariat estimate based on data for total administration costs and human resources administering income support payments within the National Social Security Institute (reported in INPS General Accounts and Annual Report 2005).

c) Mainly exemptions from employer social security contributions, not restricted to the unemployed or those at risk. "Training post compulsory education and post diploma" is included in Category 2 but not in this sub-category.

d) The totals shown for Category 4 include non-zero spending on Eurostat Category 3 "Job rotation and sharing" in Finland, Germany, Italy, Spain and Sweden.

e) Much spending in this category refers to tax relief for firms that have increased total employment and for the conversion of temporary contracts into permanent ones, not otherwise conditional on employment status.

f) Fiscal years starting on April 1st.

g) Includes education and training allowances, but not unemployment benefits paid to programme participants.

h) Education and training allowances paid to participants in institutional training (Category 2.1) are included in the total for Category 8 but excluded from the total for "Passive measures (8-9)".

i) Refers to expenditure on training programmes for the unemployed. In the case of mixed programmes, an estimated share of expenditure relating to training for employed workers is not included.

j) Includes the Reemployment bonus and Measures of professional (re)integration of disabled workers which have not been allocated across sub-categories.

k) Includes Secretariat estimates in Category 6 for "Special measures".

l) 0.002% of GDP.

m) Includes a number of programmes not allocated across sub-categories.

n) Refers to the Productive Options programme which provides business start-up support and is targeted on poverty, not necessarily unemployment.

Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a] *(cont.)*

Programme categories and sub-categories	Netherlands						New Zealand[g]						Norway						Poland					
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force		
	2004	2005	2006	2004	2005	2006	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006
1. PES and administration[a]	**0.49**	**0.49**	**0.47**				**0.12**	**0.12**	**0.11**				**0.13**	**0.12**	**0.12**				**..**	**0.07**	**0.09**			
of which: 1.1. Placement and related services[a]	0.18 [b]	0.17 [b]	0.20 [b]				0.03	0.02	0.02				0.06	0.05	0.06				..	-	-			
1.2. Benefit administration[a]	0.24	0.23	0.20				0.07	0.07	0.07				0.02 [k]	0.02 [k]	0.01 [k]				..	..	..			
2. Training	**0.14** [b, c]	**0.14** [b, c]	**0.13** [b, c]	**1.66**	**1.79**	**1.86**	**0.19** [h]	**0.18** [h]	**0.18** [h]	**0.91**	**0.95**	**1.01**	**0.40**	**0.37**	**0.26**	**1.76**	**1.64**	**1.41**	**..**	**0.10**	**0.10**	**..**	**0.65**	**0.58**
2.1. Institutional training	0.03	0.03	0.02	0.19	0.23	0.23	0.08	0.07	0.06	0.27	0.26	0.24	0.38 [l]	0.35 [l]	0.25 [l]	1.52	1.42	1.24	..	0.02	0.02	..	0.08	0.04
2.2. Workplace training	-	-	-	0.09	0.07	0.05	0.01	0.01	-	-	-	-	0.02	0.02	0.01	0.24	0.22	0.17	..	0.02	0.02	..	0.15	0.11
2.3. Altemate training	0.01	0.01	0.01	0.38	0.09	0.08	0.11	0.10	0.11	0.64	0.69	0.77	-	-	-	-	-	-	..	-	-	..	-	-
2.4. Special support for apprenticeship[a]	0.04 [d]	0.04 [d]	0.04 [d]	0.97	0.90	1.03	-	-	-	-	-	-	-	-	-	-	-	-	..	0.06	0.06	..	0.43	0.42
4. Employment incentives[a]	**0.03**	**0.02**	**0.01** [e]	**0.54**	**0.29**	**0.10**	**0.03**	**0.02**	**0.02**	**..**	**..**	**..**	**0.04**	**0.03**	**0.02**	**0.25**	**0.23**	**0.19**	**..**	**0.04**	**0.05**	**..**	**0.53**	**0.58**
4.1. Recruitment incentives	0.03	0.02	0.01	0.54	0.29	0.10	0.02	0.02	0.02	..	..	..	0.04	0.03	0.02	0.25	0.23	0.19	..	0.03	0.03	..	0.27	0.26
4.2. Employment maintenance incentives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	..	0.01	0.01	..	0.27	0.31
5. Supported employment and rehabilitation	**0.56**	**0.53**	**0.49**	**2.13**	**1.79**	**1.72**	**0.06**	**0.06**	**0.05**	**1.27**	**1.35**	**1.21**	**0.13**	**0.14**	**0.13**	**0.42**	**0.47**	**0.52**	**..**	**0.16**	**0.16**	**..**	**..**	**..**
5.1 Supported employment	0.44	0.44	0.41	1.19	1.19	1.18	0.02	0.02	0.02	0.65	0.73	0.68	0.10	0.12	0.11	0.32	0.39	0.44	..	0.16	0.15	..	..	..
5.2 Rehabilitation	-	-	-	-	-	-	0.03	0.03	0.03	0.62	0.62	0.53	0.03	0.03	0.02	0.09	0.08	0.07	..	-	-	..	0.01	0.01
6. Direct job creation	**0.18**	**0.15** [e]	**0.12** [e]	**0.61**	**0.48**	**0.46**	**0.01**	**-**	**-**	**..**	**..**	**..**	**0.06**	**0.07**	**0.05**	**0.26**	**0.33**	**0.31**	**..**	**0.03**	**0.02**	**..**	**0.06**	**0.05**
7. Start-up incentives	**-**	**-**	**-**	**-**	**-**	**-**	**0.02**	**0.01**	**0.01**	**..**	**..**	**..**	**-**	**-**	**-**	**0.01**	**0.02**	**0.02**	**..**	**0.03**	**0.04**	**..**	**0.02**	**0.02**
8. Out-of-work income maintenance and support[a]	**2.08** [f]	**2.01** [f]	**1.46** [f]	**9.60**	**8.74**	**6.56**	**0.54** [i]	**0.44** [i]	**0.34** [i]	**3.23**	**2.44**	**1.82**	**0.84** [m]	**0.85** [m]	**0.50** [m]	**4.79**	**4.36**	**2.87**	**..**	**0.32**	**0.27**	**..**	**2.18**	**1.84**
8.1. Full unemployment benefits	2.08 [f]	2.01 [f]	1.46 [f]	9.60	8.74	6.56	0.54 [i]	0.44 [i]	0.34 [i]	3.23	2.44	1.82	0.65	0.71	0.43	4.79	4.36	2.87	..	0.30	0.26	..	2.18	1.84
of which: Unemployment insurance	1.10	1.06	0.65	5.05	4.78	2.97	-	-	-	-	-	-	0.45	0.35	0.21	3.78	3.22	2.00	..	..	..	..	-	-
8.2, 8.3. Partial and part-time unemployment benefits	-	-	-	-	-	-	-	-	-	-	-	-	0.11	0.10	0.06	-	-	-	..	-	-	..	-	-
8.4, 8.5. Redundancy and bankrupcy compensation	-	-	-	-	-	-	-	-	-	-	-	-	0.08	0.05	0.01	-	-	-	..	0.01	0.01	..	-	-
9. Early retirement[a]	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**..**	**0.55**	**0.45**	**..**	**2.92**	**2.46**
TOTAL (1-9)	**3.48**	**3.34**	**2.68**				**0.96**	**0.83**	**0.72**				**1.62**	**1.59**	**1.08**				**..**	**1.29**	**1.18**			
Active measures (1-7)	1.40	1.33	1.22				0.42	0.39	0.38				0.78	0.74	0.58				..	0.42	0.45			
of which: Categories 1.1 plus 2-7	1.08	1.02	0.94				0.33	0.30	0.28				0.70	0.67	0.52				..	0.36	0.36			
Categories 2-7 only	0.90	0.85	0.75	4.94 [b]	4.35 [b]	4.13 [b]	0.30	0.27	0.26	2.17 [j]	2.29 [j]	2.22 [j]	0.65	0.62	0.47	2.70	2.68	2.45	..	0.36	0.36	..	2.70 [n]	2.68 [n]
Passive measures (8-9)	2.08	2.01	1.46	9.60	8.74	6.56	0.54	0.44	0.34	3.23	2.44	1.82	0.84	0.85	0.50	4.79	4.36	2.87	..	0.87	0.72	..	5.10	4.30

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook* . Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).

b) "Comprehensive reintegration/flexible reintegration" is mainly included in Category 1.1.

c) Unemployment benefits paid to participants in training are included.

d) Employer tax reductions payable for every apprentice who does not earn more than 130% of the minimum wage.

e) Wage cost subsidies component of Flexible reintegration budget for municipalities measure is allocated to Category 6 in order to improve time-series consistency.

f) Includes social assistance benefits paid to inactive individuals as well as unemployed recipients.

g) Fiscal years starting on July 1st.

h) Includes training benefits (often paid to participants in alternate training, Category 2.3) and Training Incentive Allowance which covers course fees and related expenses, but not unemployment benefits which are paid to many other participants.

i) Excludes training benefits and includes unemployment benefits paid to participants in active programmes.

j) Participant stocks for Categories 4 "Employment incentives", 6 "Direct job creation" and 7 "Start-up incentives" are not included.

k) Includes the administration costs of rehabilitation benefits.

l) Mainly rehabilitation benefits paid to participants in education in regular schools.

m) Includes rehabilitation benefits paid in between rehabilitation measures, but excludes unemployment and rehabilitation benefits paid to participants in active programmes.

n) Participants in some measures in Category 5.1 "Supported employment" are not included.

Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a] *(cont.)*

Programme categories and sub-categories	Portugal						Slovak Republic						Spain[d]						Sweden					
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force[g]			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force		
	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006	2004	2005	2006
1. PES and administration[a]	**0.14**	**0.17**	**0.16**				**..**	**..**	**..**				**0.12**	**0.13**	**0.13**				**0.24**	**0.22**	**0.23**			
of which: 1.1. Placement and related services[a]	0.03	0.04	0.03				0.01	0.06	0.09				0.03	0.03	0.04				0.09	0.08	0.08			
1.2. Benefit administration[a]	0.03 [b]	0.03 [b]	0.03 [b]				..	..	..				0.02	0.02	0.02				0.04 [h]	0.04 [h]	0.04 [h]			
2. Training	**0.29**	**0.29**	**0.25**	**0.69**	**0.92**	**0.86**	**0.01**	**0.02**	**0.01**	**0.18**	**0.17**	**0.09**	**0.15**	**0.17**	**0.16**	**0.58**	**1.22**	**1.20**	**0.32** [i]	**0.33** [i]	**0.33** [i]	**1.06**	**1.07**	**1.10**
2.1. Institutional training	0.17	0.17	0.15	0.27	0.39	0.38	0.01	0.02	0.01	0.18	0.17	0.09	0.10	0.09	0.09	0.47	0.52	0.52	0.19	0.20	0.20	0.54	0.52	0.54
2.2. Workplace training	0.03	0.04	0.04	0.14	0.16	0.17	-	-	-	-	-	-	0.01	0.06	0.06	-	0.70	0.68	-	-	-	0.01	-	0.02
2.3. Altemate training	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4. Special support for apprenticeship[a]	0.08	0.08	0.07	0.26	0.36	0.30	-	-	-	-	-	-	0.03	0.01	0.01	0.10	-	-	-	-	-	-	-	-
4. Employment incentives[a]	**0.17**	**0.16**	**0.13**	**2.21**	**1.56**	**1.41**	**0.01**	**0.03**	**0.02**	**0.22**	**0.59**	**0.49**	**0.27** [e]	**0.31** [e]	**0.33** [e]	**7.76** [e]	**11.25** [e]	**12.32** [e]	**0.41** [e]	**0.49** [e]	**0.58** [e]	**2.20** [e]	**2.45** [e]	**2.77** [e]
4.1. Recruitment incentives	0.16	0.15	0.12	2.16	1.49	1.36	0.01	0.03	0.02	0.22	0.59	0.49	0.24 [f]	0.24 [f]	0.25 [f]	7.68 [f]	10.84 [f]	10.49 [f]	0.41	0.44	0.51	2.17	2.25	2.50
4.2. Employment maintenance incentives	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.06	0.07	-	-	1.52	-	-	-	-	-	-
5. Supported employment and rehabilitation	**0.04**	**0.04**	**0.04**	**0.10**	**0.10**	**0.10**	**-**	**0.01**	**0.01**	**-**	**0.27**	**0.07**	**0.07**	**0.02**	**0.02**	**0.50**	**0.19**	**0.20**	**0.22**	**0.22**	**0.20**	**0.78**	**0.74**	**0.78**
5.1 Supported employment	-	-	-	0.01	0.01	0.01	-	0.01	0.01	-	0.27	0.07	0.06	0.02	0.02	0.50	0.19	0.20	0.20	0.19	0.17	0.61	0.56	0.56
5.2 Rehabilitation	0.04	0.04	0.04	0.09	0.09	0.09	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.02	0.03	0.18	0.19	0.22
6. Direct job creation	**0.04**	**0.03**	**0.03**	**0.43**	**0.38**	**0.38**	**0.03**	**0.06**	**0.06**	**3.78**	**4.02**	**3.92**	**0.11**	**0.09**	**0.08**	**..**	**..**	**1.03**	**-**	**-**	**-**	**-**	**-**	**-**
7. Start-up incentives	**-**	**-**	**-**	**-**	**0.11**	**0.08**	**0.02**	**0.05**	**0.05**	**0.11**	**0.43**	**0.77**	**0.04**	**0.06**	**0.08**	**..**	**..**	**0.72**	**0.03**	**0.03**	**0.03**	**0.12**	**0.12**	**0.11**
8. Out-of-work income maintenance and support[a]	**1.10**	**1.19**	**1.12**	**5.35**	**5.49**	**5.47**	**0.30** [c]	**0.17** [c]	**0.12** [c]	**2.82**	**1.46**	**3.66**	**1.46**	**1.42**	**1.39**	**6.26**	**6.20**	**6.18**	**1.29**	**1.17**	**0.96**	**7.90**	**7.64**	**6.94**
8.1. Full unemployment benefits	1.08	1.16	1.09	5.33	5.45	5.42	0.29	0.17	0.12	2.82	1.46	3.66	1.43	1.39	1.36	6.25	6.19	6.17	0.87	0.80	0.65	4.50	4.33	3.76
of which: Unemployment insurance	0.89	0.96	0.89	3.92	4.14	4.10	0.29	0.17	0.12	2.82	1.46	3.66	1.07	1.04	1.03	3.28	3.28	3.33	0.87 [j]	0.80 [j]	0.65 [j]	4.50 [j]	4.33 [j]	3.76 [j]
8.2, 8.3. Partial and part-time unemployment benefits	-	-	-	..	0.03	0.05	-	-	-	-	-	-	-	0.01	-	0.01	0.01	0.01	0.37	0.34	0.28	3.40	3.31	3.19
8.4, 8.5. Redundancy and bankrupcy compensation	0.02	0.03	0.03	-	-	-	0.01	0.01	-	-	-	-	0.03	0.02	0.03	-	-	-	0.05	0.03	0.02	-	-	-
9. Early retirement[a]	**0.05**	**0.09**	**0.15**	**0.11**	**0.22**	**0.36**	**0.04**	**0.09**	**0.22**	**0.48**	**0.62**	**1.68**	**0.03**	**0.03**	**0.04**	**0.12**	**..**	**..**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL (1-9)	**1.84**	**1.98**	**1.87**				**..**	**..**	**..**				**2.24**	**2.23**	**2.24**				**2.51**	**2.46**	**2.32**			
Active measures (1-7)	0.68	0.69	0.61				..	..	..				0.75	0.78	0.80				1.22	1.29	1.36			
of which: Categories 1.1 plus 2-7	0.58	0.55	0.49				0.08	0.23	0.23				0.66	0.68	0.71				1.07	1.15	1.22			
Categories 2-7 only	0.55	0.52	0.45	3.43	3.07	2.83	0.07	0.17	0.14	4.29	5.47	5.34	0.63	0.65	0.67	..	..	15.47	0.98	1.07	1.13	4.16	4.39	4.76
Passive measures (8-9)	1.15	1.29	1.26	5.46	5.71	5.83	0.34 [c]	0.27 [c]	0.34 [c]	3.30	2.07	5.34	1.49	1.45	1.43	6.37	6.21	6.19	1.29	1.17	0.96	7.90	7.64	6.94

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook* . Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).

b) Secretariat estimate based on the ratio of benefit administration costs to benefits paid (2.2%) for a wider range of benefits (reported in IGFSS, *Conta da Segurança Social 2005*).

c) Does not include social assistance, which is the form of income support received by the majority of registered unemployed.

d) Categories 1 to 7 include expenditure by the autonomous communities and municipalities (additional to data published by Eurostat).

e) The totals shown for Category 4 include non-zero spending on Eurostat Category 3 "Job rotation and sharing" in Finland, Germany, Italy, Spain and Sweden.

f) Includes an employer subsidy for the conversion of temporary contracts into permanent contracts, not otherwise conditional on employment status.

g) Participant stock data do not include participants in municipal programmes.

h) Administration costs of independant unemployment insurance funds.

i) Includes income support paid to participants in "Activities within counselling, guidance and placement services" but not the corresponding services. This expenditure is not allocated across sub-categories.

j) Includes "basic insurance" which is not a contribution-based benefit.

Table J. **Public expenditure and participant stocks in labour market programmes in OECD countries**[a] *(cont.)*

Programme categories and sub-categories	Switzerland						United Kingdom[d]						United States[g]			OECD unweighted average[j]					
	Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force			Public expenditure as a percentage of GDP			Public expenditure as a percentage of GDP			Participant stocks as a percentage of the labour force		
	2004	2005	2006	2004	2005	2006	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004-05	2005-06	2006-07	2004	2005	2006	2004	2005	2006
1. PES and administration[a]	**0.13**	**0.13**	**0.13**				**0.40**	**0.39**	**0.37**				**0.03**	**0.03**	**0.03**	**0.17**	**0.17**	**0.16**			
of which: 1.1. Placement and related services[a]	..	..	..				0.22	0.23	0.14				0.01	0.01	0.01	0.06	0.06	0.06			
1.2. Benefit administration[a]	0.04	0.04	0.04				0.09 [e]	0.07 [e]	0.06 [e]				0.02 [h]	0.02 [h]	0.02 [h]	0.05	0.05	0.05			
2. Training	**0.30**	**0.28**	**0.23**	**0.94**	**0.91**	**0.78**	**0.03**	**0.03**	**0.02**	**0.17**	**0.15**	**0.13**	**0.05**	**0.05**	**0.05**	**0.18**	**0.17**	**0.17**	**1.17**	**1.18**	**1.24**
2.1. Institutional training	0.29	0.27	0.22	0.91	0.88	0.75	0.01	0.01	0.02	0.08	0.09	0.12	0.02	0.02	0.02	0.14	0.13	0.13	0.75	0.74	0.77
2.2. Workplace training	0.01	0.01	0.01	0.03	0.04	0.04	-	-	-	-	-	-	-	-	-	0.01	0.01	0.01	0.14	0.16	0.15
2.3. Alternate training	-	-	-	-	-	-	0.02	0.01	-	0.09	0.06	-	0.03	0.02	0.02	0.01	0.01	0.01	0.09	0.07	0.06
2.4. Special support for apprenticeship[a]	-	-	-	-	-	-	- [f]	- [f]	- [f]	- [f]	- [f]	- [f]	-	-	-	0.02	0.02	0.02	0.20	0.20	0.22
4. Employment incentives[a]	**0.08**	**0.08**	**0.08**	**0.66**	**0.68**	**0.67**	**0.01**	**0.01**	**0.01**	**0.08**	**0.11**	**0.10**	**-**	**-**	**-**	**0.10**	**0.11**	**0.10**	**1.38**	**1.51**	**1.55**
4.1. Recruitment incentives	0.08 [b]	0.08 [b]	0.08 [b]	0.66	0.68	0.67	0.01	0.01	0.01	0.08	0.11	0.10	-	-	-	0.09	0.09	0.09	1.19	1.28	1.24
4.2. Employment maintenance incentives	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.01	0.05	0.05	0.13
5. Supported employment and rehabilitation	**0.25**	**0.24**	**0.23**	**0.84**	**0.87**	**0.87**	**0.01**	**0.01**	**0.01**	**0.08**	**0.02**	**0.02**	**0.03**	**0.03**	**0.03**	**0.09**	**0.09**	**0.08**	**0.58**	**0.56**	**0.54**
5.1 Supported employment	0.25	0.24	0.23	0.84	0.87	0.87	0.01	0.01	0.01	0.02	0.02	0.02	-	-	-	0.06	0.06	0.06	0.35	0.37	0.38
5.2 Rehabilitation	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.03	0.03	0.02	0.02	0.02	0.12	0.12	0.10
6. Direct job creation	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.02**	**0.02**	**0.03**	**0.01**	**0.01**	**0.01**	**0.07**	**0.06**	**0.06**	**0.65**	**0.64**	**0.66**
7. Start-up incentives	**0.01**	**0.01**	**0.01**	**0.02**	**0.02**	**0.02**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.02**	**0.01**	**0.02**	**0.10**	**0.13**	**0.17**
8. Out-of-work income maintenance and support[a]	**1.02**	**0.91**	**0.75**	**3.76**	**3.62**	**3.17**	**0.19**	**0.19**	**0.19**	**2.88**	**2.98**	**3.19**	**0.27**	**0.24**	**0.24**	**0.87**	**0.85**	**0.75**	**6.01**	**5.98**	**5.73**
8.1. Full unemployment benefits	0.98 [c]	0.87 [c]	0.73 [c]	3.55	3.39	3.04	0.19	0.19	0.19	2.88	2.98	3.19	0.27	0.24	0.24	0.81	0.79	0.71	5.58	5.30	5.04
of which: Unemployment insurance	0.93	0.83	0.68	3.55	3.39	3.04	..	..	..	..	..	..	0.26	0.24	0.24	0.59	0.57	0.51	3.81	3.56	3.36
8.2, 8.3. Partial and part-time unemployment benefits	0.03	0.03	0.02	0.19	0.21	0.11	-	-	-	-	-	-	-	-	-	0.04	0.03	0.03	0.43	0.43	0.40
8.4, 8.5. Redundancy and bankrupcy compensation	0.01	-	-	0.02	0.02	0.02	-	-	-	-	-	-	-	-	-	0.02	0.02	0.02	0.00	0.00	0.00
9. Early retirement[a]	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.11**	**0.11**	**0.11**	**0.68**	**0.70**	**0.71**
TOTAL (1-9)	**1.79**	**1.66**	**1.42**				**0.65**	**0.64**	**0.61**				**0.41**	**0.38**	**0.38**	**1.68**	**1.64**	**1.52**			
Active measures (1-7)	0.77	0.75	0.67				0.46	0.45	0.42				0.15 [i]	0.14 [i]	0.14 [i]	0.66	0.64	0.62			
of which: Categories 1.1 plus 2-7	..	..	..				0.27	0.28	0.19				0.12 [i]	0.12 [i]	0.12 [i]	0.51	0.50	0.48			
Categories 2-7 only	0.64	0.62	0.54	2.46	2.48	2.33	0.06	0.06	0.05	0.35	0.30	0.28	0.11 [i]	0.11 [i]	0.11 [i]	0.46	0.44	0.43	3.46	3.51	4.09
Passive measures (8-9)	1.02	0.91	0.75	3.76	3.62	3.17	0.19	0.19	0.19	2.88	2.98	3.19	0.27	0.24	0.24	0.98	0.96	0.87	6.69	6.64	6.41

a) See the introductory note about scope and comparability at *www.oecd.org/employment/outlook* . Sub-categories 1.1 and 1.2 refer only to separately-identified spending. Active and passive participant stocks should not be added (some people appear in both).

b) Mainly the "intermediate earnings" programme, which resembles partial unemployment benefits paid subject to an earnings taper.

c) Excludes unemployment benefits paid to participants in active programmes.

d) Coverage of expenditure and participants in Northern Ireland is incomplete. Fiscal years starting on April 1st.

e) Includes the administration of benefits (JSA) and other benefits for persons of working age (incapacity benefit, income support and certain supplementary benefits), although only JSA is included in Category 8.

f) Previously published data included Work-based training for people not continuing in full-time education at age 16, not necessarily unemployed. This measure is now treated as being out of scope.

g) Fiscal years starting on October 1st.

h) Mainly costs of running unemployment insurance offices. Also includes various national activities such as information, research and evaluation.

i) Includes TANF work-related activities (estimated as 0.02% of GDP). Other TANF expenditure (0.20% of GDP) on child care, transport, family and social work, etc., administration and cash benefits is not included.

j) Estimates. For Denmark 2004 data are used for 2005 and 2006, for Greece 2005 data are used for 2006 and for Poland 2005 data are used for 2004. For some years and countries, expenditure by sub-categories is estimated by applying the shares in the corresponding category calculated for countries with non-missing data. The coverage of sub-categories Placement and related services (1.1) and Benefit administration (1.2) is erratic hence only non-missing data are taken into account. Participant data are average values for countries with non-missing data for the particular sub-category, category or total.

Source: For EU countries and Norway, Eurostat (2008), *Labour Market Policy: 2008 edition* and detailed underlying data supplied to OECD by Eurostat with certain Secretariat adjustments. For other countries: OECD database on labour market programmes.

StatLink http://dx.doi.org/10.1787/350503111000

OECD publications on Employment and related topics

The Reassessed OECD Jobs Strategy: a major study of the factors underlying the deterioration of labour market performance. The *2006 edition of the OECD Employment Outlook* provides an overall reassessment of the "OECD Jobs Strategy". To find out more about it, consult *www.oecd.org/els/employment/strategy*.

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www.oecd.org/els/employment/outlook

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