

Chapter 5

And the twain shall meet: cross-market effects of labour and product market policies

Best-practice policies in the labour and product markets are much researched topics, but relatively little attention has been paid to the *cross-market* effects of these policies, that is, to the influence of product market policies on outcomes in the labour market and *vice versa*. This chapter analyses cross-market policy effects and assesses their relevance for improving labour market policies and outcomes. Product market regulations limiting competition are shown to have important effects on labour market performance. First, anti-competitive regulation appears to lower overall employment, with the product market regulatory environment accounting for up to 3 percentage points of deviations of the non-agricultural employment rate from the OECD average for some countries. Second, industry wage premia increase as product market competition is reduced, except that wage premia are somewhat lower in the most regulated, non-manufacturing industries (*e.g.* public-owned utilities). Third, there is some evidence that product market deregulation may reduce job security for workers in the most regulated industries, but labour market policies (*e.g.* EPL and unemployment benefit systems) appear to be more important for determining the level of employment security. No empirical support is found for concerns that product market liberalisation could result in a permanent increase in earnings inequality. The chapter also demonstrates that labour market policies have important implications for product market performance. In particular, EPL and wage bargaining arrangements affect the intensity of innovation activity in the private business sector. Strict EPL appears to reduce R&D intensity in countries where industrial relation systems are relatively decentralised, but to encourage R&D in high-tech industries of countries with relatively centralised/co-ordinated wage bargaining. In sum, the chapter's empirical analysis suggests that cross-market effects are important and ought to be factored into policy choices.

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Introduction

Labour market performance, in terms of employment and unemployment outcomes, has varied widely across OECD countries in recent decades (OECD, 1994a, 1999b), as have the levels and growth rates of GDP and productivity (OECD, 2000a). A broad range of policies and institutional arrangements are thought to influence these differences in labour and product market performance (OECD, 2000b). Accordingly, the OECD has undertaken extensive research and policy analysis on best-practice policies in both the labour and product markets, notably, to support the *OECD Jobs Strategy* (OECD, 1994a, 1994b, 1999b; Martin, 2000) and the OECD Project on Regulatory Reform (OECD, 1997b, 1999a, 2001a; Gonenc *et al.*, 2000). However, relatively little attention has been paid to the *cross-market* effects of these policies, that is, to the influence of product market policies on outcomes in labour markets and *vice versa*. The aim of this chapter is to identify some of the channels through which cross-market policy effects come about and assess their relevance for improving labour market policies and outcomes.¹

The main focus of the chapter's analysis is on the implications of the vigour of product market competition for labour market performance. The implications of product market regulations for overall employment, industry wage premia, employment security and earnings inequality are analysed in Section 1. Section 2 then illustrates the potential effects of labour market policies on product market performance, through an analysis of the linkages between labour market arrangements and the innovation potential of the business sector. The empirical strategy adopted to study cross-market policy effects is to bring together the large set of indicators of labour market policies and institutions and product market regulations that were assembled in the context of the *OECD Jobs Strategy* (OECD, 1999b) and the OECD Regulatory Reform Project (OECD, 1997b; OECD, 1999a). Interactions between the labour and product markets are then analysed by means of reduced-form regression models, each of which relates a measure of labour or product market performance to various indicators of regulations and institutions in the two markets. These indicators cover mainly *i*) industry-specific and economy-wide product market regulations that restrict market mechanisms, including international trade;² *ii*) hiring and firing restrictions (EPL); *iii*) tax and benefit policies (tax wedges, unemployment insurance); and *iv*) industrial relations arrangements (bargaining co-ordination and centralisation, unionisation, administrative extension of collective agreements).

This analysis is exploratory in nature. The interactions between labour and product markets are numerous and complex, and estimated coefficients for reduced-form regression equations may not provide reliable estimates of the causal impact of policies on economic performance. Three sources of difficulty in identifying policy effects deserve particular emphasis: *i*) many potentially important factors have not been included among the regressors and the included variables may, in part, be proxying for these omitted factors (*omitted-variable bias*); *ii*) *multicollinearity* is often high among different policy variables³ making it difficult to estimate their separate effects; and *iii*) policy settings may be, in part, a response to economic performance (*endogeneity bias*).⁴ These potential difficulties in identifying policy effects may be exacerbated by gaps in the data available, which mean that it is never possible to estimate regression coefficients on the bases of variation across all three of the relevant dimensions, namely, across countries, sectors and

time.⁵ The scope of the analysis in this chapter is also limited in two important ways. First, the analyses deal exclusively with *long-run* policy effects and do not address the important issue of the adjustment costs occasioned by regulatory reform. Second, no attempt is made to investigate many potentially important interactions between labour and product market arrangements, nor interactions between them and other markets (*e.g.* capital markets⁶) or with macro policies.

Main findings

- Even controlling for a number of policy and institutional factors affecting the labour market, anti-competitive product market regulations (*e.g.* establishing entry barriers in potentially competitive markets or restricting price competition) were found to have significant negative effects on the non-agricultural employment rates of OECD countries. The empirical results suggest that, in some countries, the product market regulatory environment may account for up to 3 percentage points of deviations of the employment rate from the OECD average.
- The estimated wage premia in manufacturing industries were found to increase with weaker product market competition and product market regulations that curb competitive pressures or establish barriers to entry (*e.g.* tariff and non-tariff barriers or licensing restrictions). However, in non-manufacturing industries, the relationship between wage premia and regulation appears to be “hump-shaped”, with premia declining where public ownership and stringent regulation are most developed (such as in utilities). Such results could imply that regulation is successful in preventing rents and rent-sharing, but are more likely to reflect regulatory failures leading to low-productivity traps and/or the existence of non-pecuniary rents.
- Labour market policies (*e.g.* concerning EPL and unemployment benefit systems) appear to be more important for employment security than product regulations. The net effect of product market regulations on overall employment security could not be clearly identified, although it would seem that increasing competition may lead to less security in the most regulated industries. In particular, there is some evidence that anti-competitive product market regulations may tend to reduce the incidence of job losses that result in long-term unemployment. However, these considerations related to insecurity among the employed need to be seen jointly with the evidence concerning the employment impacts of product market regulations.
- No empirical support was found for concerns that product market liberalisation could result in a permanent increase in earnings inequality. However, this finding is especially preliminary and, even if confirmed by later research, would not imply that there are not significant winners and losers from deregulation.
- The evidence also points to significant effects of employment protection legislation and industrial relations regimes (*e.g.* bargaining arrangements, business associations, business codes of conduct, etc.) on innovation activity in manufacturing. However, EPL, the degree of co-ordination in wage bargaining and the technology level of the industry concerned interact in complex ways to influence the incentives for engaging in R&D. Strict employment protection policies appear to reduce R&D intensity in countries where industrial relation systems are relatively decentralised,

but may encourage R&D in high-tech industries of countries with relatively centralised/co-ordinated industrial relations systems. These differences may reflect differences in the innovation process across industries as well as the role of industrial relations arrangements in affecting how firms satisfy the need for skilled labour to cope with innovation.

- There is some evidence of a systematic cross-country relationship between differences in labour and product market regulations and differences in industry specialisation, with countries having stricter regulations specialising in industries with relatively lower R&D intensity and wages.

1. Effects of product market regulations on labour market outcomes

By affecting actual and/or potential competition, product market arrangements may have significant implications for the labour market. There are multiple channels through which product market regulations and regulatory reform can affect labour market performance (see Box 5.1). This section looks at some of these market interactions, controlling for cross-country and (when relevant and possible) cross-industry differences in labour market arrangements. The focus is on the effects of anti-competitive regulations (*e.g.* those that create product market rents), which are proxied by a detailed set of economy-wide and industry-specific regulatory indicators, having both a cross-country and time-series dimension (see Annex 5.A). In the following sections, these indicators, and other related measures of product market competition, are used to analyse the effects of product market regulations on the evolution of overall employment rates during the past two decades, inter-industry wage differentials, employment insecurity and earnings inequality.

A. Employment

Although the primary implications of stronger product market competition are to increase output and productivity, competition may also affect aggregate employment in a variety of ways (see Box 5.1). Economic analysis suggests that, in most cases, an increase in employment is the expected outcome (Blanchard and Giavazzi, 2001). However, the effects on employment will depend on the particular policies that brought about an increase in product market competition as well as on the underlying labour market policies and institutions.⁷ Moreover, the effects on employment are likely to be different in the short and long run, when firm turnover and intersectoral reallocations of labour have fully unfolded.⁸ Therefore, the effects of competition on employment are ultimately an empirical issue.

This section analyses the long-run effects of product market competition on employment rates in 20 OECD countries over the 1982-98 period.⁹ Differences in product market competition across countries and over time are proxied by differences or changes in the friendliness of product market regulations to market mechanisms. Focusing on product market regulation instead of other proxies for competition (such as concentration rates, mark-ups or business surveys) has the advantage of relating employment performance directly to the policy factors that affect market competition, once other structural factors (such as country-specific technological characteristics) have been accounted for. Evidence on the implications of cross-country differences in product market regulations for aggregate employment was produced by Boeri *et al.* (2000) and Nicoletti *et al.* (2001b).

Box 5.1. **Product market reform and labour market performance: transmission channels**

Competitive pressures among existing firms. Product market deregulation increases competitive pressures among incumbent firms, raising the elasticity of product demand. At the firm level, for given wages, higher demand elasticity raises output and labour demand. At the aggregate level, if the number of firms remains constant, this results in both higher real wages and higher employment, since aggregate labour demand increases (Nickell, 1999). However, once firm turnover is accounted for, these effects depend on the impact of the number of firms. Under certain conditions, a decrease (increase) in the number of firms could offset (reinforce) the initial effects of product market deregulation on the elasticity of demand, real wages and employment (Blanchard and Giavazzi, 2001).

New entry. Product market deregulation lowers entry costs, encouraging new entry. In general this is likely to lead to a permanent increase in aggregate demand elasticity, real wages and employment (Blanchard and Giavazzi, 2001). The effect on real wages, however, depends crucially on the size of initial rents and the way they are shared between firms and workers (*i.e.* on the relative bargaining power of workers) (Spector, 2000). Furthermore, in decentralised labour markets, the employment effects of increased product market competition may be hump-shaped because, as competitive pressures increase, employment volatility may rise (firm-level adjustments to shocks relying increasingly on changing quantities, rather than mark-ups), possibly leading to higher equilibrium efficiency wages and lower aggregate employment, as well as to increased employment insecurity (Amable and Gatti, 2002).

Labour and product market rents. Heightened competition tends to dissipate rents deriving from market power, thereby reducing the scope for rent-seeking behaviour by workers or employers. Where rents were shared with workers in the form of wage premia, these phenomena tend to disappear having negative effects on wages but potentially positive effects on employment. The elimination of non-pecuniary rents (*e.g.* labour hoarding or managerial slack) may lead to lay-offs in the short-run, but effects on employment are likely to be positive in the long-run when new entry and job reallocation have taken place. Lower wage premia may also reduce unemployment persistence by increasing the sensitivity of wages to labour market slack (Nickell *et al.*, 1994) and lower frictional unemployment by reducing “wait unemployment” (Kletzer, 1992) and “queuing” phenomena, due to lower effective replacement rates (measured against market wages). Lower wage premia may also alter the distribution of earnings, potentially affecting the level of inequality.

Entrepreneurship and industry composition. As barriers to entry are lowered, the supply of a particular type of capital, entrepreneurial ability, may increase. The level of employment may be positively affected by the increased rate of enterprise creation and survival (Krueger and Pischke, 1998; OECD, 1998*a*; Pissarides, 2002), as may the rate of productivity growth (OECD, 2001*b*). Similarly, barriers to entry and other forms of regulation may alter the industry composition of employment, since these restrictions tend to be more stringent in some industries than in others (Bertrand and Kramarz, 2001).

Drawing on Nicoletti and Scarpetta (2002), this section updates these analyses and takes a further step by looking at the effects of product market *regulatory reform*. To this end, information on regulatory developments in seven energy and service industries was used

Box 5.2. Describing regulatory reform in OECD countries

Past developments in product market regulation are measured using data on regulations and market conditions in seven energy and service industries over the 1970-98 period: gas, electricity, post, telecommunications (mobile and fixed services), passenger air transport, railways (passenger and freight services) and road freight. The coverage of regulatory areas varies across industries (see table below). While regulatory barriers to entry are reported for all industries, the coverage of other regulatory dimensions is tailored to each industry, reflecting both industry characteristics and data availability. Market structure is documented for gas, telecommunications and railways to provide information about the actual enforcement of regulatory provisions.

Countries are classified in each period along a 0-6 scale from least to most restrictive on each of the regulatory and market dimensions covered in the analysis. Industry-specific time-series indicators of regulatory and market environment were created by taking a simple average of the regulatory and market features covered in each industry and the aggregate time-series indicator used in regression analysis was obtained by averaging over all industries in each country. The resulting indicators can be interpreted as a proxy for the overall regulatory policies followed by OECD countries over the sample period. (Details on sources and methodology are provided in Annex 5.A.)

Sectoral composition of aggregate time-series indicators of regulatory reform

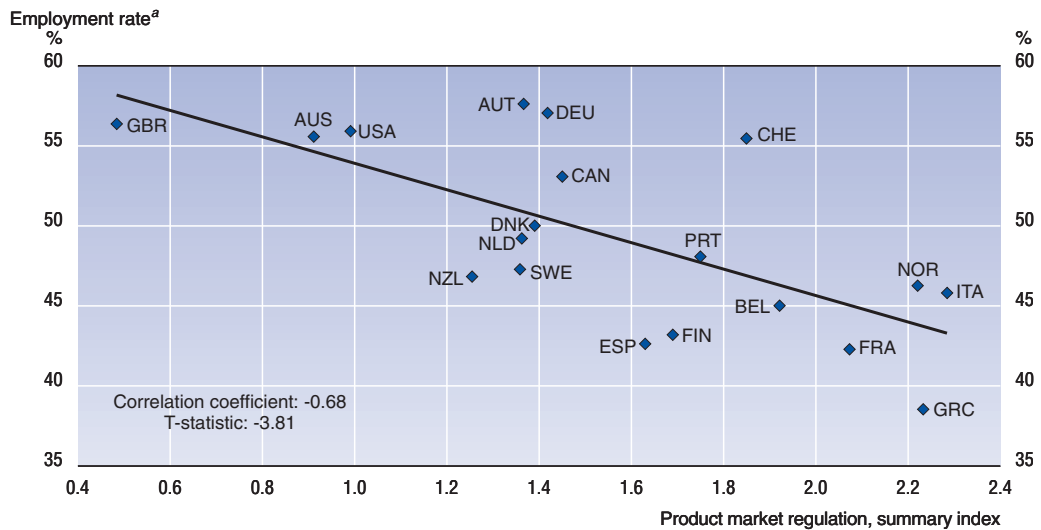
	Entry	Public ownership	Market structure	Vertical integration	Price controls
Airlines	X	X			
Railways	X	X	X	X	
Road	X				X
Gas	X	X	X	X	
Electricity	X	X		X	
Post	X	X			
Telecommunications	X	X	X		

to extend the (static) summary indicators of economy-wide regulation presented in OECD (1999a) into a time-varying regulatory indicator, which was constructed for each country in the sample (see Box 5.2).

Over the past two decades, regulatory reform (as measured by both the absolute variation and the percentage decline in the regulatory indicator) was deepest in Australia, New Zealand, the United Kingdom and the United States, while policies changed relatively little in southern European countries, Ireland and Switzerland (Table 5.A.3). Three main country groupings can be identified looking at the evolution of regulatory indicators: the United States, which began regulatory reform at the turn of the 1980s; Canada, New Zealand and the United Kingdom, which began reforming during the 1980s; and most other countries, which changed regulatory policies over the 1990s.

Chart 5.1 relates the more comprehensive, cross-sectional indicator of product market regulation to non-agricultural business-sector employment rates in 1998.¹⁰ There is strong negative cross-country relationship between product market regulation and employment

Chart 5.1. **Employment rates in non-agricultural business sector and product market regulations, 1998**



a) Non-agricultural business sector.

Source: Nicoletti and Scarpetta (2002).

rates, which is suggestive of a linkage between greater competition and higher employment.¹¹ In order to examine this association more closely and to take account of changes in regulation over time, a reduced-form, panel regression model of non-agricultural employment – based on the standard Layard-Nickell-Jackman (1991) framework – was estimated. Employment rates are related to the indicator of the stringency of product market regulations, controlling for a number of other policy and institutional factors that have been identified in the literature as contributing to the equilibrium level of employment (OECD, 1994a, 1994b, 1999b; Nickell and Layard, 1999). Here, only those for which data exist for a significant number of countries over time were considered (see Annex 5.A for data definitions and sources): *i*) an indicator of the average (gross) unemployment benefit replacement rate (average of different duration and family conditions of the unemployed person); *ii*) the system of wage bargaining including the union density (the proportion of workers who are member of trade unions) and the form of bargaining; *iii*) the level of taxes on the use of labour;¹² and *iv*) a summary indicator of the strictness of EPL. The output gap was also included to control for cross-country asymmetries and time-series changes in business-cycle conditions. Finally, all equations include a control for the public employment rate and country-specific effects that capture the influence of omitted variables on cross-country differences in employment rates.

Table 5.1 summarises the estimation results. As for the effects of labour market policies and institutions, the findings are only partly consistent with those of, inter alia, Nickell and Layard (1999), Elmeskov *et al.* (1998), Nicoletti *et al.* (2001b) and OECD (1999b), most likely in part due to differences in country coverage and sample period and the choice of the dependent variable, as well as data revisions. Furthermore, the significance of individual policy and institutional variables often depends on model specification. The overall evidence concerning the impact of income support systems, tax wedges

Table 5.1. **Labour and product market determinants of the non-agricultural employment rate, 1982-1998**

OLS regressions with country fixed effects

	No control for product market regulation		Controlling for product market regulation		
Labour market and business cycle					
Output gap	0.50** (13.05)	0.52** (13.47)	0.49** (12.90)	0.50** (13.33)	0.47** (12.86)
Public employment rate	0.93** (8.01)	0.78** (6.29)	1.01** (8.64)	0.86** (6.97)	1.03** (9.15)
Tax wedge	-0.03 (-0.90)	-0.01 (-0.17)	-0.14** (-2.95)	-0.12* (-2.52)	-0.16** (-3.52)
Union density	-0.22** (-11.38)	-0.22** (-11.30)	-0.20** (-9.29)	-0.19** (-9.18)	-0.20** (-9.20)
High corporatism	0.68 (1.48)	0.66 (1.41)	0.78 (1.70)	0.71 (1.54)	0.27 (0.59)
Medium corporatism	-0.83 (-1.86)	-0.60 (-1.34)	-0.32 (-0.68)	-0.04 (-0.09)	-0.68 (-1.51)
Unemployment benefit	-0.07* (-2.41)	-0.05 (-1.58)	-0.06* (-2.10)	-0.04 (-1.47)	-0.06* (-2.33)
Employment protection legislation (EPL)	-2.22** (-5.42)		-1.33** (-2.80)		-1.92** (-4.12)
EPL x low corporatism ^a		-0.93 (-0.68)		-0.85 (-0.64)	
EPL x medium corporatism ^a		-4.08** (-5.89)		-3.26** (-4.55)	
EPL x high corporatism ^a		-1.13* (-2.11)		0.06 (0.10)	
Product market regulation (PMR)					
PMR global index			-0.70** (-3.56)	-0.76** (-3.86)	
PMR x low corporatism ^a					-2.25** (-6.84)
PMR x medium corporatism ^a					-0.52* (-2.13)
PMR x high corporatism ^a					-0.16 (-0.68)
F-test on fixed effects	196	172	68.8	59.7	65.9
Observations	335	335	335	335	335
Countries	20	20	20	20	20

*, ** denote significance at the 5% and 1% level, respectively. T-statistics are in parentheses. All equations include a constant.

a) Corporatism is a composite measure of centralisation and co-ordination in wage bargaining.

Source: Nicoletti and Scarpetta (2002).

and bargaining systems on employment rates is somewhat weaker than in most previous studies, while the estimated effect of unionisation is stronger. In line with some previous studies, the regression results point to a significant and negative impact of EPL on employment rates, although the impact appears to be limited to countries with an intermediate degree of centralisation/co-ordination of wage bargaining (*i.e.* where sectoral wage bargaining is predominant without co-ordination).¹³

Turning to product-labour market interactions (Table 5.1, columns 3-5), anti-competitive product market regulations are estimated to have a negative and highly significant impact on the employment rate. The significance and the size of the coefficient estimates of the other variables are little affected by the inclusion of the time-series indicator of regulatory reform, with two main exceptions: the coefficient of EPL, whose size is halved relative to results in the basic specification excluding product market regulation; and the coefficient on the tax wedge which is now statistically significant. This points to the importance of properly specifying the equation due to important interactions between the different

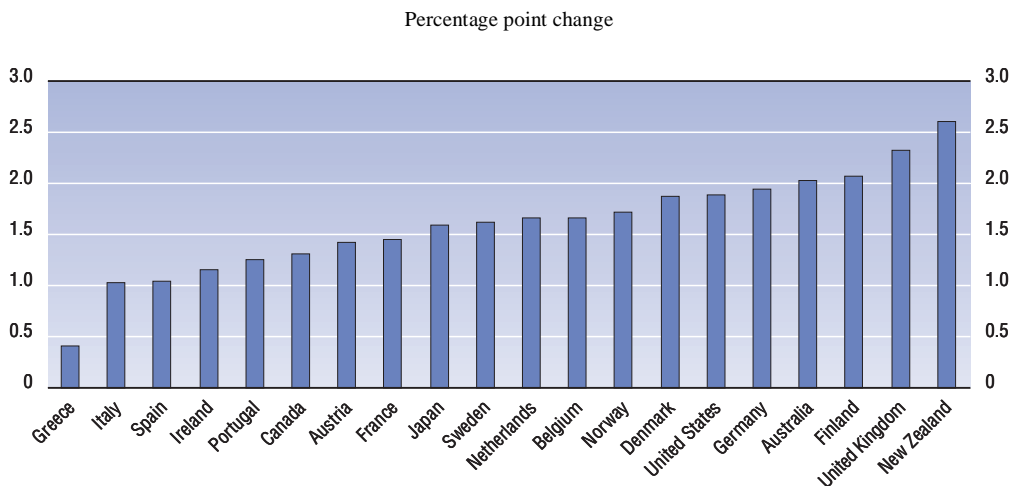
explanatory factors. Finally, it is noteworthy that product market regulations curbing competition appear to be less harmful for employment in situations characterised by corporatist labour market regimes, where product market rigidities may be partially compensated by co-ordination/centralisation of bargaining mechanisms (*e.g.* by reducing the extraction of rents in wage premia).

Using these regression coefficients to decompose cross-country differences in employment rates, it is found that differences in product market regulations account for 7% of the deviation in employment rates in the non-agricultural business-sector from the mean of OECD countries (see Nicoletti and Scarpetta, 2002). To put this into perspective, differences in the tax wedge account for about 14% of that deviation and the combined impact of all labour market policies is substantially larger than that of product market regulation in most countries. However, the effect of product market regulations appears to be more pronounced in some countries. For instance, in Italy, where on average employment rates were 5% smaller than the mean of OECD countries, anti-competitive product market regulations explain about one third of this gap.¹⁴ Conversely, in the United States and the United Kingdom, low levels of product market regulation account for about one fourth of the better than average employment rate performance (respectively 10 and 7 percentage points greater than the mean of the OECD countries).

Conclusions on employment

On balance, the regression results suggest that product market competition has beneficial effects for employment, at least in the long run. Indeed, regulatory reforms appear to have played a significant role in increasing employment in the OECD area over the past two decades (Chart 5.2). This is notably the case of countries where pro-competition

Chart 5.2. **Contribution of product market liberalisation to changes in the employment rate,^a 1978-1998**



a) The figure reports the estimated impact on the employment rate of the non-agricultural business sector of pro-competitive regulatory reform in 7 non-manufacturing industries (gas, electricity, post, telecommunications, passenger air transport, railways and road freight). Depending on the industry, changes in the following dimensions have been considered: barriers to entry, public ownership, market structure, vertical integration and price controls.

Source: OECD (2001d).

policy developments have been particularly extensive. Thus, product market reforms in New Zealand and the United Kingdom are estimated to have added around 2½ percentage points to their employment rate in the non-agricultural business sector over the 1982-98 period.¹⁵ On the other hand, countries that have been more hesitant in strengthening the role of market forces have experienced correspondingly smaller regulatory-reform-induced gains in employment, with Greece, Italy and Spain only adding around ½ to 1 percentage point to their employment rate via such reforms. Despite these sizeable effects, it should be emphasised that labour market policies and institutions appear to be even more important determinants of employment rates than is product market regulation. Accordingly, regulatory reforms in *both* the labour and product markets appear to be needed to raise significantly employment rates in many OECD countries.

B. Industry wage premia

There is a large amount of evidence pointing to the existence of significant inter-industry wage differentials in OECD countries (see Krueger and Summers, 1988; Gittleman and Wolff, 1993; OECD, 1996*a*, and the references therein; Haisken-DeNew and Schmidt, 1999). These partly reflect differences in worker characteristics (age, gender, education, etc.), working conditions (location, health hazards, etc.), and the characteristics of firms (technology, size, etc.), but they can also reflect differences in competitive pressures and employee bargaining power across countries and industries, which result in different degrees of rent sharing. Therefore, studying the linkage between anti-competitive product market regulations and wage premia is important to understand the implications of regulatory policies.

Empirical evidence on the influence of product market regulation on inter-industry wage differentials is scant, especially at the cross-country level. A few studies have analysed the effects of product market competition on wage premia in single countries or in specific regulated industries. In manufacturing, market power is found to be associated with higher premia (*e.g.* Nickell *et al.*, 1994, for the United Kingdom). However, results for non-manufacturing regulated industries are mixed: while de-regulation is often found to lead to decreases in average earnings (Peoples, 1998), in some cases regulation is found to be associated with lower pay levels and de-regulation is found to lead to either no or positive effects on wage premia (see *e.g.* Hendricks, 1977, 1994, for the United States). Other studies looked at the effects of trade openness on manufacturing wage premia for single countries (*e.g.* Gaston and Trefler, 1994, 1995, and Pizer, 2000, for the United States) or across countries (*e.g.* Oliveira-Martins, 1993). OECD (1996*a*) is the only comprehensive study to date covering cross-country, cross-industry and time-series dimensions. However, that study focused on the effects of product market competition, rather than regulation, on relative wages.¹⁶

This section presents a cross-industry and cross-country empirical analysis of the implications of product market regulations for wage premia.¹⁷ The analysis is cross-sectional and, therefore, is aimed at checking whether there is evidence that labour market rents are relatively high where regulation is most restrictive of competition. To this end, both the cross-country and cross-industry variations in regulations are exploited. It should be stressed at the outset that the analysis cannot directly account for non-pecuniary rents, such as labour hoarding or low work effort, which appear to be important in highly regulated industries, but for which adequate measures are lacking.

The empirical strategy follows closely the two-step approach taken in OECD (1996a).¹⁸ First, wage premia are estimated, country by country, regressing wages on industry dummies and a set of observable characteristics of workers in each industry. These estimates are based on detailed data on hourly wages earned by different categories of workers, distinguished by type of contract (full-time or part-time), age, sex and educational levels. Second, the estimated wage premia are regressed on a set of industry and/or country-specific explanatory variables pooling together countries and industries. Second-step estimates explicitly account for the influence of labour and product market policies and institutions on wage premia. The analysis focuses on a single year (in or around 1996) and the data cover 11 OECD countries (10 EU countries and the United States) and 41 two-digit industries in both manufacturing and non-manufacturing sectors, where the variability of product market conditions is largest.

The estimated industry wage premia are jointly significant at conventional levels and their individual standard errors are generally low and broadly uniform across industries and countries.¹⁹ Consistent with previous findings (Gittleman and Wolff, 1993; OECD, 1996a), the cross-industry structure of wage premia is remarkably similar across countries: *i*) the highest premia are generally found in the manufacturing of tobacco and petroleum products, in utilities (gas and electricity), in the supply of financial and computer-related services and in air transport; *ii*) the lowest premia are found in the manufacturing of apparel and leather products, in retail trade and, especially, in hotels and restaurants; and *iii*) the inter-industry dispersion of wage premia is substantial in all countries, with wage dispersion having the same magnitude in manufacturing and non-manufacturing industries, separately. The estimated wage premia may reflect both efficiency wages and pure rent sharing deriving from workers' bargaining power in the presence of product market rents.²⁰ However, only the pure rent element can be expected to fall with product market competition.

Second-step regressions relate the estimated wage premia to two sets of variables: *i*) controls for firm heterogeneity; and *ii*) indicators of product market competition and workers' bargaining power, reflecting the overall size of the rents earned by firms operating in imperfectly competitive markets and the ability of workers to capture part of those rents. Industry-specific controls for firm heterogeneity include average firm size, R&D intensity, export intensities and occupational composition of the workforce (which has not been fully accounted for in first-step regressions), as well as industry effects.²¹ Controls for competitive pressures include industry-specific indicators of product market regulation, entry rates and import penetration rates. Industry-specific union densities control for the bargaining power of workers. Given the differences between manufacturing and non-manufacturing industries in data availability, the characteristics of firms and market environments (for instance in terms of trade openness and industry regulation), the analysis of the determinants of wage premia was performed separately for these two sets of industries. In most respects, the estimation equations were similar, but the measures of product market regulation were substantially different: product market regulation was proxied by tariff and non-tariff barriers in manufacturing, but by a summary index of domestic product market regulation in non-manufacturing (see Annex 5.A).

Table 5.2 summarises the results of second-step panel regressions for manufacturing and non-manufacturing industries. Several conclusions can be drawn from the regression:

- *Product market regulations that limit competition, including trade barriers, increase wage premia.* In the models for manufacturing industries, both tariff and non-tariff barriers tend to push up wage differentials, perhaps reflecting the

Table 5.2. **Effects of policies and institutions on wage premia**

Results of panel regressions

Dependent variable: Estimated hourly wage premia for full-time workers

Method	Manufacturing sector		Non-manufacturing sector	
	Industry fixed effects	Industry random effects	Industry fixed effects	Industry random effects
Tariff barriers	0.33* (2.51)	0.19** (3.19)		
Non-tariff barriers	0.12* (2.43)	-0.01 (-0.52)		
Product market regulation			0.29* (2.37)	0.20* (2.14)
Non-linear effect of regulation ^a			-0.63** (-3.64)	-0.55** (-3.01)
Import penetration rate ^b	-0.03* (2.48)	-0.03** (-3.41)		
Export intensity ^b	0.02 (1.69)	0.003 (0.32)		
Union density ^b			0.03 (1.52)	0.03 (1.95)
Union density x average share of unskilled workers ^c	0.10** (5.23)	0.11** (5.37)		
Size ^b	0.05** (3.67)	0.06** (5.80)		
R&D ^b	0.002 (0.33)			
Average entry rate		-1.9** (-3.11)		-0.02** (-4.30)
Average skill ^b		0.19** (10.90)		
Average size ^b				0.10** (7.88)
Industry dummies	Yes	No	Yes	No
Country dummies	Yes	Yes	Yes	Yes
RESET	2.31		1.67	
R-squared	0.87		0.80	
F-test on industry dummies	14.8**		14.9**	
Cook-Weisberg	0.29		1.81	
Breusch-Pagan		60.7**		21.0**
Hausman		92.6**		1.07
Observations	206	206	84	84
Countries	11	11	10	10
Industries	29	29	12	12

*, ** denote significance at the 5% and 1% level, respectively.

T-statistics in parentheses. All equations include a constant. Samples are adjusted for outliers.

a) Defined as the product of the industry-specific product market regulation indicators and their deviations from their industry means.

b) In logarithm.

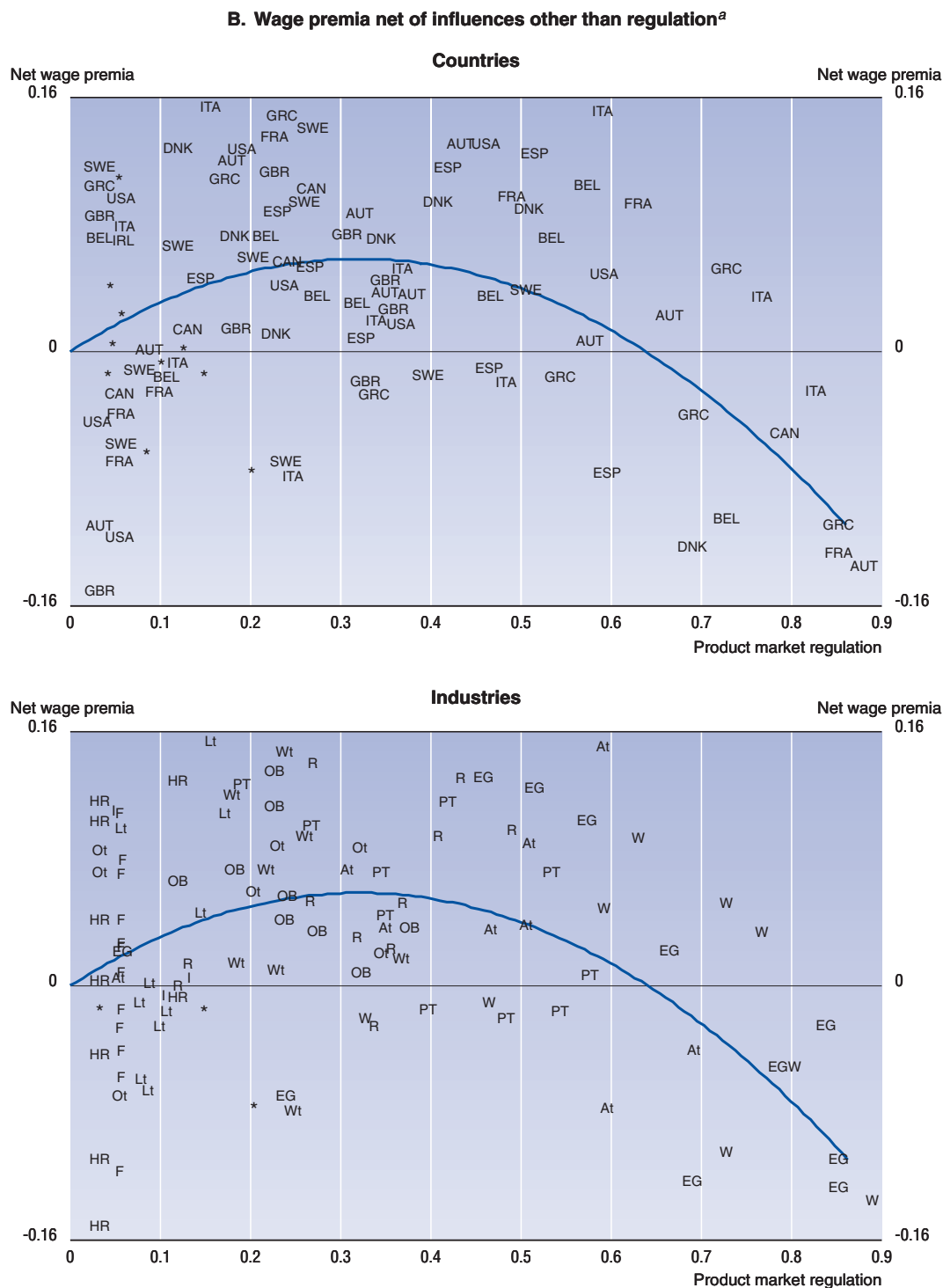
c) Product of the average union density in manufacturing for the country, by the (country-independent) average share of unskilled workers in that industry.

Source: Jean and Nicoletti (2002).

appropriation by workers of the rents implied by market power or cost advantages for domestic producers.²² This effect comes over and above the potential impact barriers may have on import penetration. Similarly, the linear term for product market regulation in non-manufacturing indicates higher wage premia in more regulated industries. (The non-linear term is discussed below.)

- *Product market competition curbs wage premia.* Import penetration has a significant negative effect on wage differentials in manufacturing. Moreover, wage premia tend to be lower in industries characterised by higher entry rates.

Chart 5.3. Wage premia and regulation in non-manufacturing industries (cont.)



* Two or more observations.

a) Net wage premia are the gross wage premia net of the country and industry fixed effects.

Source: Jean and Nicoletti (2002).

- *Wage premia in manufacturing tend to be higher as the share of unionised unskilled workers increases.* The positive and significant coefficient estimated for the interaction variable suggests that the effect of unionisation on wages is relatively stronger for unskilled workers or, alternatively, that the bargaining power of unions decreases with the share of skilled labour.²³
- *Structural influences on industry wage premia include average firm size and occupational structure.* Wage premia increase with firm size²⁴ and the share of skilled workers, possibly reflecting efficiency-wage phenomena.

The non-linear impact of product market regulation on wage premia in non-manufacturing is explored in Chart 5.3. Panel A of this chart provides a baseline by plotting the first-step estimates of industry wage premia against the industry-specific summary indicator of product market regulation, showing the picture for both industries and countries. There is evidence of a positive correlation between the two phenomena (the correlation coefficient is 0.3 and is significant at conventional levels), though it is blurred by the relatively high dispersion of wage premia.

The bivariate association is only partly confirmed by the results of the panel regressions, which provide a picture of a strong but more complex relationship between wage premia and regulation in non-manufacturing industries. Panel B of Chart 5.3 plots the relationship between the regression-adjusted wage premia and product market regulation, which is shown to be “hump-shaped”.²⁵ The decreasing part of the hump-shape mostly describes the relationship between regulation and wages in countries/industries that are dominated by public-owned and tightly regulated firms (*e.g.* public-owned utilities and national airlines without domestic competitors). This could reflect the success of regulation in curbing product market rents and rent-sharing in the most regulated industries, but a more likely explanation is that pervasive regulation increases regulatory failure, leading to both low labour productivity and low wages. A supplementary explanation of the hump-shaped relationship is that regulation creates product market rents that are shared with workers in both pecuniary and non-pecuniary ways, but that non-pecuniary rents become progressively more important as regulation becomes tighter and interferes with all dimensions of business activity (ownership, objectives, input and output choices), such as in many public-owned utilities.²⁶

Conclusions on wage premia

OECD labour markets are characterised by sizeable inter-industry wage differentials, which cannot be explained solely by differences in worker and firm characteristics. Product market conditions appear to be important determinants of the implied wage premia, which therefore are likely to reflect, in part, the sharing of product market rents between firms and workers. In most industries, wage premia are higher when regulatory barriers curb product market competition. For instance, the empirical estimates for manufacturing imply that, for the average OECD country, a reduction of one point in average trade tariffs or a 10% increase in import penetration would each lower wage premia by around 0.3 percentage point. In non-manufacturing industries, the picture is more complex, since wage premia first rise and then fall as regulatory barriers to competition become more stringent. This may result from the successful elimination of labour and product market rents as regulation becomes more comprehensive, but is more likely to reflect non-pecuniary rents and/or low efficiency outcomes in heavily regulated utility industries. In non-manufacturing industries with intermediate initial levels of regulation, the estimates

suggest that full product market liberalisation (as measured by a fall to zero of the average value of the regulatory indicator) can lower wage premia by up to 8 percentage points.

C. Insecurity

The perception that efficiency-oriented regulatory reforms may result in increased insecurity and inequality appears to play an important role in the political economy of regulation (Agell, 1999). In response to these concerns, this section analyses the effects of product market regulations on insecurity and the following section analyses the effects of these regulations on inequality.²⁷ Improved understanding of these potential links, including possible trade-offs between the goals of efficiency, security and equity, should help in making more informed choices when setting regulatory policy. Political support for efficiency-enhancing policies might also be reinforced if it could be shown that they do not have important adverse impacts on security and equity goals, or – at a minimum – have been designed so as to minimise these impacts.

The key practical difficulty confronting this analysis is the need to assemble measures of employment insecurity and earnings inequality that are reasonably comparable for a significant number of OECD countries and available at a level of industrial disaggregation that corresponds to that for which the indices of product market regulations have been assembled. As discussed below, the measures that have been assembled have three important limitations. First, these measures do not reflect fully the complexity of the underlying concepts of insecurity and inequality. Second, the coverage of countries and industries is not as broad as for the analysis in Sections 1.A-B. Finally, data are only available at one point in time (in the late 1990s). Consequently, only the *long-run* effects of product market regulations are considered, despite the potential importance of *transitional* dislocations resulting from deregulation (Card, 1998). With the notable exception of the impact of trade liberalisation on earnings inequality (OECD, 1997a; Pizer, 2000), the long-run effects have received little attention from researchers. These limitations mean that the empirical analysis in this and the following section should be viewed as providing only a preliminary assessment of the potential importance of links between product market deregulation and increased insecurity or inequality, rather than precise quantitative estimates of policy trade-offs.

How might product market regulations affect insecurity? As discussed above, prior research has focussed on the implications of product market regulations and competition for labour market performance at the *aggregate* and *sectoral* levels (*e.g.* the effects on aggregate employment and industry wage premia), rather than their implications for the employment insecurity of *individual* workers. Nevertheless, this research is suggestive of several channels through which product market regulations could affect employment insecurity. Potentially important linkages between product market competition and insecurity, include:

- A regulatory structure conducive to vigorous product market competition might reduce the extent to which employers are willing or able to offer stable jobs. Hicks (1935) famously observed that “the best of all monopoly profits is a quiet life”, and workers employed by firms with substantial market power may also enjoy greater stability in their careers. For example, greater market power may mean that firms and – by extension – their workforces are less exposed to adverse demand shocks (*e.g.* loss of market share due to heightened competition from new entrants to the industry).²⁸

- The earnings losses associated with redundancies might be reduced by regulatory reforms that cause the equilibrium unemployment rate to decline. The latter result occurs in some recent theoretical models (*e.g.* Blanchard and Giavazzi, 2001; Gersbach and Schniewind, 1999; Layard and Nickell, 1990). It should be noted, however, that these models do not analyse how the predicted change in the unemployment rate affects the duration of unemployment following job loss. Nonetheless, the strong empirical association between lower unemployment rates and lower unemployment durations (Machin and Manning, 1999) suggests such a link, as does the finding that displaced workers fare better when the unemployment rate is lower (Farber, 2001).
- The wage premia received by workers in heavily regulated industries (Section 1.B) may cause workers displaced from these industries to experience especially long spells of unemployment. Such workers may prefer to queue for new jobs in the same industry, rather than searching for jobs in other sectors where there may be more vacancies, because changing industries is associated with large reductions in pay (Kletzer, 1998; see also the discussion of “wait unemployment” in Box 5.1).
- Amable and Gatti (2002) analyse a general equilibrium model that illustrates several of these channels: product market deregulation results in a higher rate of job loss, but also shorter unemployment durations. It is not clear, however, whether these results are robust to alternative assumptions about wage setting or labour mobility. Nonetheless, the Amable and Gatti model confirms that product market regulations may affect insecurity through influencing *both* the incidence of job loss and the size of the income losses that result. It also suggests that interaction effects may be important. In particular, the effect of product market regulations on labour turnover may depend on the nature of wage-setting institutions.²⁹

Measures of insecurity

As used here, “insecurity” refers to the risk that a worker will experience a significant fall in earnings due to involuntary job loss.³⁰ The expected cost of job loss for a worker who is currently employed can be expressed as the product of the probability of job loss and the mean cost of losing a job:

$$E(\text{cost-of-job-loss}) = Pr(\text{job-loss}) \times E(\text{cost} \mid \text{job-loss}) \quad [1]$$

where job loss is intended to refer to separations that are *involuntary* from the perspective of the worker. The (conditional) cost of job loss will tend to be higher in labour markets where the duration of non-employment is greater and/or displaced workers have to accept larger pay cuts to become re-employed.

Discussions of employment insecurity often consider only the risk of job loss (*i.e.* the first right-hand-side term in equation 1). However, the expected cost of job loss provides a more comprehensive measure of the extent to which job displacement creates insecurity for workers and their families. Weighting the probability of experiencing a redundancy by the economic consequences of job loss may be especially important for making inter-industry and international comparisons of insecurity, which is the strategy used here to analyse the impact of labour and product market regulations on insecurity. This will be the case if there is a trade-off between the frequency of job loss and the resulting costs (*e.g.* if more competitive markets are characterised by relatively high rates of involuntary job loss, but also by relatively quick re-employment at similar wages).³¹

Panel data that follow workers over an extended period of time are required to measure the incidence and costs of job loss in a fully satisfactory manner. Unfortunately, attempts to construct such measures using three years of longitudinal data from the European Community Household Panel (ECHP) were to no avail.³² Accordingly, most of the insecurity measures analysed here are derived from labour force surveys which offer superior country coverage and larger samples for calculating measures that are disaggregated by industry. These proxy measures are somewhat crude, but allow an initial assessment to be made of whether labour and product market regulations affect either the incidence of job loss or the earnings lost while searching for a new job.

Table 5.3 provides an overview of the six insecurity measures used in the analysis. The first three measures provide information about the extent of worker turnover, which serve as proxy indicators of the probability of job loss (*i.e.* the first right-hand-side term in equation 1). An important limitation of these measures is that they do not differentiate between involuntary job loss and voluntary quits. Note also that the first measure (*i.e.* the share of workers hired in the previous year) may also reflect ease of re-entry. The fourth measure is the incidence of long-term unemployment, which serves as a proxy for the magnitude of earnings losses following job loss (*i.e.* the second right-hand-side term in equation 1). However, this measure accounts neither for any differences in unemployment duration between job losers and other job searchers nor for any earnings losses once re-employed. The final two indicators are proxy measures for the expected cost of job loss (*i.e.* the combined effect of the probability and cost of job loss): the fifth measure is the

Table 5.3. Measures of insecurity used in the analysis

Description of variable	Source of data	Industry coverage ^a	Country coverage	Comments on interpretation
Measures of the risk of job loss:				
1. Workers with a year or less of job tenure (percentage of total employment)	Labour force survey data	9 (5)	15	Higher values indicate greater worker turnover which is used as a proxy for an increased probability of job loss.
2. Average job tenure (years)	Labour force survey data	9 (5)	16	Higher values indicate greater job stability which is used as a proxy for a decreased probability of job loss.
3. Workers with temporary jobs (percentage of total employment)	Labour force survey data	9 (5)	17	Higher values used as a proxy for a greater share of workers facing imminent job loss.
Measures of the cost of job loss:				
4. Incidence of long-term unemployment (percentage of all unemployed who have been searching for a year or longer)	Labour force survey data	13 (13)	13	Higher values indicate that earnings losses following job loss are greater. However, no consideration is taken of wages once re-employed.
Measures combining the risk and cost of job loss:				
5. Incidence of job losses resulting in long-term unemployment	Labour force survey data	13 (13)	13	Reflects both the rate of involuntary job loss and the probability that workers losing a job are still unemployed one year later. Normalised as a relative rate by industry for the regression analysis.
6. Mean satisfaction of workers with job security on their current jobs	European Community Household Panel	5 (3)	10	Workers appraisal of job security on their current jobs, with higher values corresponding to greater satisfaction (1-6 scale).

a) Number of service industries for which both the insecurity measure and the global index of product market regulation are available. The value in parentheses is the number of cases in which there is an exact match of industry definitions between the two variables. Regressions using only the exact-match industries give similar results to those also using industries where the match was approximate (see Nicoletti *et al.*, 2001a, for details).

rate of job loss leading to long-term unemployment (*i.e.* job losers who are still unemployed a year later, as a share of total employment);³³ and the sixth measure is a subjective appraisal by workers of job security on their current job. While none of these six measures represents a fully satisfactory estimate of the corresponding term(s) in equation 1, they should be sufficiently positively correlated with the desired concepts to provide valid qualitative evidence.³⁴

National average values of these six proxy measures of employment insecurity are plotted in Chart 5.4. Cross-country differences are considerable, with national comparisons differing somewhat between the different measures. The cross-country associations between these insecurity measures and the global index of the extent to which product market regulations restrict competition are also displayed. These bivariate associations are often weak, but offer suggestive evidence that stricter product market competition may be associated with greater job security, as proxied by the tenure variables reported in the first two panels of Chart 5.4. However, many factors, in addition to product market regulation, that may account for international differences in labour turnover and employment insecurity have not been accounted for.³⁵ The multivariate analysis that follows provides a clearer indication of whether product market regulations have a causal impact on labour turnover and insecurity.

Regression analysis

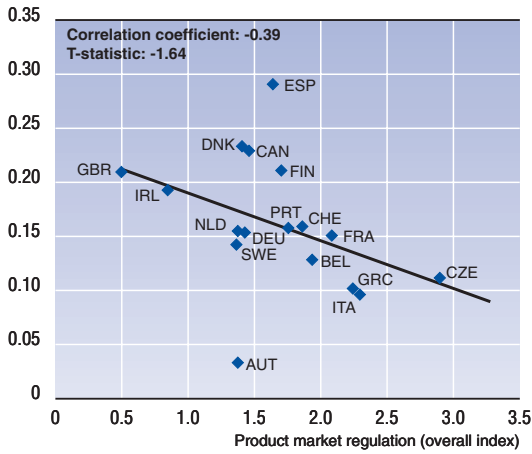
Reduced-form regression models are used here to analyse the impacts of regulations and institutions on earnings insecurity at the end of the 1990s.³⁶ The six proxy measures of insecurity are used as the dependent variables, while the regressor of greatest interest is the global index of product market regulations. Industry-specific values are used for both the measures of insecurity and the product market regulations. Several different approaches were tried to capture potential non-linearities in the effect of product market regulations on insecurity. Models allowing the marginal effect of changes in the global index of product market regulations to differ, depending on whether the reference level of competition is high or low, performed best and are reported here.³⁷ The regression analysis also controls for three aspects of labour market regulations and institutions: EPL, union density and the generosity of unemployment insurance benefits. In order to control for business-cycle effects on labour turnover, the GDP gap is also included in the regression equation.

Estimation results are presented for a *basic* model, including the regulatory and institutional regressors, as well as for an *augmented* model that also controls for industry and country effects. As discussed in Annex 5.B, the augmented model may avoid misspecification biases by accounting for omitted variables that differ by industry or country. However, two problems related to the inclusion of industry and country effects in this analysis should be noted:

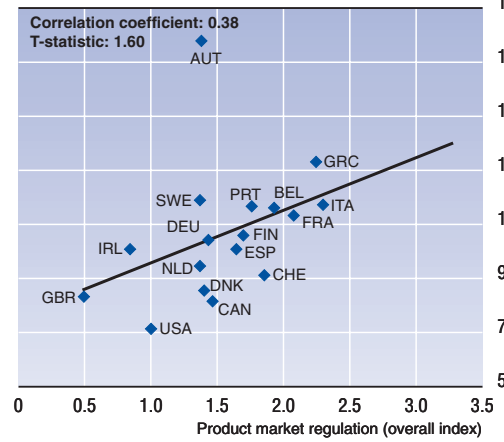
- Technological characteristics of industries that directly affect labour turnover may also be important determinants of inter-industry differences in product market regulations (*e.g.* the scale economies and capital intensity of the electric, gas and water supply industry). As a result, caution is called for when attempting to differentiate between the effects of regulatory and technological factors on employment security.
- Due to data limitations, it was sometimes impossible to estimate a model including both industry and country effects. In such cases, only industry effects are estimated since they tend to be more statistically significant and to have the greatest effect on

Chart 5.4. Overall product market regulation and insecurity, 1998

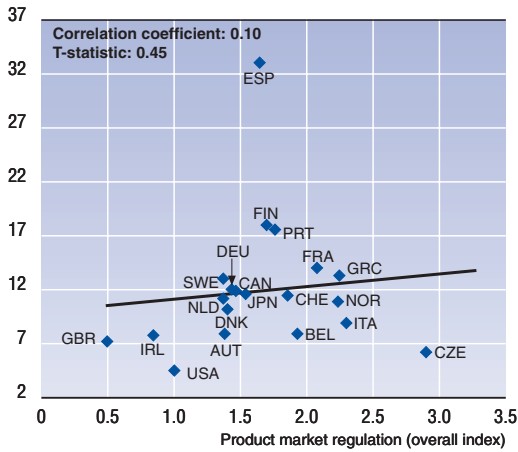
Workers with a year or less of job tenure
(% of total employment)



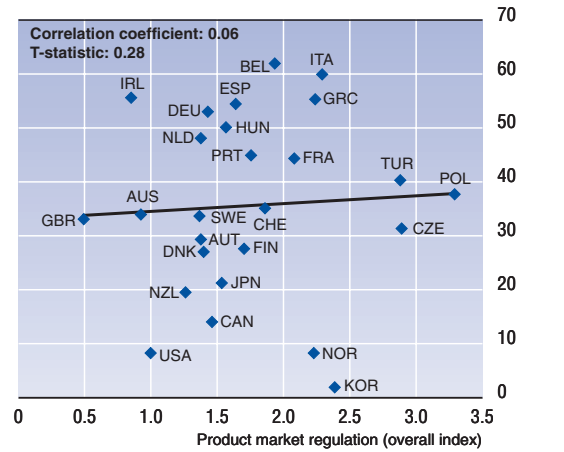
Average job tenure
(years)



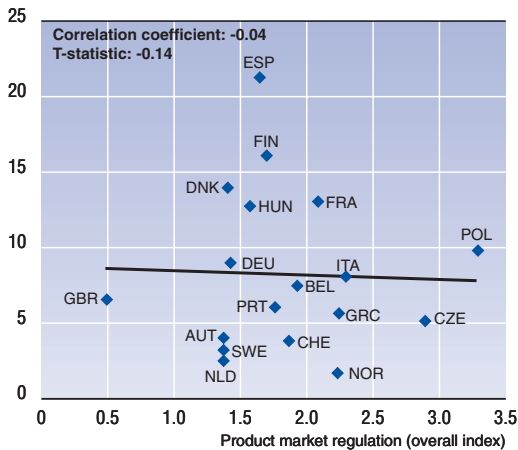
Workers with temporary jobs
(% of total employment)



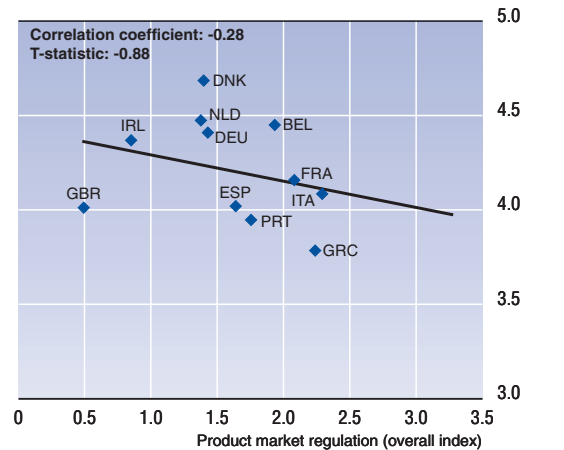
Incidence of long-term unemployment
(% of total unemployment)



Incidence of job losses resulting in long-term unemployment
(% of total employment)



Mean satisfaction with job security
(1-6 scale)



Source: Nicoletti et al. (2001a).

the coefficients of the variables measuring labour and product market regulations and institutions.³⁸

Table 5.4 presents the regression results using the six measures of employment insecurity. In all cases, the industry and country effects are statistically significant suggesting that the augmented model is more appropriate than the basic model. However, the Hausman test indicates a possible mis-specification related to the country random effects for the augmented model explaining the share of temporary jobs. Re-estimating this model while omitting the country random effects has very little effect on the estimation results.³⁹

The estimation results for the three proxy measures of the risk of job loss suggest that regulations reducing product market competition may sometimes result in greater job security (Panel A of Table 5.4). However, this effect appears to be limited to the most regulated industries (only being supported by the upper-spline coefficients). Furthermore, the estimated effects are smaller and statistically insignificant when industry and country effects are introduced into the model. This confirms that it is difficult to assess whether the association between strict product market regulations and high job security is, in part, causal or is fully accounted for by other characteristics of tightly-regulated industries.

Table 5.4. **Policies, institutions and insecurity^a**

Results for panel regressions of service industries

Panel A. Measures of the risk of job loss

	Workers with a year or less of job tenure (% of total employment)		Average job tenure (years)		Workers with temporary jobs (% of total employment)	
	Basic	Augmented ^b	Basic	Augmented ^b	Basic	Augmented ^b
Product market regulation						
PMR global index (lower spline) ^c	0.09 (0.70)	-0.10 (-0.76)	-1.72 (-0.57)	-2.47 (-0.47)	0.14 (1.40)	-0.11 (-0.90)
PMR global index (upper spline) ^c	-0.17** (-4.82)	-0.01 (-0.20)	9.47** (10.05)	2.20 (1.36)	-0.10** (-3.81)	-0.05 (-1.29)
Labour market and business cycle						
EPL global index	-0.02* (-2.32)	-0.02 (-1.36)	0.99** (3.85)	1.12** (4.41)	0.03** (4.56)	0.03** (5.60)
Union density	0.00 (-1.64)	0.00 (-0.31)	0.03* (2.84)	0.01 (1.41)	0.00 (-1.50)	0.00 (-0.12)
Unemployment insurance (net replacement rates)	0.00 (1.74)	0.00 (0.45)	-0.04* (-2.78)	-0.02 (-0.80)	0.00 (0.14)	0.00 (0.89)
Output gap	-0.01 (-0.65)	0.00 (-0.16)	-0.14 (-0.63)	-0.28 (-1.37)	-0.01 (-1.74)	-0.01 (-1.66)
RESET	0.29		1.02		6.57**	
R-squared	0.27	0.62	0.43	0.74	0.33	0.58
F-test on fixed effects		249.8**		172.7**		94.81**
Breusch-Pagan		104.2**		67.7**		8.11**
Hausman		0.41		0.10		123.4**
Observations	116	114	127	125	129	129
Countries	15	15	16	16	17	17
Industries	9	9	9	9	9	9

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

Samples are adjusted for outliers based on the Welsh distance cut-off (Chatterjee and Hadi, 1988).

Basic model is estimated by OLS, the standard errors being adjusted for clustering.

a) See Table 5.3 for the definitions of the insecurity measures (*i.e.* the dependent variables).

b) Basic model augmented to include industry fixed effects and country random effects. It is estimated by generalised least squares.

c) The effects of the global index for PMR are modeled as linear splines with a single kink point.

Source: Nicoletti *et al.* (2001a).

Should the upper-bound estimates provided by the basic model be valid, the impact of product market regulations would be large enough to be of considerable importance. Starting at the median value, a one standard deviation increase in the regulation index implies that average tenure increases by approximately one and one-half years (or 0.45 of a standard deviation). However, the augmented model implies an effect that is less than one-fourth as strong and is consistent with there being no effect at all. It should also be noted that any increase in job stability due to product market regulations appears to be limited to a few tightly-regulated industries, such as electric, gas and water supply, where public ownership is common and may lead employers to offer workers non-pecuniary rents, such as life-time job guarantees (Section 1.B).

Among the labour market variables, only EPL appears to have a systematic impact on the risk of job loss. Stricter EPL lowers overall worker turnover and raises average tenures, but also encourages an expansion in the share of workers on temporary contracts.⁴⁰ Job security may be enhanced for workers with regular contracts (*i.e.* “insiders”), but diminished for workers unable to obtain “permanent” jobs (*i.e.* “outsiders”). These estimated effects are large enough to be economically important. For example, the EPL

Table 5.4. **Policies, institutions and insecurity^a** (cont.)

Results for panel regressions of service industries

Panel B. Measures of the cost of job loss

	Incidence of long-term unemployment (% of total unemployment)		Incidence of job losses resulting in long-term unemployment (relative rate by industry) ^b		Mean satisfaction with job security (1-6 scale)	
	Basic	Augmented ^c	Basic	Augmented ^d	Basic	Augmented ^e
Product market regulation						
PMR global index (lower spline) ^e	-0.45* (-2.40)	-0.04 (-0.09)	0.79 (1.35)	1.51 (1.60)	-0.48 (-1.17)	1.86* (2.57)
PMR global index (upper spline) ^e	0.15 (1.30)	0.31 (1.66)	-1.17** (-4.22)	-0.68* (-2.04)	-1.40 (-1.43)	-1.26 (-1.05)
Labour market and business cycle						
EPL global index	0.06* (2.64)	0.06** (4.14)			-0.04 (-0.99)	-0.06 (-1.53)
Union density	0.00 (0.08)	0.00 (-0.04)	0.00 (0.24)	0.00 (1.54)	0.01* (2.44)	0.00 (2.17)
Unemployment insurance (net replacement rates)	0.00 (0.74)	0.00 (1.55)			0.02* (2.57)	0.02* (2.66)
Output gap	-0.03 (-1.59)	-0.03 (-1.48)			-0.10 (-2.09)	-0.08 (-1.71)
RESET	2.17	1.90	0.40		0.60	0.41
R-squared	0.18	0.29	0.10	0.59	0.45	0.63
F-test on fixed effects		95 000**		178.2**		6.26**
Breusch-Pagan				5.07*		
Hausman				6.20		
Observations	135	133	142	142	48	47
Countries	13	13	13	13	10	10
Industries	13	13	13	13	5	5

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988).

Basic model is estimated by OLS, the standard errors being adjusted for clustering.

a) See Table 5.3 for the definitions of the insecurity measures (*i.e.* the dependent variables).

b) Regressors with no inter-industry variation within a country are not used for this dependent variable, since there cannot be common effects across all industries in their relative risk of job loss.

c) Basic model augmented to include industry fixed effects. It is estimated by OLS, the standard errors being adjusted for clustering.

d) Basic model augmented to include industry fixed effects and country random effects. It is estimated by generalised least squares.

e) The effects of the global index for PMR are modeled as linear splines with a single kink point.

Source: Nicoletti *et al.* (2001a).

coefficients in the two models explaining average job tenure imply that a one standard deviation increase in the EPL strictness index implies that average tenure increases by a little more than one year (or 0.3 of a standard deviation).

Regression results for the dependent variables that reflect the cost of job loss are reported in Panel B of Table 5.4. The theoretical prediction that stricter product market regulations result in longer unemployment spells is only weakly supported for the most regulated industries. The results for the incidence of job losses resulting in long-term unemployment – a measure reflecting both the risk of job loss and the duration of post-displacement joblessness – are stronger, suggesting that the reduction in the risk of job loss associated with stricter product market regulations outweighs any increase in unemployment durations, generating a net decrease in employment insecurity. This result is only significant when regulation is already tight, however. The estimation results using workers' subjective appraisals of job security suggest that employees in the industries subject to intermediate levels of regulation feel the most secure, *ceteris paribus*.

Consistent with earlier research, stricter EPL is significantly associated with an increased incidence of long unemployment spells, with a one standard deviation increase in EPL raising the long-term unemployment rate by 5 to 6 percentage points (or 0.3 of a standard deviation). This may explain why stricter EPL is not associated with greater worker satisfaction with job security on their current jobs. By contrast, more generous unemployment insurance benefits and higher union density do cause workers to report greater satisfaction with job security, perhaps because their families' incomes are better protected, should they lose their jobs. This effect is quite large. A standard deviation increase in the net replacement rate implies nearly a 0.6 standard deviation increase in the satisfaction index.

Conclusions for insecurity

Despite its preliminary character, this analysis suggests that product market regulation may have economically significant effects on employment insecurity. However, the evidence that strict product market regulations reduce employment insecurity is not terribly robust and is subject to two caveats of importance for drawing policy lessons. First, the concentration of any gains in employment security on workers in the most regulated industries suggests that relatively few workers benefit. Second, product market regulations this strict appear to have important efficiency costs (OECD, 1997*b*). These considerations suggest that constraints on competition in product markets do not provide a particularly cost-effective policy lever for raising employment security. This conclusion is reinforced by the finding that certain labour market policies appear to be more important determinants of employment security than is the level of product market competition. In particular, EPL has important effects on both the risk of job loss and unemployment durations, while more generous unemployment benefits and higher union density appear to enhance subjective appraisals of job security.

In sum, this analysis suggests that security goals deserve some attention when implementing regulatory reforms in product markets. Deregulatory initiatives – particularly those targeted at industries where competition levels have been low – may give rise to long-run increases in employment insecurity that policy makers may wish to address with measures that are directly targeted at improving the functioning of the labour market. This suggests a potential complementarity between product market reforms that increase competition and improvements in the assistance available to job losers to find new jobs

(e.g. job-search assistance or training) or policies to cushion the adverse impact of job loss on family incomes (e.g. unemployment insurance).

D. Inequality

As used here, “inequality” refers to earnings and income inequality, with the primary focus being on *earnings* inequality (i.e. the dispersion of earnings across individual workers) since that is the aspect of inequality the most closely related to the labour market.⁴¹ The vast recent literature on earnings inequality has not identified product market regulations as ranking among the principal determinants of earnings inequality (Katz and Autor, 1999). Nonetheless, the level of product market competition might affect earnings inequality through the following channels:

- Product market regulations restricting competition are often associated with wage premia (Section 1.B). It follows that restrictions on product market competition typically affect the distribution of earnings, but the effect on overall earnings inequality appears to be difficult to predict.⁴²
- Regulatory changes in product markets that increase competitive pressures will tend to reduce the rents available for unions to capture through collective bargaining, potentially leading to declines in union power or more decentralised wage bargaining that, in turn, result in greater wage dispersion. Such a development may be less probable in countries where union membership rates are high or centralised/co-ordinated collective bargaining is well established.
- The impacts of product market regulations on the innovation potential of firms (see Section 2) may, in turn, affect earnings inequality. In particular, increased competition may result in more rapid development and diffusion of new production technologies. Since such technologies (and R&D, itself) are typically intensive in the use of skilled labour, this shift in relative demand will, *ceteris paribus*, raise the relative wage of skilled labour and increase earnings inequality.
- The effects of labour and product market regulations on the overall level and sectoral composition of employment (see Sections 1.A and 2.B, respectively) will tend to affect the distribution of employment and unemployment across groups of workers or households, potentially altering the distribution of labour incomes.

Measures of inequality

Table 5.5 describes the three inequality measures used in the analysis. Earnings inequality is measured both in terms of the overall dispersion of earnings (measure 1) and the incidence of low-paid employment (measure 2). The poverty rate among workers is also considered (measure 3), where poverty is defined as a size-adjusted family income less than one-half the national median value.⁴³ An important limitation of these measures is that none takes account of how product market regulations may affect the living standards of families with no working members, who are at an elevated risk of poverty (OECD, 2001c). Restrictions on competition that result in lower aggregate employment (Section 1.A) will tend to increase the number of such families. Unfortunately, it proved impossible to incorporate this aspect of inequality into the industry-based framework adopted in this study, because non-working families usually lack a meaningful industrial affiliation.

Table 5.5. **Measures of inequality used in the analysis**

Description of variable	Source of data	Industry coverage ^a	Country coverage	Comments on interpretation
Measures of earnings inequality:				
1. Wage inequality (ratio of 80th percentile earnings to 20th percentile earnings)	European Community Household Panel	5 (3)	10	Higher values for D8/D2 indicate greater intra-industry earnings inequality. (The percentile values are calculated separately for each industry.)
2. Workers with low-paid jobs (percentage of workers earning less than two-thirds of national median value)	European Community Household Panel	5 (3)	10	Higher values indicate a greater incidence of workers earning substantially less than a typical worker in their home country. This measure reflects both inter- and intra-industry earnings inequality.
Measures of the income inequality:				
3. Rate of working poverty (percentage of workers living in families in poverty)	European Community Household Panel	5 (3)	10	Higher values indicate a greater share of workers whose earnings do not raise the size-adjusted incomes of their families to one-half of the national median value.
a) Number of service industries for which both the inequality measure and the global index of product market regulation are available. The value in parentheses is the number of cases in which there is an exact match of industry definitions between the two variables. Regressions using only the exact-match industries give similar results to those also using industries where the match was approximate (see Nicoletti <i>et al.</i> , 2001a, for details).				

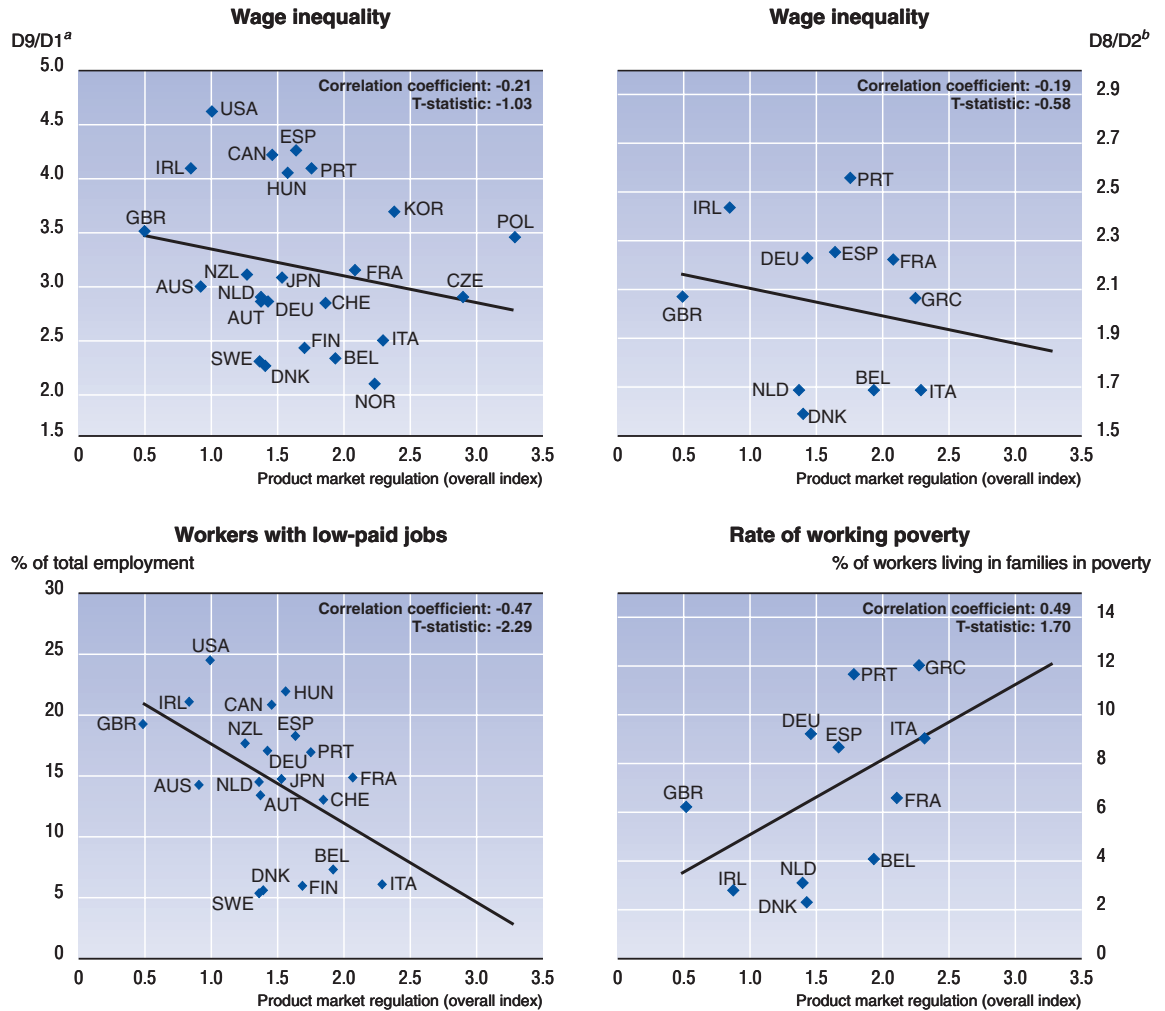
Chart 5.5 displays the three inequality measures and their cross-country association with the overall index of product market regulations.⁴⁴ There is considerable cross-country variation in the inequality measures with wage inequality – particularly, the incidence of low-paid employment – tending to be lower in countries with stricter regulation. By contrast, the incidence of in-work poverty seems to increase with the regulation of product markets.⁴⁵ Overall, these bivariate associations are relatively consistent with the hypothesis that greater competition in product markets might lead to greater earnings inequality. However, multivariate analysis is required to assess whether these bivariate associations reflect a potential trade-off between efficiency and equity goals.

Regression analysis

Table 5.6 presents regression results using the three measures of inequality as the dependent variable. The estimation results suggest that the bivariate associations between inequality and product market regulations shown in Chart 5.5 probably do not reflect important causal links between the vigour of product market competition and earnings or income inequality. No statistically significant effect of regulation is found in augmented and preferred specifications, when industry dummies are added to the model, although a negative coefficient is estimated in the basic specification when the rate of working poverty is used as dependent variable.

Higher union density is associated with a reduced incidence of low-paid employment and, perhaps, a decrease in overall earnings dispersion, consistent with previous research findings that unions compress the wage structure (Blau and Kahn, 1999; Fortin and Lemieux, 1997). Both higher union density and more generous unemployment insurance benefits may be associated with reductions in the share of workers whose families are poor, although the unionisation effect disappears with controls for industry effects. The estimated effect of higher unemployment benefits – which serves here as a proxy for the overall generosity of the welfare state – is quite strong, with a one standard deviation

Chart 5.5. Overall product market regulation and inequality, 1998



- a) D9/D1 refers to the ratio of wage rates at the breakpoint between the ninth and the tenth deciles and the breakpoint between the first and the second deciles.
 b) D8/D2 refers to the ratio of wage rates at the breakpoint between the eighth and the ninth deciles and the breakpoint between the second and the third deciles.

Source: Nicoletti *et al.* (2001a).

increase in the replacement rate implying a 0.45 standard deviation decrease in the incidence of working poverty, approximately twice as strong as the larger of the two estimates of the impact of union density on working poverty.

Conclusions for inequality

This analysis provides little support for the hypothesis that product market regulations have a long-run impact on inequality in the labour market. Deregulation in product markets may nonetheless occasion significant economic losses in the transition to a more competitive equilibrium, for example, those experienced by workers whose wages had

Table 5.6. **Policies, institutions and inequality^a**

Results for panel regressions of service industries

	Wage inequality (D8/D2) ^b		Workers with low-paid jobs (% of total employment)		Rate of working poverty (% of workers living in families in poverty)	
	Basic	Augmented ^c	Basic	Augmented ^d	Basic	Augmented ^e
Product market regulation						
PMR global index (lower spline) ^e	-0.17 (-0.27)	-1.62 (-1.09)	-0.12 (-0.46)	-0.04 (-0.13)	0.09 (1.22)	-0.18 (-0.75)
PMR global index (upper spline) ^e	1.95 (1.62)	1.27 (0.91)	-0.30 (-0.87)	-0.17 (-0.79)	-0.20* (-2.40)	-0.01 (-0.05)
Labour market and business cycle						
EPL global index	0.04 (0.92)	0.03 (0.58)	-0.01* (-2.96)	-0.02 (-0.98)	0.01 (1.96)	0.01 (1.11)
Union density	0.00 (-0.80)	0.00 (-1.71)	0.00* (-2.28)	0.00** (-2.80)	0.00* (-2.30)	0.00 (-0.72)
Unemployment insurance (net replacement rates)	0.00 (0.14)	0.00 (0.17)	0.00 (0.79)	0.00 (0.06)	0.00* (-3.12)	0.00 (-2.12)
Output gap	-0.04 (-0.65)	-0.05 (-0.91)	-0.02 (-1.92)	-0.02 (-0.96)	0.01 (1.36)	0.01 (1.30)
RESET	2.00	1.90	5.01**		0.62	1.92
R-squared	0.18	0.31	0.19	0.87	0.36	0.65
F-test on fixed effects		2.55		330**		7.81**
Breusch-Pagan				10.40**		
Hausman				0.13		
Observations	46	46	48	46	46	48
Countries	10	10	10	10	10	10
Industries	5	5	5	5	5	5

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988).

Basic model is estimated by OLS, the standard errors being adjusted for clustering.

a) See Table 5.5 for the definitions of the inequality measures (*i.e.* the dependent variables).

b) D8/D2 refers to the ratio of wage rates at the breakpoint between the eighth and the ninth deciles and the breakpoint between the second and the third deciles.

c) Basic model augmented to include industry fixed effects. It is estimated by OLS, the standard errors being adjusted for clustering.

d) Basic model augmented to include industry fixed effects and country random effects. It is estimated by generalised least squares.

e) The effects of the global index for PMR are modeled as linear splines with a single kink point.

Source: Nicoletti *et al.* (2001a).

included a premium that reflected monopoly rents. However, this appears to be a transitional concern that has few, if any, implications for choosing the product market regulations best suited to generate broadly based prosperity. By contrast, generous public income transfer programmes and a high degree of unionisation appear to have equalising effects on certain aspects of earnings and income in the long run.

2. Effects of labour market policies and institutions on product market outcomes

The primary criterion for judging labour market policies is their contribution to better labour market performance. However, these policies may also affect outcomes in the product market. If the cross-market effects of labour market policy are sufficiently important, then they should also be taken into account when making policy choices. A comprehensive analysis of these cross-market effects is beyond the scope of this chapter. However, this section illustrates their potential importance by examining the effects of

labour market regulations and arrangements on the innovation potential of firms and the business economy as a whole.

A. Innovation potential of manufacturing industries

Innovation activity, measured for instance by R&D intensity, has been shown to be one of the most significant explanations of differences in GDP growth across countries and over time (see Cameron, 1998, 2000; Ahn and Hemmings, 2000; Guellec and Van Pottelsberghe, 2001; and Bassanini and Scarpetta, 2001). The economic analysis of the determinants of innovation has focused mostly on the relationship between incentives to innovate and product market competition (*e.g.* Dasgupta and Stiglitz, 1980; Nelson and Winter, 1982; Schmalensee, 1989; Nickell, 1996; Aghion and Howitt, 1998; and Boone, 2000). From an empirical point of view, recent evidence suggests a positive relationship between product market competition and innovation, at each given level of protection of intellectual property rights (Geroski, 1990; Nickell, 1996; Blundell *et al.*, 1995, 1999). Conversely, Aghion *et al.* (2001*b*) present firm-level and cross-country evidence that supports a hump-shaped relationship between competition and innovation (proxied by patent performance).⁴⁶

Labour market arrangements too may affect the propensity of an economy to innovate (see *e.g.* Soskice, 1997; Eichengreen and Iversen, 1999; Acemoglu and Pischke, 1999*b*). The most likely labour market influences on innovation come from hiring and firing rules and the industrial relations regime, though minimum wages and the generosity of unemployment insurance can also play a role via their impact on wage structure and workers' bargaining power and attitude towards risk (Acemoglu and Pischke, 1999*c*; Acemoglu, 2000). For instance, restrictive EPL can curb innovation rents by hindering labour adjustments, which often occur after incumbent firms have implemented innovations (see *e.g.* Audretsch and Thurik, 2001; Caroli *et al.*, 2001; Hobijn and Jovanovic, 2001). Labour market arrangements that favour the sharing of innovation rents, for instance by increasing the bargaining power of insiders or tying negotiations to enterprise performance, also may inhibit innovative activity by reducing the expected returns from innovations.

Hiring and firing rules and industrial relations regimes can have independent effects on innovation activity, but the intensity (and perhaps even the sign) of this effect is likely to depend on the way these policies and institutions interact with each other. For instance, important effects on innovation may come from the way EPL and industrial relations regimes affect the quality and the availability of skilled labour, which is often seen as a complementary input to new technologies. If technological change is skill-biased, incumbent firms need to shift from one optimal skill mix to another in order to implement an innovation effectively. Essentially, two strategies are open to the successfully innovating incumbent: either it trains its existing workforce or it lays-off part of its staff and hires more skilled workers, possibly "poaching" other firms' pools of skilled labour.⁴⁷ Restrictive EPL and highly co-ordinated industrial relations regimes generally encourage firms to resort to internal labour reallocations and undertake firm-sponsored training. This is because in such regimes job turnover is impaired (Bertola, 1992), the ties between workers and their employers often inhibit poaching,⁴⁸ and firms can reap the difference between the marginal productivity of skilled workers and their earnings, due to wage compression over the skill dimension (Acemoglu and Pischke, 1998, 1999*a*, 1999*b*).⁴⁹ Con-

versely, lax EPL and decentralised industrial relations regimes raise job turnover and tend to increase wage dispersion and skill premia. This discourages firm-sponsored training and leads firms to acquire the necessary skilled workers on the external labour market. Therefore, given the complementarity between innovation and skills at the firm level, each combination of EPL and industrial relations regimes may lead to specific propensities of industries to innovate, national industry specialisation and, ultimately, economy-wide innovation potentials.

Since both labour and product market influences can act in opposite directions, their net effects on innovation are controversial and can only be assessed empirically. This section develops a cross-country econometric analysis of the linkages between policies, institutions and innovation patterns, making use of the industry dimension where available.⁵⁰ Both the country and industry dimensions are important because labour market arrangements differ mainly across countries, but links between institutions and performance might differ significantly across industries. For instance, in low-tech industries, where elasticities of demand are generally low (at the industry level), innovation is mainly aimed at cutting costs rather than expanding capacity, often resulting in lay-offs. Hence, in these industries, firing restrictions are more likely to reduce innovation activity than in high-tech industries. The use of the industry dimension also makes it possible to control for differences in technological opportunity among different sectors.

The analysis at the industry level covers only the manufacturing sector, given the dearth and low quality of data concerning innovation activity for the non-manufacturing industries. Furthermore, the focus is mainly on R&D intensity, since it is the only available variable that is comparable across countries and industries simultaneously. R&D expenditure is at best an indicator of innovation input rather than of innovation output. For this reason, the analysis also looks at the influence of policies and institutions on patenting and the intensity of expenditure on information technologies (IT), though only at the aggregate level since no industry disaggregation is available for these variables on a cross-country basis.⁵¹

Table 5.7 reports the results of cross-country regressions relating business-sector R&D intensity, patents per capita and IT intensity to indicators of labour and product market policies and institutions. Given the relatively few degrees of freedom available and the absence of adequate controls, these regressions should be interpreted as exploratory data analysis aimed at identifying the policy and institutional covariates of innovation. The cross-country estimates show no consistent relationship between product market regulations and the measures of business-sector innovative activity. In most regressions, R&D intensity, IT adoption and patenting are decreasing in the degree of state control, but increasing in the extent of barriers to entrepreneurship (except in the case of IT adoption). At the same time no association with trade barriers can be detected at this level of aggregation. The estimates suggest that R&D intensity is related to EPL and centralisation or co-ordination of wage bargaining in opposite ways: it is decreasing in the severity of job protection and increasing in centralisation or co-ordination.

To further explore the possible interactions between EPL and industrial relations, Chart 5.6 bundles the business-sector R&D intensities of countries in the sample into four sub-groups, depending on whether they have lax EPL/low co-ordination in industrial relations, strict EPL/low co-ordination, lax EPL/high co-ordination or strict EPL/high co-ordination.⁵² The chart suggests that there is an interaction between EPL and co-ordination

Table 5.7. **Policies, institutions and innovation**

Cross-country OLS regressions

Dependent variable	R&D intensity ^a			IT intensity ^b			Patenting ^c		
	Product market regulation	Product and labour market regulation		Product market regulation	Product and labour market regulation		Product market regulation	Product and labour market regulation	
Product market regulation									
State control	-0.66** (-3.52)	-0.99** (-5.43)	-0.61** (-3.82)	-0.29* (-2.45)	-0.41** (-3.02)	-0.22 (-1.84)	-0.91* (-2.06)	-2.11** (-3.91)	-1.36** (-3.00)
Barriers to entrepreneurship	0.38 (1.70)	0.93** (4.34)	0.61** (2.83)	-0.22 (-1.55)	0.09 (0.54)	-0.07 (-0.44)	0.27 (0.53)	1.30* (2.05)	0.67 (1.09)
Trade barriers	0.08 (0.41)			0.01 (0.11)			-0.69 (-1.61)		
Labour market									
EPL		-0.40* (-2.50)	-0.41* (-2.24)		-0.26* (-2.20)	-0.23 (-1.73)		-0.48 (-1.00)	-0.47 (-0.90)
Coordination of wage bargaining			0.56** (3.19)			0.13 (0.98)			0.99* (1.99)
Centralisation of wage bargaining		1.00** (4.19)			0.44* (2.50)			1.92** (2.73)	
Jarque-Bera	1.50	1.76	0.59	0.39	0.22	0.52	2.92	2.69	1.18
R-squared	0.40	0.69	0.62	0.42	0.59	0.50	0.39	0.50	0.43
Adjusted R-squared	0.32	0.64	0.55	0.34	0.54	0.43	0.31	0.40	0.32
Observations	26	26	26	26	26	26	26	26	26

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant.

The sample includes all OECD countries except Iceland, Luxembourg, Mexico and Slovak Republic.

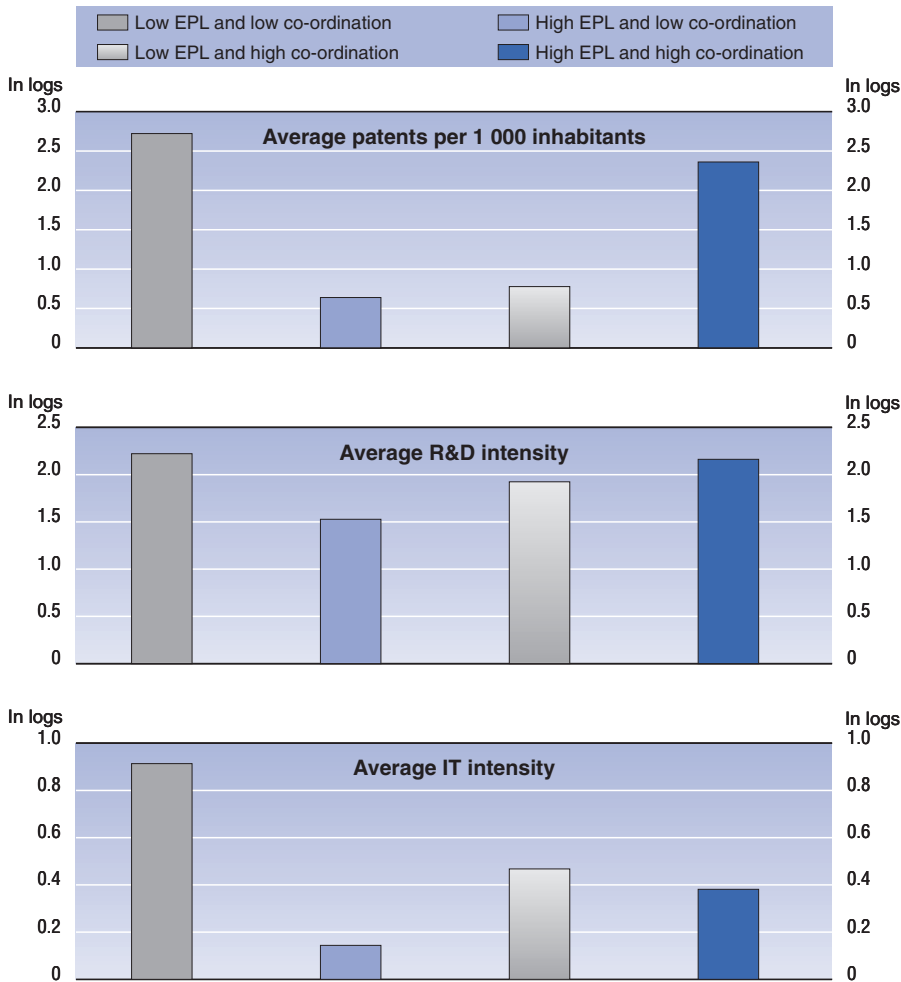
a) Logarithm of the ratio of business expenditure in R&D to GDP.

b) Logarithm of the ratio of expenditure in information technology to GDP.

c) Logarithm of patents per capita.

Source: Nicoletti *et al.* (2001a).

Chart 5.6. Labour market regimes and innovation



EPL: Employment protection legislation.

Note: Countries classified by ascending EPL:

Low EPL and low co-ordination: USA, GBR, CAN, NZL, AUS, CHE, HUN, BEL, FIN.

High EPL and low co-ordination: SWE, FRA, ESP, TUR, PRT.

Low EPL and high co-ordination: IRL, DNK, CZE, POL.

High EPL and high co-ordination: AUT, JPN, KOR, NLD, NOR, DEU, GRC, ITA.

Source: Nicoletti *et al.* (2001a).

in industrial relations for both patents and, to a lesser extent, R&D intensity, with the highest performances corresponding to polarised regimes, while no interaction is suggested for IT.⁵³

The evidence found at the aggregate level can be better explored in cross-section regressions combining the country and industry dimensions. Table 5.8 presents estimates of the determinants of R&D intensity in a sample of 18 manufacturing industries and 18 OECD countries. The estimated models account for the effects of EPL, industrial relations regimes and their potential interactions, but control also for outward and inward-oriented product market regulations (at both the industry and economy-wide levels). In addition, they control for firm size (the share of employment in large enterprises) and trade openness (proxied by import penetration). All regressions also include industry dum-

Table 5.8. **Effects of policies and institutions on R&D intensity**

Results of panel regressions for 18 manufacturing industries

Dependent variable: R&D intensity^a

Method	Fixed effects	Random effects without interactions	Random effects with interactions
Product market			
Employment share of large firms ^a	1.39** (3.41)	1.66** (4.64)	1.58** (4.40)
Import penetration ^a	0.39** (3.48)	0.34** (2.76)	0.34** (2.89)
Non-tariff barriers	-0.02** (-2.81)	-0.03** (-2.82)	-0.03** (-3.20)
Tariff barriers ^a	0.18* (2.07)	-0.04 (-0.40)	-0.06 (-0.58)
State control	..	-0.42** (-5.36)	-0.40** (-5.18)
Barriers to entrepreneurship	..	0.75** (7.93)	0.74** (7.90)
Labour market			
Employment protection legislation (EPL)	..	-0.29** (-3.74)	
Bargaining co-ordination	..	0.21** (2.73)	
EPL in high-tech industries	..		-0.48** (-3.75)
EPL in low-tech industries	..		-0.16 (-1.40)
Bargaining co-ordination in high-tech industries	..		-0.34 (-1.85)
Bargaining co-ordination in low-tech industries	..		0.73** (4.00)
EPL x bargaining co-ordination in high-tech industries	..		0.23** (2.64)
EPL x bargaining co-ordination in low-tech industries	..		-0.21** (-2.58)
Industry dummies	Yes	Yes	Yes
Country dummies	Yes	No	No
RESET	1.95		
R-squared	0.88		
Chi2-test on country dummies	13.5**		
Chi2-test on industry dummies	17.8**	200.1**	141.8**
Breusch-Pagan		72.9**	70.3**
Hausman		3.55	13.9
Observations	255	255	255
Countries	18	18	18

*, ** denote significance at the 5% and 1% level, respectively. T-statistics in parentheses. All equations include a constant. Samples are adjusted for outliers based on the Welsch distance cut-off (Chatterjee and Hadi, 1988). High-tech industries correspond to industries 24 and 29-35 of the ISIC Rev. 3 Classification.

a) In logarithm.

Source: Nicoletti *et al.* (2001a).

mies to control for unexplained industry characteristics (*e.g.* technological opportunity) and either fixed or random country effects. Finally, the potential interaction between EPL, industrial relations regimes and the technological characteristics of different industries was dealt with by introducing a dummy variable that identifies high-technology industries, defined according to the standard OECD classification (Hatzichronoglou, 1997).

Consistent with previous evidence, R&D intensity is positively associated with the share of large firms; it also increases with trade openness, perhaps pointing to the existence of positive knowledge spillovers.⁵⁴ Among product market regulations, non-tariff barriers,

state control and barriers to entrepreneurship are the most significant, with non-tariff barriers negatively affecting R&D and state control and barriers to entrepreneurship having opposite effects on R&D, confirming the results found in the aggregate regressions.⁵⁵

EPL and co-ordination in industrial relations have significant effects on R&D intensity, and their signs are consistent with those found in the aggregate regressions. *Ceteris paribus*, R&D appears to decrease with the stringency of EPL and to increase with the degree of co-ordination. At the same time, no effect on R&D of the interaction between EPL and co-ordination in industrial relations can be found pooling all industries together. Results change, however, if separate coefficients for high and low-technology industries are estimated, suggesting that pooling may be inappropriate to gauge the effects of interactions between EPL and co-ordination on R&D. While the estimates for control variables and product market regulations do not change, interaction terms now have significant and opposite effects on the two sets of industries. At any given level of EPL and co-ordination in industrial relations, their combination appears to have a positive effect on R&D intensity in high-tech industries and a negative effect in low-tech industries. Co-ordination tends to offset the negative influence of EPL in high-tech industries, perhaps due to the fact that EPL is less binding for innovative activity when firms resort to the internal labour market. As mentioned above, this is less likely to occur in industries with low elasticities of demand, partly explaining the negative effect found in low-tech industries.

To throw further light on this issue, an alternative specification was tested in which the effects of EPL differ according to the three levels of co-ordination, relaxing the hypothesis of linearity of co-ordination effects. The aim of this specification, which is preferred by model specification tests over the linear one, is to sort out situations in which policy-makers who wish to change EPL policies should worry about the possible effects of these policy changes on innovation performance, taking the existing regime of industrial relations as given. The estimated net effects on R&D of EPL and co-ordination in industrial relations are described in Table 5.9. The results indicate that increases in EPL strictness appear to discourage investment in R&D, except in the case of high-tech

Table 5.9. **Net effects of EPL and bargaining co-ordination on R&D intensity**

	High-tech industries	Low-tech industries
A. Effects of EPL in the context of:		
High bargaining co-ordination	0.25* (1.9)	-0.29** (-2.1)
Intermediate bargaining co-ordination	-0.61*** (-3.6)	-0.79*** (-4.8)
Low bargaining co-ordination	-2.28** (-2.0)	-0.53 (-0.7)
B. Effects of bargaining co-ordination in the context of:		
High EPL	3.04** (2.0)	0.82 (1.0)
Low EPL	1.46 (1.4)	0.60 (1.1)

EPL: Employment protection legislation.

*, **, *** denote significance at the 10%, 5% and 1% level, respectively. T-statistics in parentheses. Samples are adjusted for outliers based on the Welsh distance cut-off (Chatterjee and Hadi, 1988).

Note: The table reports estimated total effects of EPL (co-ordination) for given values of co-ordination (EPL). The estimated model allows for non-linear interaction between EPL and co-ordination. Panel B reports estimated average effects of raising co-ordination by one level for 2 groups of countries (high-EPL and low-EPL countries). High-EPL and low-EPL are defined here with respect to the average value of EPL.

Source: Nicoletti *et al.* (2001a).

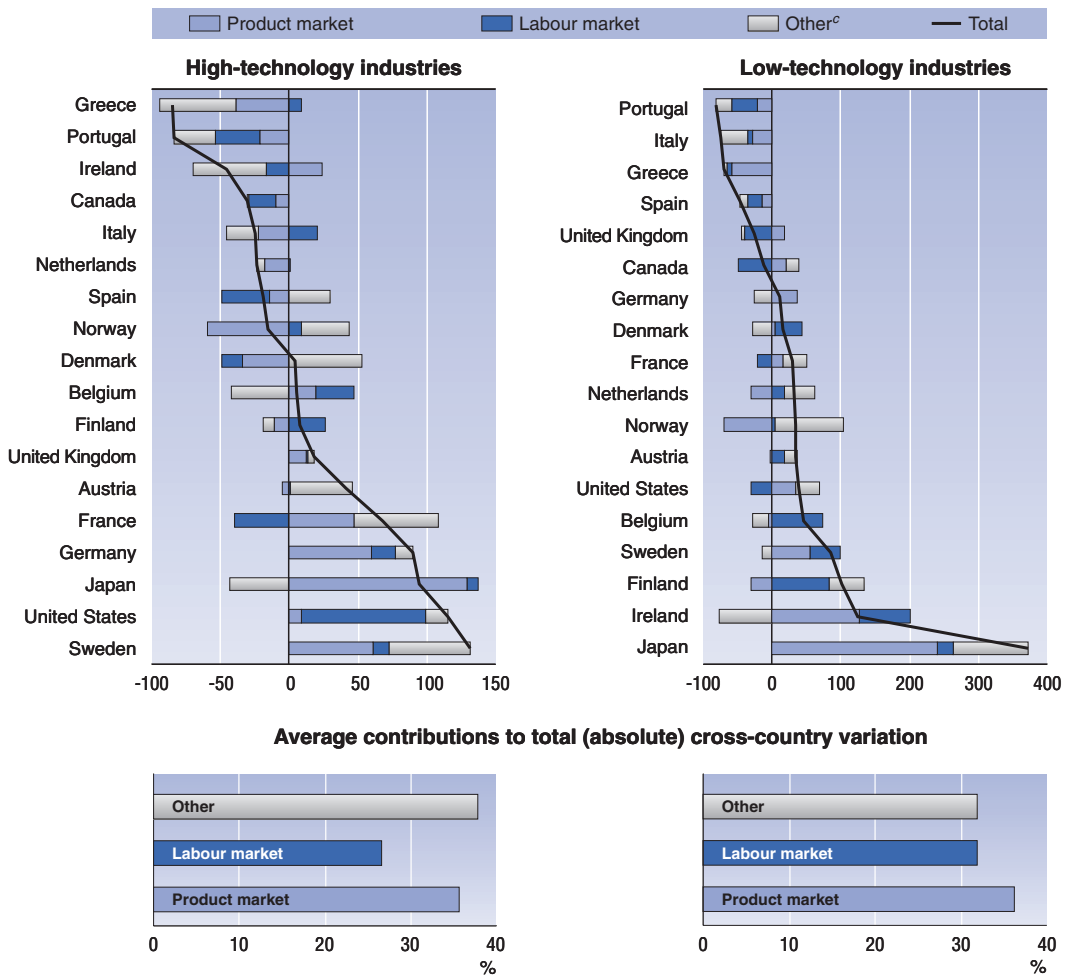
industries in countries with co-ordinated wage bargaining, where stricter EPL appears to encourage such investments (Panel A).⁵⁶ The cross-market effect of co-ordination on innovative activity is unambiguously positive in high-tech industries of high EPL economies, while its effect in all the other cases is ambiguous (Panel B).

Conclusions on innovation

The policy and institutional environment in the labour market appears to be about as important as product market conditions in determining innovation activity in OECD countries. The quantitative effects of labour and product market influences implied by the empirical estimates are often of comparable size (Chart 5.7), suggesting that the design of

Chart 5.7. **Contribution of labour and product market policies and institutions to R&D intensity^a**

Percentage deviations from OECD average^b



a) Based on the non-linear specification.
 b) Adjusted for industry composition.
 c) Other controls, random effect plus residual.
 Source: Nicoletti et al. (2001a).

labour market policies should take into account their potential repercussions on innovative activity. In high-technology industries, generally accounting for around 70% of all R&D, the estimated effect of labour market factors is particularly strong in the United States, on the positive side, and France, Portugal and Spain, on the negative side.

The cross-market interactions between innovative activity and labour market policies and institutions are complex. The analysis in this section explored some of the possible channels through which these interactions operate, focusing on hiring and firing rules and industrial relations regimes. Based on aggregate data, there seems to be a U-shaped relationship between innovative activity and labour market regimes, defined by different combinations of EPL and co-ordination in industrial relations. R&D intensity is relatively high either in high EPL/high co-ordination countries or in low EPL/low co-ordination countries, while other combinations of policies and institutions appear to be associated with lower overall innovative activity. This non-linearity emerges also at the industry level, making the comparative statics of changes in policies and institutions difficult to analyse. At the level of aggregation at which data are available, it is impossible to point out which (if any) of the two extreme combinations of EPL and co-ordination in industrial relations is superior from the point of view of innovation outcomes.

B. Specialisation in high-R&D and high-wage industries

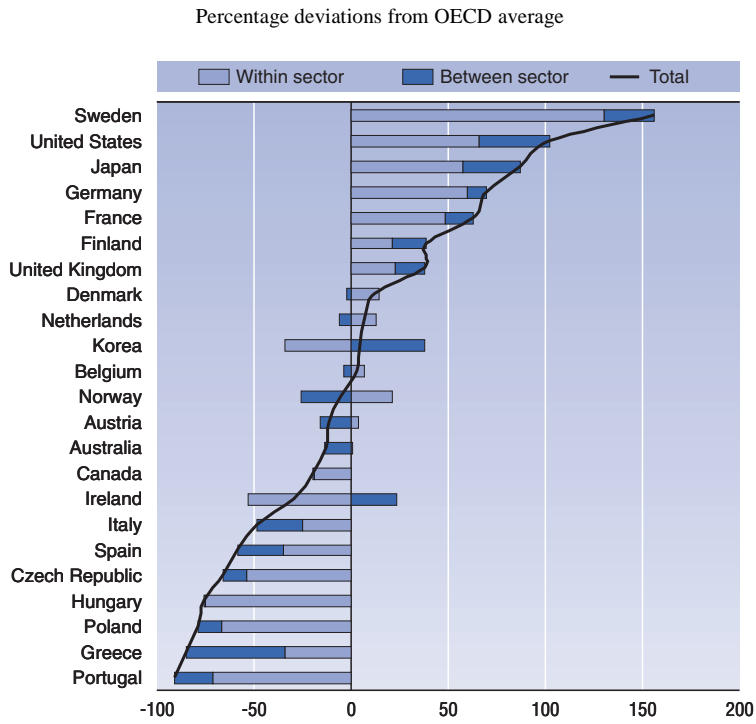
Industry composition effects on R&D intensity

Country differences in average R&D intensity depend on both industry-specific factors and the industry composition of GDP. So far, the analysis has focused mainly on innovation activity at the level of single industries, exploring the effects of labour market arrangements on cross-industry and cross-country differences in R&D intensity. However, at least in the long run, industry composition could be conceivably as important as industry-specific factors in determining aggregate outcomes. Moreover, policies and institutions in the labour and product markets can affect industry composition.

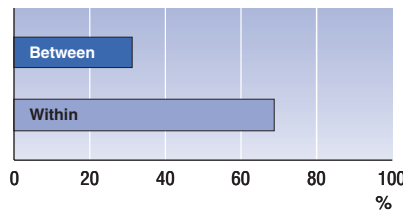
Chart 5.8 decomposes for each country the percentage deviation from the OECD average in R&D intensity into within-industry and between-industry elements.⁵⁷ The results suggest that, overall and at the level of aggregation examined, differences in industry composition explain only a relatively small part of the differences in R&D intensity across countries. Nonetheless, industry composition effects on R&D intensity are important in several countries, with Finland, Ireland, Japan, Korea, Sweden, the United Kingdom and the United States, having a larger share of inherently R&D intensive sectors, and Austria, Greece, Italy, Norway and Spain having an industry mix that tends to curb R&D intensity relative to the OECD average.

Table 5.10 (column 1) explores the possible relationship between intersectoral reallocation effects and labour and product market policies and institutions by means of simple bivariate correlations.⁵⁸ A number of policies and institutions appear to be associated with a mix of industries having lower innovation content. Some of these negative correlations confirm the results of the industry-level analysis, such as with the strictness of EPL, state control and overall product market regulation. Other results suggest that the tax wedge and the administrative extension of collective agreements may also be negatively correlated with industry composition effects on R&D. These results might reflect the fact that these labour and product market policies affect the speed of reallocation of resources among industries characterised by different technological opportunity, giving a comparative

Chart 5.8. **R&D intensity: within-sector and industry-composition effects**



Average contributions to total (absolute) cross-country variation



Source: Nicoletti et al. (2001a).

advantage in high-tech industries to countries in which taxation is lower and firing restrictions and product market regulations are less stringent.

Industry composition effects on average wage premia

Just as some countries demonstrate a comparative advantage in R&D intensive industries, the share of total employment attributable to high wage-premia industries may also vary across countries and be influenced by labour and product market regulations. Using the estimates of inter-industry wage premia from Section 1.B, OECD countries can be compared according to their specialisation in industries typically characterised by high wage premia. For each country, the indicator of specialisation weights the share of employment in each manufacturing industry by the average (across countries) of the corresponding wage premia estimated in the countries included in the sample. Using a similar indicator, countries can also be compared according to their specialisation in high-R&D

Table 5.10. **Labour and product market policies and specialisation in high R&D and high wage-premia industries**

Cross-country correlation coefficients

	Effect of industry mix on aggregate R&D intensity	Effect of industry mix on average wage premia
Tax wedge	-0.43 *	-0.08
Unemployment benefits	-0.13	0.24
Administrative extension of collective agreements	-0.65 **	0.02
Employment protection legislation	-0.47 *	-0.43 **
Excess regulation on corporations	-0.64 **	-0.51 **
Product market regulation	-0.45 *	-0.36 *
State control	-0.79 **	-0.50 **
Barriers to entrepreneurship	0.19	-0.03
Barriers to trade	-0.19	-0.19

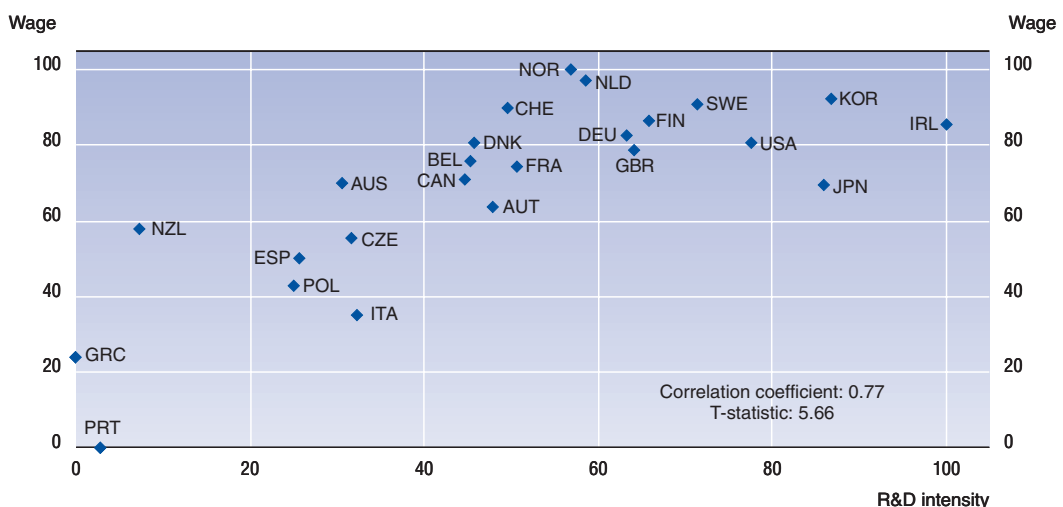
* and ** denote significance at the 5% and 1% level, respectively.

Source: Nicoletti et al. (2001a).

industries.⁵⁹ Chart 5.9 shows that the two indicators are highly correlated across countries, with countries that specialise in high-R&D industries also specialising in industries with high wage premia. This relationship suggests that specialisation in the two dimensions may be driven by the same forces, consistent with theories of co-determination of efficiency wages and choice of technology (Acemoglu and Shimer, 2000).⁶⁰

Table 5.10 (column 2) explores the possible relationship between specialisation in high-wage industries and policies and institutions in a simple bivariate framework. The index of specialisation is related across countries to product market regulations and labour

Chart 5.9. **Specialisation in high-wage and high-R&D industries^a**



a) Indices of employment specialisation according to average inter-industry wage premia and average R&D intensities (as estimated by industry dummies in fixed-effect regressions).

Source: Nicoletti et al. (2001a).

market policies and institutions. The resulting correlations suggest that countries where product market regulations and employment protection legislation are relatively strict also tend to specialise in industries characterised by low wage premia. Similar negative correlations were found between labour and product market regulations and industry composition effects on aggregate R&D intensity (column 1). Given the close relationship between specialisation in high-R&D and high-wage industries, a possible interpretation of these bivariate correlations is that regulatory settings that discourage specialisation in high-wage industries also may impair a country's innovation potential. This interpretation should however be considered highly tentative since other factors could drive differences in specialisation patterns across countries and these bivariate correlations take no account of the interaction effects that emerged as being critical in the within-industry regression analysis for R&D intensity.

Conclusions

Policies in labour and product markets are predominantly intended to influence outcomes in the markets to which they directly apply. However, the empirical analyses reported in this chapter suggest that policy interactions between labour and product markets can have significant effects, sometimes having an impact comparable to within-market policy effects. For instance, in the United States, labour and product market arrangements appear to have been equally important in determining R&D intensities above the OECD average. Conversely, anti-competitive product market regulations and an unfavourable combination of labour market policies appear to have contributed equally to keeping employment rates below the OECD average in some European countries. Therefore, accounting for the more important cross-market effects of labour and product market policies appears to be an important element of good policy design.

How best to account for these cross-market effects is far from obvious, given their complexity and the limits of current understanding. The chapter's analysis suggests some broad orientations for thinking about such issues:

- *There appears to be an overall complementarity between regulatory reform in the product market and employment policy.* In particular, the removal of barriers to trade and competition in potentially competitive product markets can be a complement to labour market reforms aimed at increasing long-run employment levels of OECD countries. The analysis in this chapter suggests that part of the effects on employment derive from a decline in the rent-sharing component of wages. Further beneficial effects on employment and real wages may also be expected from an increased specialisation in industries that have a higher growth potential.
- *Regulatory reform in the product market may require adjustments in labour market policies and programmes.* Policies increasing competition in the product market clearly result in increased lay-offs in the short-run and may lead to permanently higher rates of job loss in industries that previously were highly regulated. Accordingly, it is important that both active measures – to speed the re-employment of displaced workers – and passive measures – to insure adequate income security following job loss – be adequate to the task. However, active measures of these types are required independently of the regulatory stance in product markets (see Chapters 1 and 4).

- *Trade-offs may arise when considering the own and cross-market effects of policies.* The preliminary evidence in this chapter suggests that product market reforms that increase competition may sometimes result in decreased employment security for certain groups of workers. These findings suggest that trade-offs may be present when setting regulatory policy, because changes in regulation that enhance efficiency and total employment may also diminish employment security for certain workers. However, the terms of any such trade-off are complex, because labour and product market regulations that enhance security for certain workers (“insiders”) appear also to result in reduced security for others (“outsiders”). Furthermore, the available evidence suggests that the cross-market effects of product market regulations on employment security are less important than own-market effects of labour market policies, particularly EPL and unemployment benefits.
- *Labour and product market policies interact in complex ways that suggest caution in trying to exploit cross-market effects.* Simple cross-country associations suggest that stricter EPL makes it more difficult for firms to innovate with potentially adverse consequences for the economy’s growth prospects. However, the fuller analysis suggests a more complex reality in which employment protection can either impede or facilitate R&D investments, depending on the organisation of wage bargaining and the nature of the technology used by a particular industry.

In sum, policy makers should be alert to the possibility that cross-market effects may be important, but research of these linkages has not yet progressed to the point of generating precise policy prescriptions. Nonetheless, some of the potentially more important linkages have been identified. This provides some guidance to policy makers for avoiding major incompatibilities across labour and product market policies and for capitalising on complementarities. Since the poet Rudyard Kipling wrote the famous words, “East is East and West is West, and never the twain shall meet”, contacts – and, hopefully, mutual understanding – have grown between the different peoples of the world. Similar progress in the integration of policy making in labour and product markets is to be hoped for.

Notes

1. The analysis presented in this chapter draws from a broader OECD study analysing cross-market policy effects and their implications for policy making (Nicoletti *et al.*, 2001a).
2. To make intersectoral and time-series macro analyses feasible, the previously available indicators of product market regulation are supplemented and extended to cover a finer industry breakdown and several time periods (see Annex 5.A).
3. For example, Nicoletti *et al.* (1999) show that the cross-country correlation between overall product market regulation and EPL is strongly positive.
4. Endogeneity bias is probably more severe in studies of the cross-market effects of product market conditions that regress labour market outcomes on mark-ups or concentration indices (which serve as proxies for product market competition), since these outcomes are jointly determined with employment and wages (OECD, 1996a).
5. Different combinations of two of these three dimensions are used in each case, as is described in Sections 1 and 2. See Nicoletti *et al.* (2001a) for detailed discussion of the econometric techniques used to minimise these problems, as well as for extensive robustness checks of the results presented here.
6. Bednarzik (2001) presents evidence that international differences in capital market efficiency make an important contribution to explaining differences in employment rates.
7. For instance, a lowering of entry costs (*e.g.* implied by regulatory barriers) is likely to have a larger positive long-run effect on employment than a mere increase in the intensity of competitive pressures (*e.g.* induced by changes in competition policies), because it implies an increase in the number of firms at equilibrium (Blanchard and Giavazzi, 2001). In flexible labour markets, employment may become more volatile in the short-run as product market competition is increased, but labour readjustments to a new equilibrium may also be quicker.
8. For instance, productivity improvements induced by competitive pressures are often obtained through labour shedding in the short-run, but output expansion and new entry are likely to offset these employment losses only over time. Similarly, downward pressure on labour and product market rents stimulates employment as wage premia decline in sheltered industries (see Section 1.B), but may also translate into lay-offs and/or increased work effort where rent sharing was non-pecuniary in form.
9. See Nicoletti and Scarpetta (2002) for a fuller presentation of the analysis presented in this section.
10. Agricultural employment is not considered in the chart given the large proportion of self-employed in that sector who are only marginally affected by the product market regulations included in the summary indicators.
11. The association is very similar when 1998 values for the less comprehensive, time-series indicator of product market regulation are plotted against employment rates (Nicoletti and Scarpetta, 2002).
12. The *tax wedge* will have an impact on equilibrium employment only in the presence of market imperfections. For example, workers may be able to resist offsetting wage cuts in a collective bargaining framework; unemployment benefits are in some cases fixed or subject to floors and ceilings which weaken their relationship with earnings; and non-labour income effects may be important (Phelps, 1994; Pissarides, 1998).
13. OECD (1999b) reports an insignificant negative impact of EPL on total employment, but a positive and significant impact on self-employment, implying a negative impact on dependent employment, that is qualitatively consistent with the negative effect found here for non-agricultural employment.
14. Regulatory reforms that occurred in Italy after 1998 (see OECD, 2001e, for details) are not taken into account in these calculations.
15. The values shown in Chart 5.2 are based on the estimated coefficients from the specification with no interaction terms (Table 5.1, column 3). See also OECD (2001d).
16. As was mentioned in the introduction, endogeneity bias may be especially severe when mark-ups and concentration indices are used as proxies for product market competition, since these variables are co-determined with wages. Also, OECD (1996a) only analysed average monthly wages in manufacturing industries and the controls used to account for worker and firm characteristics were limited.
17. See Jean and Nicoletti (2002) for a fuller presentation of the analysis presented in this section.
18. This approach was pioneered by Katz and Summers (1989), who applied it to micro data.

19. In all countries the estimated wage profiles are consistent with standard Mincerian equations, with wages increasing with age and education levels and a significant gender effect.
20. In an efficiency-wage perspective, wage premia correspond to the compensation paid by firms for avoiding the costs of monitoring, collecting information, etc. Even conceptually, the distinction between efficiency-wage and rent-sharing elements is difficult. To the extent that rent sharing is a device to avoid the costs of labour unrest, it can also be seen as part of efficiency wages (Krueger and Summers, 1988).
21. Several of the variables controlling for firm heterogeneity (*e.g.* entry rates, firm size and workforce skills) are industry-level measures that have been averaged across the countries for which data are available. Since these variables have no cross-country variation, they cannot be included in regression models that also include industry fixed effects.
22. The estimated effect for non-tariff barriers is insignificant in the random-effects model, but the Hausman specification test indicates that the fixed-effects model is more reliable.
23. Acemoglu *et al.* (2001) argue that this reduction in bargaining power is related to the wider outside options for skilled workers, which undermines the coalition among skilled and unskilled labour in support of unions.
24. The positive relationship between wages and firm size, even after controlling for observable worker characteristics and other job attributes, is a common empirical finding (for a review, see Oi and Idson, 1999).
25. The regression-adjusted (net) industry wage premia are calculated as the first-step (gross) wage premia net of the country and industry-specific effects, as estimated by the fixed-effects regression equation (Table 5.2, column 3), when the insignificant union density variable has been dropped.
26. Non-pecuniary rents can take the form of low work intensity (*e.g.* lack of monitoring), inefficient utilisation of inputs (*e.g.* labour hoarding) and other business practices that induce firms to operate within the efficiency frontier (so-called X-inefficiency), while increasing the utility of workers. These phenomena may be especially pronounced where regulation is strongest. For instance, public-owned firms are typically more exposed to political interference, with profit maximisation being overridden by other objectives, which may imply some degree of X-inefficiency (Haskel and Sanchis, 1995). Similarly, “public service” considerations and strong union participation make high pay levels and pay inequalities less politically acceptable, than high non-pecuniary rents.
27. As in Sections 1.A-1.B, the main emphasis is placed on the cross-market effects of product market regulations. However, own-market effects are also briefly considered, despite their having received more attention in prior research [*e.g.* Bertola, 1999; OECD, 1999c; and Pissarides, 2001 analyse the impact of EPL on employment and earnings stability, while Blau and Kahn (1999) and OECD (1997a) analyse the impact of collective bargaining on wage inequality]. Controlling for cross-market effects should make it possible to estimate own-market effects more accurately and to assess whether interaction effects between labour and product market regulations are important. See Nicoletti *et al.* (2001a) for a fuller presentation of the analysis presented in this and the following section.
28. To the extent that such increases in employment security imply deviations from profit maximisation, they are a form of non-pecuniary rents, as discussed in Section 1.B.
29. Many of the static models in the theoretical literature also imply that the impacts of product market regulations on aggregate employment and unemployment are strongly influenced by wage-setting institutions (Nickell, 1999). Similarly, the empirical literature suggests that a portion of the rents that accrue to firms with market power typically are passed on to unionised workers in the form of higher wages, but that rent capture is much less evident for non-unionised workers.
30. Although not analysed here, earnings can also fall in the absence of job loss (*e.g.* labour income will fall for workers on continuing jobs who experience declines in hours worked or pay rates). Although nominal wage cuts appear to be rare, workers covered by incentive pay schemes (*e.g.* profit-sharing) may face a greater risk of earnings declining while remaining with the same employer.
31. The two-sided search equilibrium models surveyed by Mortensen and Pissarides (1999a and b) provide a unified framework for analysing how the incidence and duration of unemployment are affected by policy changes, such as the introduction of EPL (Pissarides, 2001). A comparison of displaced workers in Belgium and Denmark provides evidence that stricter EPL is, in fact, associated with a lower job loss rate and longer unemployment durations (Albaek *et al.*, 1998).
32. Only small samples of job losers are observed for any given industry-country combination and the effects of job loss on future employment and earnings can only be observed over a short period of time.
33. Conceptually, this measure corresponds most closely to the expected cost of job loss as defined in equation 1. However, it is calculated from somewhat imprecise retrospective questions in the European Union Labour Force Survey.

34. This supposition is probably most questionable for the three measures of labour turnover because a depressing effect of product or labour market regulations on the quit rate could be mistakenly interpreted as a fall in the job loss rate. For example, if product market regulation results in a positive wage premium being paid in a particular industry (see Section 1.B), that premium is likely to discourage quits, without necessarily implying any improvement in job security.
35. For example, the apparent link between less product market competition and less labour turnover shown in the first two panels in Chart 5.4 might reflect, in actuality, the depressing effect of stricter EPL on lay-offs, because countries with stricter EPL also tend to have more restrictive product market regulations (Nicoletti *et al.*, 1999).
36. Regression results are reported for panels of service industries using data for 1998. Cross-sectional regressions, using aggregate national values, and panel regressions for manufacturing industries both proved uninformative due to limitations in the available data (see Nicoletti *et al.*, 2001a for a fuller discussion).
37. The effect of product market competition on insecurity is modelled by a linear spline with a single kink point at the sample median value of the global index for product market regulations.
38. The relatively small number of countries and industries for which insecurity measures could be matched to the variables measuring labour and product market regulations and institutions means that only a modest number of observations are available for statistical estimation. The estimation problems created by low degrees of freedom are exacerbated by substantial multicollinearity among some of the regressors.
39. The data are not adequate to estimate a model including fixed effects for both industry and country.
40. Although stricter EPL on regular jobs creates an incentive for employers to circumvent these restrictions by expanding their use of temporary contracts, previous analysis by the OECD (1999c) was unable to verify such an effect across OECD countries.
41. Product market regulations can also affect income distribution through channels that do not involve the labour market. For example, price decreases resulting from regulatory reform in a particular industry will advantage families who are intensive consumers of its products.
42. There is evidence that increased product market competition due to imports caused wage inequality to rise during recent decades in the United States (Borjas and Ramey, 1995), because wage rents were reduced most for production workers with lower levels of education. However, this may not be a general pattern, since Fortin and Lemieux (1997) find that product market deregulation contributed little to overall wage inequality in the United States.
43. Since *relative* definitions are adopted for low pay and poverty, international differences in average earnings and income are not reflected in these inequality measures. The low pay definition is adopted from the analysis of earnings inequality and mobility in the 1996-97 issues of the *Employment Outlook* and the poverty definition from the analysis of poverty dynamics in the 2001 issue of the *Employment Outlook* (OECD, 1996b, 1997a and 2001c).
44. A second measure of earnings dispersion is also shown in Chart 5.5, namely the ratio of earnings at the 90th percentile to earnings at the 10th percentile. The 90-10 ratio is included because it is available for a wider range of OECD countries and is a more common measure of earnings dispersion than the 80-20 ratio. The small sample sizes available in the European Community Household Panel meant that the 90-10 ratio could not be reliably calculated at the industry level, as is required for the regression analysis.
45. A greater prevalence of low-paid jobs needs not translate into a higher poverty rate since workers with low earnings may be members of families with other sources of income (*e.g.* earnings from other workers or public income transfers).
46. Perfect competition makes firms indifferent *vis-à-vis* the choice whether to innovate or not, but the possibility to appropriate rents coupled with competitive struggle makes innovation desirable. When rent protection becomes strong enough, incentives to innovate fade out again. Therefore, if a market moves from monopoly to perfect competition, innovative activity first increases and then decreases.
47. Existing empirical evidence on poaching reports that there are wage gains to switching jobs in the US (Topel and Ward, 1992; McCue, 1996) but not in Germany (Zimmermann, 1998). Furthermore, Blinder and Krueger (1996) report that inter-firm job mobility in Japan is virtually non-existent due to customary practices of firms. Conversely, they report that many Japanese multinational firms have been forced to revise training strategies in their American affiliates shortly after their establishment, due to poaching by other firms.
48. Recent research (for a survey, see Acemoglu and Pischke, 1999b) suggests that poaching may be inhibited by several factors: *i*) centralised and/or co-ordinated wage bargaining settings may extend contracts and/or customary practices to cover almost all firms and workers; *ii*) information may be lacking on previous training of job candidates; *iii*) frictions and search costs may be high; *iv*) skills may be partly firm-specific; *v*) lay-offs and quits may suffer from adverse selection.

49. Incentives to undergo firm-sponsored training exist only if the difference between the productivity of workers and the wages paid by the firm is greater in the case of skilled workers rather than unskilled workers. Lynch (1994), Blinder and Krueger (1996), Soskice (1997), Acemoglu and Pischke (1999a, 1999b) and OECD (1993 and 2000c) report evidence of higher firm-sponsored training in more co-ordinated countries. Consistently, Davis (1992), Blau and Kahn (1996), Blinder and Krueger (1996), Gottschalk and Smeeding (1997), OECD (1997a) and Kahn (1998) report evidence linking a compressed wage structure to centralisation/co-ordination of wage-bargaining systems.
50. See Bassanini and Ernst (2002a) and Nicoletti *et al.* (2001a) for a fuller presentation of the analysis presented in this section.
51. Other important features of innovation, which are ignored here, are science-industry links, co-operation between firms and financial market arrangements (*e.g.* venture capital). See OECD (2000d).
52. To suit the analysis of innovation, the proxy for industrial relations regimes takes into account both the centralisation and co-ordination dimensions and, henceforth, in this section industrial relations regimes are said to be co-ordinated when bargaining is either co-ordinated, centralised or both, and de-centralised when bargaining is neither centralised nor co-ordinated. The aim is to capture the repercussions of industrial relations regimes on innovation through their effect on wage structures and firm strategies for upgrading skills (such as resort to external or internal labour markets, poaching skills of competitors, etc.). On the one hand, a high level of co-ordination of business associations and the code of conduct between firms tend to make the poaching of skills less likely; on the other hand, both bargaining centralisation and co-ordination tend to compress wage structures.
53. IT intensity can be seen as a proxy for technology adoption and organisational change, rather than innovation. Organisational change is more frequent than innovation in low-tech industries, often leading to downsizing (Caroli *et al.*, 2001). Therefore it is not surprising that firing restrictions seem to have a more negative impact on IT intensity than on other indicators of innovation performance.
54. Trade openness increases product variety in domestic markets and induces imitation by domestic producers. Imitation requires spending in R&D (Cohen and Levinthal, 1989).
55. High non-tariff barriers are likely to affect the elasticity of substitution between imported and domestically produced products, thereby lowering incentives to innovate when domestic and foreign firms have similar levels of competitiveness (the case of “neck and neck” competition, see Aghion *et al.* 1997, 2001a; and Boone, 2000).
56. Bassanini and Ernst (2002b) extend this analysis by differentiating between high-tech industries where the knowledge base is general and innovations are frequently realised by start-ups (*i.e.* “Mark I” industries, such as software development) and high-tech industries characterised by a knowledge base that is cumulative and more firm specific (*i.e.* “Mark II” industries, such as aircraft manufacturing). The beneficial interaction between EPL and bargaining co-ordination is shown to be largely due to Mark II industries, where the technology is especially suited to skill development within the firm rather than via external recruitment.
57. Details of the decomposition methodology are provided in Nicoletti *et al.* (2001a).
58. Due to data limitations, no multivariate analysis of the determinants of industry composition effects is possible.
59. Due to data limitations, specialisation indicators do not include non-manufacturing industries. The indicators are increasing in the degree of high-wage and high-R&D industry specialisation. See Nicoletti *et al.* (2001a) for details on the methodology used to construct them.
60. R&D investment calls for skilled labour and skilled labour calls for high wage premia; conversely, high wage premia may induce the choice of innovative labour-saving technologies.

Annex 5.A

Data definitions and sources

Table 5.A.1 provides details on the cross-country and cross-industry variability of the policy and institutional indicators used in the chapter's empirical analysis, which is performed at both the aggregate level (in a cross-section of 26 OECD countries) and at the industry level (using a panel of up to 18 OECD countries and 30 manufacturing and non-manufacturing industries). From the perspective of labour market analysis, the chief novelty in this database is the presence of detailed measures of product market regulations limiting competition. For this purpose, the existing cross-country data on industry-specific product market regulations (see the papers in OECD, 2001a) were significantly extended to cover most of the energy and marketable service industries (a total of 21 industries and industry aggregates). Depending on the industry, the summary regulatory indicators cover barriers to entry, public ownership, price controls, government involvement in business operation, market concentration and vertical integration. In manufacturing, the industry-specific regulatory indicators cover only tariff and non-tariff barriers to trade. The indicators generally report the situation in the years 1995 to 1998. For a subset of non-manufacturing industries, summary indicators cover a relatively long time-series of regulations.

Further information on the industry-specific indicators of product market regulations is provided in Table 5.A.2, including industry and country coverage, the aspects of regulation that are encompassed and data sources. As described in Section 1.A, the analysis of the aggregate employment rate exploits variation over time in a less detailed summary indicator of product market regulation. The evolution of the time-series indicator of regulatory strictness during 1978-98 is presented in Table 5.A.3. Finally, Table 5.A.4 provides definitions and sources for the major labour market policy and institutional variables used in the chapter's analysis.

Table 5.A.1. Policy and institutional indicators used in empirical analysis

Indicator	Scale	Max.	Min.	Observations	Mean	Coefficient of variation
Economy-wide product market regulation, 1998						
Summary indicator	0-6	3.28 (POL)	0.49 (GBR)	26	1.73	0.38
State control	0-6	4.25 (POL)	0.55 (GBR)	26	2.33	0.42
Involvement in business operation	0-6	4.50 (GRC)	0.46 (IRL)	26	2.27	0.43
Public ownership	0-6	5.07 (POL)	0.03 (GBR)	26	2.39	0.52
Barriers to entrepreneurship	0-6	3.37 (TUR)	0.48 (IRL)	26	1.75	0.42
Excess regulation on corporations ^a	-6 to 6	2.0 (GRC, ESP)	-2.5 (BEL)	26	0.15	6.47
Barriers to trade	0-6	4.18 (CZE)	0.62 (GBR)	26	1.47	0.69
Time series of product market regulation,^b 1978-98						
Summary indicator	0-6	6.00 (1978, FRA)	1.02 (1998, GBR)	441	4.36	0.26
Industry-specific product market regulation						
Summary indicator (ISIC 40-74), 1998	0-1					
Across countries (cross-industry average)		0.50 (POL)	0.13 (GBR)	26		0.27
Across industries (cross-country average)		0.71 (Elec.)	0.01 (Hotels, rest.)	13		0.89
Total		0.86 (Elec. *)	0.00 (Sale, repair, W/sale, hotels, rest., support trans. **)	292	0.25	0.97
Tariff barriers (ISIC 15-35), 1996						
	Percentage					
Across countries (cross-industry average)		28.1 (POL)	4.35 (JPN)	26		0.41
Across industries (cross-country average)		60.4 (Tobacco)	2.90 (Office machi.)	21		1.35
Total		246.3 (Tobacco, POL)	0.00 (***, JPN)	546	10.08	1.79
Non-tariff barriers (ISIC 15-35), 1996						
	Percentage					
Across countries (cross-industry average)		16.6 (USA)	0.00 (POL)	26		0.65
Across industries (cross-country average)		59.0 (Textiles)	0.00 (Tobacco)	21		2.38
Total		97.0 (Textiles, PRT)	0.00 (****)	546	7.28	2.98
Economy-wide labour market policies and institutions, 1996						
Corporatism	1-3	3 (a)	1 (d)	26	2.04	0.43
Coordination	1-3	3 (b)	1 (e)	26	2.25	0.35
Centralisation	75	3 (c)	1 (d)	26	1.81	0.38
Union density	Percentage	52.9 (BEL)	9.1 (FRA)	9	25.0	0.50
Employment protection legislation (individual dismissals)	0-6	3.7 (PRT)	0.2 (USA)	22	2.15	0.51
Employment protection legislation (collective dismissals)	Dummy	1	0	19	-	-
Administrative extension	Percentage	85.9 (FRA)	-7.0 (DNK)	18	30.0	0.98
Tax wedge	Percentage	47.9 (BEL)	9.6 (KOR)	23	34.5	0.30
Gross replacement rates (average 1993-97)	Percentage	69.4 (DNK)	5.2 (ITA)	26	30.2	0.45

Table 5.A.1. **Policy and institutional indicators used in empirical analysis** (cont.)

Indicator	Scale	Max.	Min.	Observations	Mean	Coefficient of variation
Industry-specific labour market institutions						
Union density (ISIC 40-74)	Percentage					
Countries		70.1 (SWE)	9.6 (FRA)	11	34.5	0.52
Industries		61.5 (Comm.)	19.3 (W/sale, retail, hotel and rest.)	20	34.4	0.43
Total		100 [(f) BEL, SWE]	1.7 (Finance, USA)	180	33.9	0.74

a) Difference between the indicators of strictness of administrative barriers on corporations and on sole proprietor firms.

b) Summary of regulatory developments in seven service industries.

* Countries concerned: (41) AUT, CAN, DEU, FIN, KOR, NLD, NZL, POL.

** Countries concerned: (50-51) BEL, CHE, CZE, DEU, DNK, FRA, GBR, GRC, ITA, JPN, KOR, NLD, NOR, NZL, PRT, TUR, USA.

(55) AUS, AUT, BEL, CHE, CZE, DEU, ESP, FIN, FRA, GBR, GRC, HUN, IRL, JPN, KOR, NLD, NOR, NZL, PRT, SWE, TUR, USA.

(63) BEL, GBR, HUN, KOR, NLD.

*** Office machinery, Radio and television, Motor vehicles, Other transport equipment.

**** In numerous cases.

(a) Countries concerned: AUT, CZE, DEU, DNK, GRC, IRL, ITA, NLD, NOR, POL.

(b) Countries concerned: AUT, CZE, DEU, DNK, GRC, IRL, ITA, JPN, KOR, NLD, NOR, POL.

(c) Countries concerned: CZE, ITA, NOR, POL.

(d) Countries concerned: AUS, CAN, CHE, GBR, JPN, KOR, NZL, TUR, USA.

(e) Countries concerned: CAN, GBR, NZL, TUR, USA.

(f) BEL: electricity, gas, water; SWE: electricity, gas, water and construction.

Source: Nicoletti *et al.* (2001a).

Table 5.A.2. Industry-specific product market regulation: coverage and sources

Industry	ISIC code Revision 3	Period	Regulatory and market dimensions covered ^a	Industrial segments covered	Countries covered	Main sources ^b
<i>Electricity</i>	401	1998 1975-98	P, E, PO, MS, VI E, PO, VI	Prod., Trans., Dist.	24-25 21	OECD OECD, EC, PI, WB
<i>Gas manufacture and distribution</i>	402	1998 1975-98	P, E, PO, MS, VI E, PO, MS, VI	Prod., Trans., Dist.	26 21	OECD, EC, PI, WB
<i>Energy</i>	40	1998	E, PO, VI	Prod., Trans., Dist.	25	OECD, EC, PI, WB
<i>Water works and supply</i>	41	1998	E, PO, VI		23	OECD, EC, PI, WB
<i>Electricity, gas and water</i>	40-41	1998	E, PO, VI		23	OECD, EC, PI, WB
<i>Wholesale trade</i>	50-51	1998	E, PO		25	OECD
<i>Retail trade</i>	52	1998	E, CBO		28	OECD
<i>Restaurant and hotels</i>	55	1998	E		25	OECD
<i>Railways</i>	601	1998 1975-98	P, E, PO, MS, VI E, PO, MS, VI	Passenger, freight	27 21	OECD, ECMT
<i>Road freight</i>	602	1998 1975-98	P, E, CBO P, E		27-29 21	OECD OECD, ECMT
<i>Land transport</i>	60	1998	P, E		27	OECD, ECMT
<i>Water transport</i>	61	1998	E, CBO		22	APC
<i>Air transport carriers</i>	62	1998 1975-98	E, PO, MS E, PO	Passenger	27 21	OECD OECD, EC
<i>Transport</i>	60-62	1998	E		22	OECD, ECMT, EC, APC
<i>Supporting services to transport</i>	63	1998	E, PO		21	OECD
<i>Post</i>	641	1998 1975-98	P, E, PO, VI	Letter, parcel, express	22-26 21	OECD, EC, UPU
<i>Telecoms</i>	642	1998 1975-98	P, E, PO, MS, VI E, PO, MS	Fixed, mobile	20-29 21	OECD
<i>Communication</i>	64	1998	P, E, PO, MS		26	OECD
<i>Financial institutions</i>	65	1998	E, CBO		23	OECD, APC
<i>Insurance</i>	66	1998	P, E	Life, general, health	12	OECD
<i>Legal services</i>	7 411	1998	E, CBO		22	APC
<i>Accounting services</i>	7 412	1998	E, CBO		23	APC
<i>Architectural and engineering services</i>	7 421	1998	E, CBO		23	APC
<i>Professional business services</i>	74	1998	E, CBO		22	APC

a) P = Price regulation
E = Barriers to entry
PO = Public ownership
CBO = Constraints to business operation
MS = Market structure
VI = Vertical integration

Source: Nicoletti *et al.* (2001a).

b) ECMT = European Conference of Ministers of Transportation
EC = European Commission
WB = World Bank
PI = Privatisation International
APC = Australian Productivity Commission
UPU = Universal Postal Union

Table 5.A.3. **Product market regulatory reform, 1978-1998**

Time-series regulatory indicators,^a selected OECD countries
(scale 0-6 from the least to the most restrictive)

	1978	1982	1988	1993	1998	1998-1978	Percentage change
Australia	4.5	4.5	4.2	3.3	1.6	-2.9	-0.65
Austria	5.2	5.1	4.5	3.9	3.2	-2.0	-0.39
Belgium	5.5	5.5	5.0	4.3	3.1	-2.4	-0.43
Canada	4.2	4.2	2.8	2.6	2.4	-1.9	-0.44
Denmark	5.6	5.5	5.5	4.0	2.9	-2.7	-0.48
Finland	5.6	5.5	4.8	4.0	2.6	-3.0	-0.53
France	6.0	5.9	5.7	4.7	3.9	-2.1	-0.35
Germany	5.2	5.2	4.7	3.8	2.4	-2.8	-0.54
Greece	5.7	5.7	5.7	5.5	5.1	-0.6	-0.10
Ireland	5.7	5.7	5.1	4.8	4.0	-1.7	-0.29
Italy	5.8	5.8	5.8	5.3	4.3	-1.5	-0.25
Japan	5.2	5.2	3.9	3.2	2.9	-2.3	-0.44
Netherlands	5.3	5.5	5.5	4.1	3.0	-2.4	-0.44
New Zealand	5.1	5.1	3.6	2.2	1.4	-3.7	-0.73
Norway	5.0	5.0	4.3	3.2	2.5	-2.5	-0.49
Portugal	5.9	5.9	5.4	4.9	4.1	-1.8	-0.30
Spain	4.7	4.7	4.6	4.2	3.2	-1.5	-0.31
Sweden	4.5	4.4	4.2	3.5	2.2	-2.3	-0.51
Switzerland	4.5	4.5	4.5	4.4	3.9	-0.6	-0.14
United Kingdom	4.3	4.2	3.5	1.9	1.0	-3.3	-0.76
United States	4.0	3.3	2.5	2.0	1.4	-2.7	-0.66

a) Simple averages of indicators for 7 industries : gas, electricity, post, telecoms, air transport, railways, road freight. Depending on the industry the following dimensions have been included: barriers to entry, public ownership, market structure, vertical integration, price controls.
Source: Nicoletti *et al.* (2001a).

Table 5.A.4. **Labour market policies and institutions: definitions and sources**

Indicator	Definition	Source
Corporatism	Index of corporatism	Elmeskov, Martin and Scarpetta (1998), OECD (1997a) and OECD <i>Economic Surveys</i> (various years)
Coordination	Index of bargaining coordination	Elmeskov, Martin and Scarpetta (1998), OECD (1997a) and OECD <i>Economic Surveys</i> (various years)
Centralisation	Index of bargaining centralisation	Elmeskov, Martin and Scarpetta (1998), OECD (1997a) and OECD <i>Economic Surveys</i> (various years)
Union density	Ratio of union members to total employment	Elmeskov, Martin and Scarpetta (1998)
Employment protection legislation (individual dismissals)	Index of strictness of employment protection legislation	Nicoletti, Scarpetta and Boylaud (1999)
Employment protection legislation (collective dismissals)	Index of strictness of regulations concerning collective dismissals	OECD (1999a) and Watson Wyatt (1997)
Coverage of collective agreements	Percentage of workers covered	OECD (1997a)
Tax wedge	Employees' and employers' social security contributions and personal income tax less transfer payments as percentage of gross labour costs	OECD database on the tax/benefits position of employees
Gross replacement rate	Average gross replacement rate as percentage of earnings	OECD database on benefit entitlements and gross replacement rates

Annex 5.B

Econometric methods

Panel regression techniques are used extensively in this chapter to study the own and cross-market effects of policies and institutions on performance. However, only the analysis of the aggregate employment rate implements these techniques in the most familiar manner, in which the panel consists of multiple observations over time for a cross-section of units (in this case, countries). In the cross-country/cross-industry regressions, each data point (a country-industry couple) is a different unit of observation, and the panel can be conceived of as either multiple observations on the same cross-section of industries (with each country constituting an additional observation), or *vice versa*, depending on which formulation is most instructive for the outcome being analysed. In order to minimise biases due to omitted variables, country and industry effects were incorporated into the regression equations to the maximum extent feasible.

In the cross-country/cross-industry regressions, some variables may be defined only along the country or industry dimension (*e.g.* macroeconomic and many labour market policy variables have no cross-industry variation). Hence, these variables take the same value on clusters of observations. This creates difficulties both for identifying the causal effect of these variables and for assessing the precision of the estimated coefficients:

- *Identification.* The causal impacts of variables lacking an industry dimension (*e.g.* EPL) were estimated either by relying exclusively on their cross-country variability or by exploiting the interactions between these national indicators and industry characteristics, such as average firm size or use of high technologies.
- *Standard errors.* The use of OLS to estimate models with repeated units of observation or variables that take the same value on clusters of observations can yield biased and inconsistent estimates of standard errors that tend to overstate the statistical significance of the estimated coefficients (Moulton, 1986). In Nicoletti *et al.* (2001a), three estimating approaches are used to solve this problem: the fixed-effects estimator, in which the model is specified with dummies that control for repeated units or clusters of observations (*e.g.* country or industry fixed effects); the OLS estimator adjusted for clustering, which makes it possible to analyse the effects of variables that are constant on clusters of observations (such as variables that are uniform across industries); and the GLS random-effects estimator, in which the country-specific effects are assumed to be independently distributed random variables with mean zero and constant variance. This chapter presents some of the models that proved most instructive and reliable.*

* To discriminate among the different regression results, Nicoletti *et al.* (2001a) analyse a complex battery of specification tests. In addition, regression results are tested for robustness against exclusion of outlier observations and changes in the list of regressors included in the model.

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Statistical annex

Sources and definitions

Most of the statistics shown in these tables can be found as well in several other (paper or electronic) publications or references, as follows:

- the annual edition of *OECD Labour Force Statistics, 1981-2001* (forthcoming);
- the OECD On-Line Labour Force Statistics database that shows both raw data (see URL: <http://www.oecd.org/scripts/cde/members/LFSDATAAuthenticate.asp>) and derived statistics (<http://www.oecd.org/scripts/cde/members/LFSINDICATORSAuthenticate.asp>), and, finally;
- the newly released *OECD Labour Market Statistics CD-ROM: 2001 Edition*.

These publications, which include information on definitions, notes and sources used by Member countries, include longer time series and more detailed disaggregations by age group, gender, duration of unemployment, etc., than are shown in this annex.

Sources and definitions for statistical annex tables are specified at the bottom of each table.

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 1.2 and 1.3 of Chapter 1 of this publication.

Interested users can refer to the CD-ROM, which contains data series describing the labour supply: 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. The CD-ROM contains a number of additional series on labour market results 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;
- earnings by percentile for deriving measures of earnings dispersion for full-time workers by gender;
- statutory minimum wages;
- compensation per employee, wage rates;
- taxation of wages;
- public expenditure on labour market programmes and number of beneficiaries;
- gross and net replacement rates of wages and salaries by unemployment benefits derived from simulation models based on country-specific tax and benefits systems;
- indicators of the strictness of Employment Protection Legislation (EPL) based on institutional procedures regarding dismissal practices for regular workers and legislation on fixed-term and temporary work agency contracts;
- trade union density rates and collective bargaining coverage in OECD Member countries.

Finally, a limited selection of macro-economic indicators for labour market analysis covering: GDP, unit labour costs, price deflators, exchange rates, Purchasing Power Parities (PPP), etc., is included.

Details concerning the CD-ROM and how to order it can be found at the following URL: <http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/812002043C3>.

Conventional signs

- .. Data not available
- . Decimal point
- | Break in series
- Nil or less than half of the last digit used

Note on statistical treatment of Germany

In this statistical annex, data up to end-1990 are for western Germany only; unless otherwise indicated, they are for the whole of Germany from 1991 onwards.

Table A. Standardised unemployment rates in 26 OECD countries

	As a percentage of total labour force											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Australia	6.7	9.3	10.5	10.6	9.5	8.2	8.2	8.3	7.7	7.0	6.3	6.7
Austria	..	..	..	4.0	3.8	3.9	4.4	4.4	4.5	4.0	3.7	3.6
Belgium	6.6	6.4	7.1	8.6	9.8	9.7	9.5	9.2	9.3	8.6	6.9	6.6
Canada	8.1	10.3	11.2	11.4	10.4	9.4	9.6	9.1	8.3	7.6	6.8	7.2
Czech Republic	..	..	..	4.4	4.4	4.1	3.9	4.8	6.5	8.8	8.9	8.2
Denmark	7.2	7.9	8.6	9.6	7.7	6.8	6.3	5.3	4.9	4.8	4.4	4.3
Finland	3.2	6.6	11.6	16.4	16.7	15.2	14.5	12.6	11.4	10.2	9.7	9.1
France	8.6	9.1	10.0	11.3	11.8	11.4	11.9	11.8	11.4	10.7	9.3	8.6
Greece	..	..	..	10.5	10.9	10.5	10.6	10.4	9.8	9.0	8.1	7.6
Germany ^a	4.8	4.2	6.6	7.9	8.4	8.2	8.9	9.9	9.3	8.6	7.9	7.9
Hungary	..	..	9.9	12.1	11.0	10.4	10.1	8.9	8.0	7.1	6.5	5.8
Ireland	13.4	14.7	15.4	15.6	14.3	12.3	11.7	9.9	7.5	5.6	4.2	3.8
Italy	8.9	8.5	8.7	10.1	11.0	11.5	11.5	11.6	11.7	11.2	10.4	9.5
Japan	2.1	2.1	2.2	2.5	2.9	3.1	3.4	3.4	4.1	4.7	4.7	5.0
Korea	..	..	..	..	..	..	..	..	..	..	4.3	3.9
Luxembourg	1.7	1.7	2.1	2.6	3.2	2.9	3.0	2.7	2.7	2.4	2.4	2.4
Netherlands	5.9	5.5	5.3	6.2	6.8	6.6	6.0	4.9	3.8	3.2	2.8	2.4
New Zealand	7.8	10.3	10.3	9.5	8.1	6.3	6.1	6.6	7.5	6.8	6.0	5.3
Norway	5.3	5.6	6.0	6.1	5.5	5.0	4.9	4.1	3.3	3.2	3.5	3.6
Poland	..	..	..	14.0	14.4	13.3	12.3	11.2	10.6	..	16.1	18.2
Portugal	4.8	4.2	4.3	5.6	6.9	7.3	7.3	6.8	5.2	4.5	4.1	4.1
Spain	16.1	16.2	18.3	22.5	23.9	22.7	22.0	20.6	18.6	15.8	14.0	13.0
Sweden	1.7	3.1	5.6	9.1	9.4	8.8	9.6	9.9	8.3	7.2	5.9	5.1
Switzerland	..	2.0	3.1	4.0	3.8	3.5	3.9	4.2	3.5	3.0	2.6	..
United Kingdom	6.9	8.6	9.8	10.2	9.4	8.5	8.0	6.9	6.2	5.9	5.4	5.0
United States	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.8
European Union ^b	..	8.1	9.0	10.5	10.9	10.5	10.6	10.4	9.8	9.0	8.1	7.6
OECD Europe ^b	..	..	..	10.5	10.8	10.4	10.4	10.1	9.5	9.1	8.6	8.3
Total OECD ^b	..	..	..	7.9	7.8	7.4	7.4	7.1	7.0	6.8	6.3	6.5

a) Up to and including 1992, 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 (CURs) 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: <http://www.oecd.org/oecd/pages/home/displaygeneral/0,3380,EN-document-5-nodirectorate-no-1-29298-5,00.html>.

Source: OECD *Quarterly Labour Force Statistics*, No. 1, (2002), Paris.

Table B. **Employment/population ratios, activity and unemployment rates^a**
Persons aged 15-64 years

	Employment/population ratio (%)						Labour force participation rate (%)						Unemployment rate (%)					
	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001
Australia	67.9	66.3	67.2	67.7	69.1	68.9	73.0	72.4	73.0	72.9	73.8	73.8	7.0	8.5	7.9	7.0	6.3	6.7
Austria	..	67.2	67.4	68.2	67.9	67.8	..	70.9	71.3	71.6	71.3	70.7	..	5.2	5.5	4.7	4.7	4.0
Belgium	54.4	57.0	57.3	58.9	60.9	59.7	58.7	62.6	63.2	64.6	65.2	63.6	7.3	9.0	9.4	8.7	6.6	6.2
Canada	70.3	68.0	68.9	70.1	71.1	70.9	76.6	74.9	75.2	75.9	76.3	76.5	8.2	9.2	8.4	7.6	6.9	7.3
Czech Republic	..	68.7	67.5	65.9	65.2	65.3	..	72.1	72.2	72.2	71.6	71.1	..	4.8	6.5	8.7	8.8	8.2
Denmark	75.4	75.4	75.3	76.5	76.4	75.9	82.4	79.8	79.3	80.6	80.0	79.2	8.5	5.4	5.1	5.2	4.5	4.2
Finland	74.1	62.8	64.0	66.0	67.0	67.7	76.5	72.1	72.4	73.6	74.3	74.6	3.2	12.8	11.6	10.3	9.9	9.2
France	59.9	58.9	59.4	59.8	61.1	62.0	66.0	67.2	67.4	67.8	68.0	68.0	9.2	12.3	11.9	11.8	10.1	8.8
Germany	64.1	63.8	64.7	65.4	66.3	65.9	68.4	70.8	71.4	71.6	72.2	71.6	6.2	9.9	9.3	8.7	8.1	8.0
Greece	54.8	54.8	55.6	55.4	55.9	55.6	59.1	60.8	62.5	62.9	63.0	62.1	7.2	9.8	11.0	12.0	11.3	10.4
Hungary	..	52.7	53.8	55.7	56.4	56.6	..	57.8	58.4	59.9	60.2	60.0	..	8.7	7.8	7.0	6.4	5.7
Iceland ^{b,c}	79.9	80.0	82.2	84.2	84.6	84.6	82.1	83.1	84.5	85.9	86.6	86.6	2.7	3.8	2.7	1.9	2.3	2.3
Ireland	52.1	56.3	59.6	62.5	64.5	65.0	60.1	62.9	64.8	66.3	67.4	67.5	13.3	10.5	8.0	5.8	4.4	3.7
Italy	52.6	51.6	52.2	52.9	53.9	54.9	59.5	58.5	59.2	59.8	60.3	60.7	11.5	11.8	11.9	11.5	10.6	9.6
Japan	68.6	70.0	69.5	68.9	68.9	68.8	70.1	72.6	72.6	72.4	72.5	72.6	2.2	3.5	4.2	4.9	5.0	5.2
Korea	61.2	63.7	59.5	59.7	61.6	62.1	62.8	65.4	64.0	63.9	64.3	64.6	2.5	2.7	7.0	6.5	4.2	3.9
Luxembourg	59.1	59.9	60.2	61.6	62.7	63.0	60.1	61.5	61.9	63.1	64.2	64.2	1.6	2.5	2.8	2.4	2.4	1.9
Mexico ^c	58.0	61.1	61.4	61.2	60.9	60.1	59.9	63.3	63.2	62.5	62.3	61.5	3.1	3.5	3.0	2.1	2.2	2.2
Netherlands	61.1	67.5	69.4	70.9	72.9	74.1	66.2	71.5	72.6	73.6	74.9	75.7	7.7	5.6	4.4	3.6	2.7	2.1
New Zealand	67.3	70.5	69.5	70.0	70.7	71.8	73.0	75.6	75.2	75.2	75.2	75.9	7.8	6.7	7.6	6.9	6.1	5.4
Norway ^b	73.1	77.0	78.3	78.0	77.9	77.5	77.1	80.2	80.9	80.6	80.7	80.3	5.3	4.0	3.2	3.2	3.5	3.5
Poland	..	58.8	58.9	57.5	55.0	53.5	..	66.4	66.1	65.9	65.8	65.7	..	11.5	7.0	12.8	16.4	18.6
Portugal	67.5	64.7	66.4	67.3	68.1	68.7	70.9	69.7	70.1	70.6	71.1	71.8	4.9	7.2	5.2	4.6	4.2	4.3
Slovak Republic	..	61.1	60.5	58.1	56.8	56.9	..	69.4	69.3	69.5	69.9	70.5	..	11.9	12.6	16.4	18.8	19.3
Spain ^b	51.1	50.7	52.4	55.0	57.4	58.8	60.9	63.9	64.5	65.3	66.7	65.8	16.1	20.7	18.7	15.7	13.9	10.5
Sweden ^b	83.1	70.7	71.5	72.9	74.2	75.3	84.6	78.7	78.1	78.5	78.9	79.3	1.8	10.2	8.4	7.1	5.9	5.1
Switzerland ^c	79.7	76.9	78.0	78.4	78.3	79.1	79.7	80.3	81.0	80.9	80.5	81.2	1.8	4.2	3.7	3.1	2.7	2.5
Turkey	54.5	51.2	51.1	51.0	48.2	45.1	59.4	54.9	54.9	55.4	51.8	50.6	8.2	6.9	7.0	7.9	6.8	10.9
United Kingdom ^b	72.5	70.8	71.2	71.7	72.4	71.3	77.8	76.2	75.9	76.3	76.6	74.9	6.8	7.1	6.2	6.1	5.6	4.8
United States ^b	72.2	73.5	73.8	73.9	74.1	73.1	76.5	77.4	77.4	77.2	77.2	76.8	5.7	5.0	4.5	4.3	4.0	4.8
European Union ^d	61.4	60.9	61.7	62.6	63.8	64.1	67.4	68.1	68.6	69.1	69.6	69.2	8.3	10.7	10.0	9.3	8.4	7.4
OECD Europe ^d	61.0	60.0	60.6	61.1	61.4	61.1	66.7	66.7	67.0	67.4	67.3	66.8	8.1	10.1	9.5	9.3	8.8	8.6
Total OECD ^d	65.1	65.0	65.2	65.5	65.8	65.3	69.4	70.0	70.1	70.2	70.2	69.8	6.0	7.1	6.9	6.7	6.3	6.4

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) Refers to persons aged 16 to 64.

c) The year 1990 refers to 1991.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table B. **Employment/population ratios, activity and unemployment rates^a** (cont.)**Men aged 15-64 years**

	Employment/population ratio (%)						Labour force participation rate (%)						Unemployment rate (%)					
	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001
Australia	78.5	74.7	75.2	76.1	76.6	76.0	84.4	81.8	82.1	82.1	82.0	81.7	6.9	8.7	8.4	7.3	6.6	6.9
Austria	..	75.9	75.9	76.7	76.2	75.9	..	80.0	80.2	80.5	80.1	79.0	..	5.1	5.4	4.7	4.8	4.0
Belgium	68.1	67.1	67.0	67.5	69.8	68.5	71.3	72.2	72.5	73.0	73.8	72.7	4.6	7.1	7.6	7.5	5.3	5.7
Canada	77.8	73.8	74.3	75.5	76.3	75.9	84.9	81.4	81.4	82.0	82.1	82.1	8.3	9.4	8.7	7.9	7.0	7.6
Czech Republic	..	77.4	76.3	74.3	73.6	73.6	..	80.5	80.3	80.2	79.4	79.0	..	3.9	5.0	7.3	7.4	6.8
Denmark	80.1	81.3	80.2	81.2	80.7	80.2	87.1	85.2	83.5	85.0	84.0	83.3	8.0	4.6	3.9	4.5	4.0	3.7
Finland	76.7	65.2	66.8	68.4	69.4	70.0	79.6	74.6	75.1	75.9	76.4	76.7	3.6	12.5	11.1	9.8	9.2	8.7
France	69.7	66.3	66.6	66.8	68.1	69.0	75.0	74.3	74.1	74.4	74.4	74.3	7.0	10.8	10.2	10.2	8.5	7.1
Germany	75.7	72.1	72.9	73.7	74.8	73.0	79.0	79.5	79.9	80.3	81.1	79.3	4.1	9.3	8.8	8.2	7.7	7.9
Greece	73.4	71.9	71.6	70.9	71.3	70.9	76.8	76.9	77.1	76.9	77.1	76.2	4.4	6.4	7.2	7.7	7.5	6.9
Hungary	..	60.3	60.6	62.6	63.3	63.5	..	66.6	66.3	67.8	68.0	67.8	..	9.5	8.5	7.5	7.0	6.3
Iceland ^{b,c}	85.2	84.2	86.0	88.2	88.2	88.0	87.3	87.1	87.9	89.4	89.8	90.0	2.4	3.3	2.3	1.4	1.8	2.1
Ireland	67.5	67.8	71.0	73.5	75.6	76.0	77.5	75.8	77.4	78.3	79.1	79.0	13.0	10.6	8.3	6.1	4.5	3.9
Italy	69.2	66.8	67.1	67.6	68.2	68.7	75.1	73.5	73.9	74.1	74.3	74.2	7.9	9.0	9.1	8.8	8.2	7.4
Japan	81.3	82.4	81.7	81.0	80.9	80.5	83.0	85.4	85.3	85.3	85.2	85.0	2.1	3.5	4.3	5.0	5.1	5.4
Korea	73.9	76.0	71.7	71.5	73.3	73.4	76.2	78.2	77.8	77.1	76.9	76.8	3.0	2.8	7.9	7.3	4.8	4.4
Luxembourg	76.4	74.3	74.6	74.4	75.0	74.9	77.4	75.7	76.0	75.7	76.4	76.1	1.2	1.9	1.9	1.7	1.8	1.6
Mexico ^c	84.1	84.7	84.8	84.8	84.0	83.4	86.4	87.2	87.1	86.4	85.8	85.2	2.6	2.8	2.6	1.8	2.1	2.1
Netherlands	75.2	77.9	79.6	80.3	82.1	82.7	79.7	81.4	82.4	82.6	83.9	84.2	5.7	4.4	3.4	2.7	2.2	1.8
New Zealand	76.1	78.5	77.1	77.3	78.0	78.9	83.0	84.1	83.5	83.2	83.2	83.4	8.3	6.7	7.7	7.1	6.2	5.5
Norway ^b	78.6	81.7	82.8	82.1	81.7	81.0	83.4	85.0	85.6	85.0	84.8	84.0	5.8	3.9	3.2	3.4	3.6	3.6
Poland	..	66.1	65.8	63.6	61.2	59.2	..	73.2	72.8	72.3	71.7	71.5	..	9.8	9.5	12.0	14.6	17.2
Portugal	80.1	72.5	75.3	75.5	76.2	76.7	82.8	77.5	78.6	78.7	78.9	79.4	3.3	6.4	4.1	4.0	3.3	3.4
Slovak Republic	..	68.4	67.8	64.3	62.2	62.1	..	76.9	77.2	76.9	76.8	77.4	..	11.1	12.2	16.3	19.0	19.8
Spain ^b	71.0	66.1	68.3	70.8	72.7	73.8	80.4	78.6	79.1	79.6	80.4	79.8	11.8	15.8	13.6	11.0	9.6	7.5
Sweden ^b	85.2	72.4	73.5	74.8	76.1	77.0	86.7	81.0	80.7	80.9	81.2	81.4	1.8	10.6	8.8	7.5	6.3	5.4
Switzerland ^c	90.0	85.9	87.2	87.2	87.3	87.6	91.1	89.8	90.1	89.6	89.4	89.2	1.2	4.4	3.2	2.7	2.3	1.8
Turkey	76.9	74.7	74.1	72.8	71.0	66.0	83.6	79.9	79.6	79.1	76.2	74.3	8.0	6.5	7.0	8.0	6.8	11.2
United Kingdom ^b	82.1	77.5	78.1	78.4	79.1	77.9	88.3	84.4	83.9	84.1	84.3	82.2	7.1	8.2	6.9	6.8	6.1	5.3
United States ^b	80.7	80.1	80.5	80.5	80.6	79.3	85.6	84.2	84.2	84.0	83.9	83.4	5.7	4.9	4.5	4.1	3.9	4.9
European Union ^d	74.2	70.8	71.6	72.3	73.4	73.2	79.9	78.2	78.4	78.7	79.1	78.3	6.7	9.5	8.7	8.1	7.2	6.5
OECD Europe ^d	74.8	71.1	71.6	71.8	72.2	71.2	80.6	78.1	78.1	78.3	78.2	77.3	6.7	8.9	8.3	8.3	7.7	7.8
Total OECD ^d	78.0	76.0	76.1	76.2	76.4	75.6	82.7	81.3	81.3	81.3	81.1	80.5	5.4	6.5	6.4	6.2	5.8	6.1

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) Refers to persons aged 16 to 64.

c) The year 1990 refers to 1991.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table B. Employment/population ratios, activity and unemployment rates^a (cont.)

	Employment/population ratio (%)						Labour force participation rate (%)						Unemployment rate (%)					
	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001	1990	1997	1998	1999	2000	2001
Australia	57.1	57.8	59.2	59.3	61.6	61.7	61.5	63.0	63.9	63.6	65.5	65.8	7.2	8.1	7.3	6.7	5.9	6.3
Austria	..	58.5	59.0	59.7	59.7	59.8	..	61.8	62.5	62.7	62.5	62.3	..	5.3	5.6	4.8	4.6	4.1
Belgium	40.8	46.7	47.5	50.2	51.9	50.7	46.1	52.9	53.8	56.0	56.6	54.5	11.5	11.6	11.7	10.3	8.3	6.9
Canada	62.7	62.2	63.6	64.7	65.8	66.0	68.3	68.3	69.1	69.8	70.5	70.8	8.1	8.9	8.0	7.3	6.7	6.8
Czech Republic	..	59.9	58.7	57.4	56.9	57.0	..	63.7	64.0	64.1	63.7	63.2	..	6.0	8.2	10.5	10.6	9.9
Denmark	70.6	69.4	70.3	71.6	72.1	71.4	77.6	74.2	75.1	76.1	75.9	75.0	9.0	6.5	6.4	5.9	5.0	4.8
Finland	71.5	60.4	61.2	63.5	64.5	65.4	73.5	69.5	69.7	71.2	72.1	72.5	2.7	13.1	12.1	10.8	10.6	9.7
France	50.3	51.7	52.4	53.0	54.3	55.2	57.2	60.2	60.8	61.4	61.7	61.8	12.1	14.1	13.8	13.6	11.9	10.8
Germany	52.2	55.3	56.3	56.8	57.7	58.6	55.5	61.9	62.5	62.6	63.2	63.8	6.0	10.7	9.9	9.3	8.7	8.2
Greece	37.5	39.1	40.3	40.7	41.3	41.2	42.6	46.0	48.5	49.7	49.7	48.8	12.0	15.1	16.8	18.2	16.9	15.6
Hungary	..	45.5	47.3	49.0	49.7	49.8	..	49.3	50.8	52.3	52.7	52.4	..	7.7	6.9	6.3	5.6	5.0
Iceland ^{b,c}	74.5	75.6	78.3	80.2	81.0	81.1	76.8	79.1	80.9	82.3	83.3	83.1	3.0	4.4	3.3	2.5	2.8	2.5
Ireland	36.6	44.7	48.2	51.3	53.3	54.0	42.6	49.8	52.1	54.3	55.7	56.0	14.0	10.4	7.5	5.5	4.2	3.5
Italy	36.2	36.4	37.3	38.3	39.6	41.1	44.0	43.5	44.6	45.5	46.3	47.3	17.7	16.3	16.4	15.8	14.6	13.1
Japan	55.8	57.6	57.2	56.7	56.7	57.0	57.1	59.7	59.8	59.5	59.6	60.1	2.3	3.6	4.2	4.7	4.7	5.1
Korea	49.0	51.6	47.4	48.1	50.1	50.9	49.9	52.8	50.4	50.8	51.8	52.6	1.9	2.4	5.8	5.3	3.4	3.2
Luxembourg	41.4	45.4	45.6	48.5	50.0	50.8	42.4	47.1	47.6	50.2	51.7	52.0	2.5	3.7	4.2	3.3	3.2	2.2
Mexico ^c	34.2	39.7	40.0	39.6	40.1	39.4	35.7	41.7	41.5	40.7	41.2	40.4	4.3	4.7	3.6	2.7	2.5	2.4
Netherlands	46.7	56.9	58.9	61.3	63.4	65.3	52.4	61.3	62.5	64.4	65.7	66.9	10.9	7.2	5.8	4.9	3.5	2.5
New Zealand	58.5	62.7	62.1	63.0	63.5	64.8	63.2	67.3	67.1	67.4	67.5	68.5	7.3	6.7	7.5	6.6	5.9	5.3
Norway ^b	67.2	72.2	73.6	73.8	74.0	73.8	70.7	75.3	76.1	76.1	76.5	76.4	4.9	4.1	3.3	3.0	3.2	3.4
Poland	..	51.8	52.2	51.6	48.9	47.8	..	59.9	59.7	59.8	59.9	59.9	..	13.5	12.6	13.8	18.4	20.2
Portugal	55.4	57.2	58.0	59.4	60.3	61.1	59.6	62.2	62.0	62.8	63.7	64.6	7.0	8.2	6.6	5.3	5.3	5.4
Slovak Republic	..	54.0	53.5	52.1	51.5	51.8	..	62.0	61.7	62.3	63.2	63.8	..	12.9	13.2	16.4	18.6	18.8
Spain ^b	31.6	35.2	36.5	39.1	42.0	43.8	41.8	49.2	49.9	50.9	52.9	51.6	24.4	28.5	26.7	23.2	20.6	15.3
Sweden ^b	81.0	68.9	69.4	70.9	72.2	73.5	82.5	76.3	75.5	76.0	76.4	77.1	1.8	9.7	8.0	6.7	5.4	4.7
Switzerland ^c	66.4	67.8	68.8	69.6	69.3	70.4	68.2	70.6	71.8	72.2	71.6	73.0	2.6	4.0	4.2	3.6	3.2	3.5
Turkey	32.9	27.5	27.9	29.1	25.3	24.1	36.0	29.9	30.1	31.6	27.2	26.7	8.7	8.0	7.1	7.9	6.8	10.0
United Kingdom ^b	62.8	64.1	64.2	64.9	65.5	64.7	67.3	68.0	67.9	68.4	68.9	67.6	6.6	5.8	5.3	5.1	4.8	4.2
United States ^b	64.0	67.1	67.4	67.6	67.9	67.1	67.8	70.7	70.7	70.7	70.8	70.5	5.6	5.1	4.7	4.4	4.2	4.7
European Union ^d	48.2	50.9	51.8	52.9	54.1	54.9	54.8	58.0	58.7	59.4	60.1	60.1	10.8	12.3	11.8	11.0	10.0	8.7
OECD Europe ^d	47.1	48.8	49.5	50.4	50.6	50.9	52.8	55.3	55.7	56.4	56.4	56.3	10.3	11.7	11.1	10.7	10.3	9.6
Total OECD ^d	52.4	54.2	54.5	54.9	55.3	55.2	56.4	58.8	59.0	59.2	59.4	59.3	6.9	7.8	7.6	7.3	6.9	6.8

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) Refers to persons aged 16 to 64.

c) The year 1990 refers to 1991.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table C. Employment/population ratios, activity and unemployment rates

		Both sexes (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia	Unemployment rates	13.2	14.5	13.5	12.3	12.7	5.1	6.3	5.4	5.0	5.3	5.4	6.1	5.8	4.0	4.7
	Labour force participation rates	70.4	67.6	68.4	69.0	69.4	79.9	80.0	79.6	80.5	80.6	44.1	46.6	46.9	49.0	48.6
	Employment/population ratios	61.1	57.8	59.2	60.5	60.6	75.8	75.0	75.3	76.5	76.4	41.8	43.7	44.2	47.1	46.3
Austria	Unemployment rates	..	7.5	5.9	6.3	6.0	..	5.0	4.5	4.3	3.6	..	6.4	4.8	6.7	5.6
	Labour force participation rates	..	58.5	58.4	56.1	54.7	..	84.7	85.1	85.3	85.2	..	29.9	30.7	31.4	29.0
	Employment/population ratios	..	54.2	54.9	52.5	51.4	..	80.4	81.3	81.6	82.2	..	28.0	29.2	29.2	27.4
Belgium	Unemployment rates	14.5	20.4	22.6	15.2	15.3	6.5	8.4	7.4	5.8	5.4	3.6	5.3	5.7	3.2	3.0
	Labour force participation rates	35.5	32.6	32.9	35.7	33.6	76.7	81.2	82.5	82.8	80.9	22.2	23.8	26.2	25.9	26.0
	Employment/population ratios	30.4	26.0	25.5	30.3	28.5	71.7	74.4	76.4	77.9	76.6	21.4	22.5	24.7	25.0	25.2
Canada	Unemployment rates	12.4	15.1	14.0	12.6	12.8	7.3	7.1	6.4	5.7	6.2	6.0	6.9	5.9	5.4	5.8
	Labour force participation rates	69.7	61.9	63.5	64.4	64.7	84.2	84.3	84.6	84.8	85.1	49.3	48.6	49.9	51.2	51.3
	Employment/population ratios	61.1	52.5	54.6	56.3	56.4	78.0	78.3	79.2	79.9	79.8	46.3	45.3	46.9	48.4	48.3
Czech Republic	Unemployment rates	..	12.4	17.0	17.0	16.6	..	5.5	7.5	7.7	7.2	..	3.8	4.8	5.2	4.9
	Labour force participation rates	..	49.1	48.3	46.1	43.2	..	88.5	88.6	88.4	88.4	..	38.6	39.4	38.2	39.0
	Employment/population ratios	..	43.0	40.1	38.3	36.1	..	83.7	81.9	81.6	82.1	..	37.1	37.5	36.3	37.1
Denmark	Unemployment rates	11.5	7.2	10.0	6.7	8.3	7.9	4.6	4.3	4.1	3.5	6.1	5.1	4.2	4.0	4.0
	Labour force participation rates	73.5	71.6	73.3	71.9	67.2	91.2	87.5	88.2	87.9	87.5	57.1	53.1	56.6	56.9	58.9
	Employment/population ratios	65.0	66.4	66.0	67.1	61.7	84.0	83.4	84.4	84.3	84.5	53.6	50.4	54.2	54.6	56.6
Finland	Unemployment rates	9.2	23.8	21.5	21.5	19.9	2.1	9.5	8.4	8.0	7.4	2.6	14.0	10.2	9.4	8.9
	Labour force participation rates	57.3	45.8	49.4	50.8	50.4	89.7	87.1	87.7	87.9	88.0	43.7	42.0	43.7	46.6	50.3
	Employment/population ratios	52.1	34.9	38.8	39.8	40.3	87.9	78.9	80.3	80.9	81.5	42.5	36.2	39.2	42.3	45.9
France	Unemployment rates	19.1	25.4	26.5	20.7	18.7	8.0	10.8	10.6	9.2	8.1	6.7	8.7	8.7	7.9	6.1
	Labour force participation rates	36.4	27.8	28.2	29.3	29.9	84.1	86.2	86.2	86.2	86.3	38.1	36.2	37.5	37.3	38.8
	Employment/population ratios	29.5	20.8	20.7	23.2	24.3	77.4	76.8	77.0	78.3	79.3	35.6	33.0	34.2	34.3	36.5
Germany	Unemployment rates	4.5	9.0	8.2	7.7	8.4	4.6	8.4	7.8	7.3	7.5	7.7	14.7	14.4	13.5	11.2
	Labour force participation rates	59.1	51.3	52.0	52.5	52.2	77.1	85.1	85.7	86.5	86.4	39.8	45.0	44.4	44.7	41.5
	Employment/population ratios	56.4	46.7	47.7	48.4	47.8	73.6	78.0	79.0	80.2	80.0	36.8	38.4	38.0	38.6	36.8
Greece	Unemployment rates	23.3	29.7	31.7	29.5	28.0	5.1	9.0	9.8	9.6	8.8	1.6	3.2	4.4	3.8	4.1
	Labour force participation rates	39.4	40.0	39.3	38.1	36.2	72.2	76.8	77.6	77.6	77.2	41.5	40.4	40.2	40.6	39.6
	Employment/population ratios	30.3	28.1	26.8	26.9	26.0	68.5	69.9	70.0	70.2	70.4	40.8	39.1	38.4	39.0	38.0
Hungary	Unemployment rates	..	13.5	12.4	12.1	10.8	..	6.8	6.2	5.6	5.1	..	4.8	2.7	3.0	3.0
	Labour force participation rates	..	40.8	40.7	39.0	36.3	..	75.4	77.1	77.4	77.1	..	17.4	19.9	22.9	24.8
	Employment/population ratios	..	35.3	35.7	34.3	32.4	..	70.3	72.3	73.0	73.1	..	16.6	19.4	22.2	24.1
Iceland^{a, b}	Unemployment rates	4.9	6.0	4.4	4.7	4.8	2.2	2.1	1.4	1.7	1.7	2.1	1.6	1.4	1.7	2.0
	Labour force participation rates	59.5	65.5	68.1	71.6	70.2	90.1	90.8	92.1	92.2	92.3	87.2	88.1	87.1	85.7	87.3
	Employment/population ratios	56.6	61.6	65.1	68.2	66.8	88.1	88.9	90.9	90.6	90.7	85.4	86.7	85.9	84.2	85.6

Table C. **Employment/population ratios, activity and unemployment rates** (*cont.*)

		Both sexes (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Ireland	Unemployment rates	17.7	11.6	8.5	6.4	6.2	12.5	7.3	5.3	4.0	3.2	8.4	5.1	4.3	2.5	2.6
	Labour force participation rates	50.3	48.6	50.7	51.6	50.1	68.5	76.1	77.3	78.5	78.9	42.1	43.8	45.7	46.3	47.9
	Employment/population ratios	41.4	43.0	46.4	48.2	47.0	60.0	70.6	73.2	75.3	76.4	38.6	41.6	43.8	45.2	46.6
Italy^c	Unemployment rates	31.5	32.1	31.1	29.7	27.0	7.3	9.1	8.9	8.3	7.6	1.8	3.8	4.2	4.1	4.4
	Labour force participation rates	43.5	40.1	39.6	39.5	37.6	70.0	68.8	69.5	70.1	71.0	22.3	19.3	19.0	19.2	19.4
	Employment/population ratios	29.8	27.2	27.3	27.8	27.4	64.9	62.5	63.3	64.3	65.6	21.9	18.6	18.3	18.4	18.6
Japan	Unemployment rates	4.3	7.7	9.3	9.2	9.7	1.6	3.4	4.0	4.1	4.4	2.7	5.0	5.4	5.6	5.7
	Labour force participation rates	44.1	48.3	47.2	47.0	46.5	80.9	82.1	81.9	81.9	82.2	64.7	67.1	67.1	66.5	65.8
	Employment/population ratios	42.2	44.6	42.9	42.7	42.0	79.6	79.2	78.7	78.6	78.6	62.9	63.8	63.4	62.8	62.0
Korea	Unemployment rates	7.0	16.0	14.2	10.2	9.7	1.9	6.3	5.8	3.7	3.4	0.8	4.0	4.5	2.7	2.1
	Labour force participation rates	35.0	31.3	31.3	31.8	32.3	74.6	75.0	74.7	75.2	75.2	62.4	61.5	60.9	59.2	59.2
	Employment/population ratios	32.5	26.3	26.8	28.5	29.1	73.2	70.3	70.4	72.4	72.7	61.9	59.0	58.1	57.6	58.0
Luxembourg	Unemployment rates	3.6	6.4	6.8	6.4	6.7	1.4	2.5	2.0	2.0	1.4	0.6	0.6	1.0	1.4	0.3
	Labour force participation rates	44.8	35.3	34.0	34.0	34.6	72.8	76.7	78.3	79.8	79.8	28.4	25.1	26.5	27.6	24.9
	Employment/population ratios	43.1	33.1	31.7	31.8	32.3	71.8	74.7	76.7	78.2	78.7	28.2	25.0	26.3	27.2	24.8
Mexico^b	Unemployment rates	5.4	5.3	3.4	4.4	4.1	2.2	2.2	1.8	1.5	1.6	1.0	1.0	0.8	1.2	1.0
	Labour force participation rates	52.2	54.0	52.5	51.8	49.8	65.9	69.8	69.1	69.3	68.9	54.6	54.4	55.7	53.5	52.7
	Employment/population ratios	49.3	51.1	50.8	49.6	47.7	64.4	68.3	67.8	68.3	67.8	54.1	53.9	55.2	52.8	52.1
Netherlands	Unemployment rates	11.1	8.8	7.4	5.3	4.4	7.2	3.7	3.0	2.3	1.7	3.8	2.3	2.7	1.9	1.5
	Labour force participation rates	59.6	66.1	67.7	72.2	73.6	76.0	82.3	83.0	83.6	84.2	30.9	33.8	36.3	38.6	39.9
	Employment/population ratios	53.0	60.3	62.7	68.4	70.4	70.6	79.3	80.6	81.7	82.8	29.7	33.0	35.3	37.9	39.3
New Zealand	Unemployment rates	14.1	14.6	13.8	13.2	11.8	6.0	6.1	5.4	4.5	4.1	4.6	4.6	5.0	4.7	3.5
	Labour force participation rates	67.9	65.2	63.3	63.0	63.5	81.2	81.8	82.1	82.3	82.7	43.8	58.4	59.9	60.0	62.9
	Employment/population ratios	58.3	55.7	54.6	54.7	56.0	76.3	76.8	77.6	78.6	79.3	41.8	55.7	56.9	57.2	60.7
Norway^a	Unemployment rates	11.8	9.1	9.6	10.2	10.5	4.2	2.4	2.4	2.6	2.6	2.2	1.8	1.1	1.3	1.6
	Labour force participation rates	60.5	63.8	63.9	64.7	63.1	85.9	87.9	87.6	87.6	87.4	63.1	68.4	68.0	68.0	68.5
	Employment/population ratios	53.4	57.9	57.8	58.1	56.5	82.3	85.8	85.5	85.3	85.1	61.7	67.2	67.3	67.1	67.4
Poland	Unemployment rates	..	23.2	30.0	35.2	41.0	..	9.5	10.8	13.9	15.8	..	5.9	7.7	9.4	9.7
	Labour force participation rates	..	37.3	34.7	37.8	37.4	..	82.9	82.6	82.4	82.2	..	34.3	35.2	31.3	32.1
	Employment/population ratios	..	28.6	24.3	24.5	22.1	..	75.0	73.7	70.9	69.3	..	32.3	32.5	28.4	29.0
Portugal	Unemployment rates	9.6	10.2	8.7	8.6	9.2	3.8	4.4	4.0	3.5	3.5	2.1	3.3	3.1	3.2	3.2
	Labour force participation rates	60.7	47.6	47.3	46.7	47.9	81.5	83.9	84.1	84.9	85.3	48.0	51.7	52.4	52.7	52.0
	Employment/population ratios	54.8	42.7	43.2	42.7	43.5	78.4	80.2	80.8	81.9	82.4	47.0	50.0	50.8	51.0	50.3
Slovak Republic	Unemployment rates	..	25.1	33.8	37.0	39.1	..	10.2	13.1	15.5	15.9	..	7.5	9.5	12.3	12.3
	Labour force participation rates	..	46.8	46.8	46.0	45.8	..	87.4	87.6	88.4	88.9	..	24.6	24.6	24.3	25.4
	Employment/population ratios	..	35.0	31.0	29.0	27.9	..	78.5	76.1	74.7	74.8	..	22.8	22.3	21.3	22.3

Table C. **Employment/population ratios, activity and unemployment rates** (cont.)
Both sexes (Percentages)

	15 to 24					25 to 54					55 to 64					
	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	
Spain^a	Unemployment rates	30.1	33.9	28.3	25.3	20.8	13.1	16.6	14.0	12.3	9.3	8.1	10.3	9.7	9.4	6.3
	Labour force participation rates	54.9	46.9	48.0	48.5	46.8	70.3	76.3	76.8	78.0	76.5	40.0	39.2	38.8	40.9	41.9
	Employment/population ratios	38.3	31.0	34.4	36.3	37.1	61.1	63.6	66.1	68.4	69.5	36.8	35.1	35.1	37.0	39.2
Sweden^a	Unemployment rates	4.5	16.8	14.2	11.9	11.8	1.3	7.6	6.2	4.9	4.1	1.5	6.5	6.7	6.1	4.9
	Labour force participation rates	69.1	50.0	51.1	52.3	54.3	92.8	88.0	88.0	88.1	88.2	70.5	67.5	68.6	69.4	70.4
	Employment/population ratios	66.0	41.6	43.8	46.1	47.9	91.6	81.3	82.6	83.8	84.6	69.4	63.0	64.0	65.1	67.0
Switzerland^b	Unemployment rates	3.2	5.8	5.6	4.8	5.6	1.6	3.3	2.6	2.3	2.1	1.1	3.1	2.5	2.7	1.7
	Labour force participation rates	71.6	67.2	68.6	68.3	67.8	85.9	87.9	87.5	87.4	87.8	63.8	66.6	66.4	65.1	68.2
	Employment/population ratios	69.3	63.3	64.7	65.0	64.0	84.5	84.9	85.2	85.4	86.0	63.1	64.5	64.7	63.3	67.1
Turkey	Unemployment rates	16.0	14.2	15.2	13.2	19.9	5.4	4.9	5.8	5.0	8.6	3.1	1.8	1.8	2.4	3.5
	Labour force participation rates	54.7	45.1	46.4	41.6	40.0	65.1	62.1	62.1	59.3	58.3	44.1	41.1	41.3	36.2	34.2
	Employment/population ratios	45.9	38.7	39.3	36.1	32.0	61.6	59.0	58.5	56.3	53.3	42.7	40.3	40.6	35.3	32.9
United Kingdom^d	Unemployment rates	10.1	12.4	12.3	11.8	10.5	5.8	5.0	4.9	4.4	3.9	7.2	5.3	5.1	4.4	3.3
	Labour force participation rates	78.0	69.4	69.2	69.7	61.1	83.9	83.3	83.8	84.1	83.9	53.0	51.0	52.1	52.8	54.0
	Employment/population ratios	70.1	60.8	60.7	61.5	54.7	79.1	79.1	79.7	80.4	80.7	49.2	48.3	49.4	50.5	52.2
United States^d	Unemployment rates	11.2	10.4	9.9	9.3	10.6	4.6	3.5	3.2	3.1	3.8	3.3	2.6	2.7	2.5	3.1
	Labour force participation rates	67.3	65.9	65.5	65.9	64.6	83.5	84.1	84.1	84.1	83.7	55.9	59.3	59.3	59.2	60.2
	Employment/population ratios	59.8	59.0	59.0	59.8	57.8	79.7	81.1	81.4	81.5	80.6	54.0	57.7	57.7	57.7	58.4
European Union^d	Unemployment rates	16.1	18.5	17.3	15.4	13.9	6.7	8.7	8.1	7.3	6.5	6.0	9.2	8.9	8.2	6.4
	Labour force participation rates	54.0	47.6	48.0	48.6	47.1	78.3	80.8	81.3	81.8	81.7	41.4	41.1	41.6	42.2	41.9
	Employment/population ratios	45.1	38.8	39.7	41.2	40.6	72.7	73.8	74.7	75.8	76.4	38.1	37.3	37.9	38.7	39.2
OECD Europe^d	Unemployment rates	16.0	17.7	17.7	16.6	17.1	6.5	8.2	8.0	7.6	7.4	5.6	8.1	7.9	7.6	6.2
	Labour force participation rates	54.3	46.4	46.7	46.3	44.9	77.0	79.2	79.6	79.6	79.4	42.0	40.3	40.8	40.7	40.4
	Employment/population ratios	45.4	38.2	38.4	38.7	37.2	71.7	72.8	73.2	73.6	73.5	39.0	37.0	37.6	37.6	37.9
Total OECD^d	Unemployment rates	11.7	12.8	12.5	11.8	12.4	4.8	5.9	5.7	5.3	5.5	3.9	5.4	5.4	5.1	4.7
	Labour force participation rates	55.4	52.0	51.9	51.9	50.7	78.7	80.1	80.1	80.2	80.0	50.9	50.7	51.2	50.8	50.8
	Employment/population ratios	48.9	45.3	45.4	45.7	44.4	74.8	75.4	75.6	75.9	75.6	48.6	48.0	48.4	48.2	48.4

a) Age group 15 to 24 refers to 16 to 24.

b) The year 1990 refers to 1991.

c) Age groups 25 to 54 and 55 to 64 refer to age groups 25 to 59 and 60 to 64.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table C. **Employment/population ratios, activity and unemployment rates****Men (Percentages)**

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
		Australia	Unemployment rates	13.9	15.7	14.7	13.1	13.3	4.9	6.7	5.5	5.2	5.5	6.3	7.0	6.3	4.9	5.6
	Labour force participation rates	73.0	69.9	70.8	69.8	71.1	93.1	90.4	90.0	90.3	89.9	63.2	60.5	61.7	61.5	60.0
	Employment/population ratios	62.8	59.0	60.3	60.6	61.6	88.5	84.3	85.0	85.6	85.0	59.2	56.3	57.8	58.5	56.7
Austria	Unemployment rates	..	7.4	5.5	6.9	6.2	..	4.9	4.5	4.2	3.4	..	6.6	5.3	7.1	5.7
	Labour force participation rates	..	61.7	62.6	60.7	59.3	..	93.8	93.8	93.6	93.5	..	42.5	43.9	44.5	40.2
	Employment/population ratios	..	57.1	59.2	56.5	55.6	..	89.2	89.6	89.7	90.3	..	39.6	41.6	41.4	37.9
Belgium	Unemployment rates	10.1	18.3	22.7	12.9	14.3	4.0	6.6	6.1	4.6	4.8	3.1	5.3	4.5	3.4	3.9
	Labour force participation rates	37.0	35.7	35.5	38.7	37.2	92.2	91.7	91.8	92.1	90.9	35.4	33.9	36.8	36.3	36.6
	Employment/population ratios	33.3	29.2	27.5	33.7	31.8	88.5	85.7	86.2	87.9	86.5	34.3	32.1	35.1	35.1	35.1
Canada	Unemployment rates	13.6	16.6	15.3	13.9	14.5	7.2	7.2	6.5	5.7	6.3	6.2	7.0	6.3	5.4	6.0
	Labour force participation rates	72.2	63.5	65.3	65.9	66.1	93.1	91.0	91.1	91.1	91.1	64.3	58.8	60.7	61.0	61.2
	Employment/population ratios	62.3	52.9	55.4	56.7	56.5	86.4	84.4	85.1	85.9	85.4	60.3	54.7	56.9	57.7	57.6
Czech Republic	Unemployment rates	..	10.7	15.9	16.7	16.0	..	3.9	5.9	6.0	5.5	..	3.6	4.6	5.0	4.4
	Labour force participation rates	..	55.7	54.2	51.3	48.2	..	95.1	95.1	94.9	95.0	..	55.1	56.2	54.5	55.0
	Employment/population ratios	..	49.8	45.6	42.8	40.5	..	91.4	89.5	89.3	89.7	..	53.2	53.6	51.7	52.6
Denmark	Unemployment rates	11.4	6.7	9.5	6.5	7.3	7.5	3.2	3.7	3.5	2.9	5.1	4.2	3.2	3.9	4.0
	Labour force participation rates	76.5	71.5	76.7	75.2	69.4	94.5	91.9	92.7	91.5	91.4	69.1	61.1	61.9	64.5	65.7
	Employment/population ratios	67.8	66.7	69.5	70.3	64.3	87.4	88.9	89.3	88.3	88.7	65.6	58.5	59.9	61.9	63.1
Finland	Unemployment rates	10.4	23.2	21.0	21.2	19.6	2.5	9.0	7.9	7.2	6.9	1.8	14.0	11.0	9.3	8.9
	Labour force participation rates	58.1	46.5	49.7	50.4	50.0	92.9	90.2	90.6	90.7	91.0	47.1	44.5	45.0	48.1	51.2
	Employment/population ratios	52.1	35.7	39.3	39.8	40.2	90.6	82.1	83.4	84.1	84.7	46.3	38.3	40.1	43.7	46.7
France	Unemployment rates	15.3	21.8	24.2	18.4	16.2	5.9	9.2	8.9	7.5	6.3	6.0	8.2	8.7	7.6	5.6
	Labour force participation rates	39.6	30.7	31.9	32.6	33.1	95.4	94.5	94.1	94.2	94.1	45.8	41.3	42.7	41.7	43.8
	Employment/population ratios	33.6	24.0	24.2	26.6	27.8	89.8	85.8	85.7	87.1	88.1	43.0	37.9	39.0	38.5	41.4
Germany	Unemployment rates	4.0	9.7	8.6	8.1	9.1	3.7	7.8	7.2	6.7	7.3	7.0	13.6	13.4	12.6	10.3
	Labour force participation rates	61.2	55.9	56.6	57.1	56.7	90.2	94.1	94.8	95.8	94.3	55.9	55.4	54.9	55.2	50.6
	Employment/population ratios	58.7	50.5	51.7	52.5	51.6	86.9	86.8	88.0	89.4	87.5	52.0	47.9	47.5	48.2	45.4
Greece	Unemployment rates	15.1	21.4	23.0	22.1	21.0	3.2	5.7	6.2	6.1	5.5	1.8	2.9	4.1	3.5	4.1
	Labour force participation rates	44.1	43.5	41.3	41.0	38.5	94.3	94.4	94.5	94.3	94.0	59.5	57.5	57.1	57.3	57.0
	Employment/population ratios	37.4	34.2	31.8	31.9	30.4	91.3	89.0	88.7	88.6	88.8	58.4	55.8	54.8	55.3	54.6
Hungary	Unemployment rates	..	14.8	13.2	13.0	11.5	..	7.3	6.7	6.2	5.7	..	4.7	3.4	3.7	3.8
	Labour force participation rates	..	46.5	46.2	44.4	41.6	..	82.8	84.4	84.5	84.3	..	26.9	30.8	34.5	36.3
	Employment/population ratios	..	39.6	40.0	38.7	36.8	..	76.8	78.7	79.2	79.5	..	25.6	29.7	33.2	34.9
Iceland^{a, b}	Unemployment rates	5.8	6.4	4.4	5.7	5.4	1.8	1.3	0.7	1.1	1.3	1.0	1.8	0.9	0.5	2.0
	Labour force participation rates	60.1	63.8	66.2	70.1	70.3	97.0	96.1	97.1	96.1	96.3	93.5	93.3	94.1	94.7	92.8
	Employment/population ratios	56.6	59.7	63.3	66.1	66.6	95.2	94.8	96.4	95.1	95.0	92.6	91.6	93.2	94.2	91.0

Table C. **Employment/population ratios, activity and unemployment rates (cont.)**

		Men (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Ireland	Unemployment rates	19.0	11.9	8.6	6.1	6.4	12.0	7.7	5.7	4.3	3.4	8.5	5.4	4.2	2.6	2.6
	Labour force participation rates	53.2	52.5	54.4	56.1	55.1	91.8	91.5	91.6	92.0	91.8	65.0	63.0	64.4	64.7	66.4
	Employment/population ratios	43.1	46.2	49.8	52.7	51.5	80.9	84.4	86.4	88.1	88.7	59.5	59.6	61.7	63.0	64.6
Italy^c	Unemployment rates	26.2	27.2	26.6	25.4	23.2	4.5	6.8	6.6	6.2	5.7	1.6	3.8	4.2	4.4	5.0
	Labour force participation rates	46.1	46.1	45.1	44.6	42.4	90.9	85.9	86.2	86.4	86.6	36.0	31.7	31.3	31.4	31.1
	Employment/population ratios	34.0	33.5	33.1	33.2	32.6	86.8	80.0	80.5	81.0	81.7	35.4	30.5	30.0	30.0	29.5
Japan	Unemployment rates	4.5	8.2	10.3	10.4	10.7	1.4	3.1	3.7	3.9	4.2	3.4	6.3	6.7	6.8	7.0
	Labour force participation rates	43.4	48.8	47.7	47.4	46.5	97.5	97.3	97.1	97.1	96.9	83.3	85.2	85.2	84.1	83.4
	Employment/population ratios	41.4	44.8	42.8	42.5	41.6	96.2	94.3	93.6	93.4	92.8	80.4	79.8	79.5	78.4	77.5
Korea	Unemployment rates	9.5	20.8	17.9	12.9	12.2	2.5	7.1	6.6	4.3	3.9	1.2	5.4	6.2	3.7	3.0
	Labour force participation rates	28.4	26.3	26.5	26.7	26.4	94.6	93.6	92.3	92.0	91.6	77.2	75.5	73.6	70.8	71.3
	Employment/population ratios	25.7	20.8	21.7	23.3	23.1	92.2	86.9	86.2	88.0	88.0	76.3	71.4	69.0	68.2	69.2
Luxembourg	Unemployment rates	2.7	5.8	6.2	5.7	7.8	1.0	1.7	1.4	1.4	1.1	0.6	0.0	0.7	2.0	0.5
	Labour force participation rates	45.7	37.2	36.0	37.4	37.1	95.0	94.4	94.2	94.2	94.2	43.2	35.1	35.6	38.6	35.5
	Employment/population ratios	44.5	35.1	33.7	35.3	34.2	94.0	92.8	92.9	92.8	93.2	42.9	35.1	35.4	37.9	35.3
Mexico^b	Unemployment rates	5.2	4.7	2.7	4.2	3.6	1.5	1.9	1.6	1.4	1.6	1.0	1.1	1.1	1.4	1.2
	Labour force participation rates	71.2	71.8	69.8	68.4	66.2	96.8	96.7	96.4	96.3	96.2	85.9	83.3	82.5	80.9	80.5
	Employment/population ratios	67.5	68.4	67.9	65.6	63.9	95.4	94.8	94.8	95.0	94.6	85.1	82.4	81.7	79.8	79.5
Netherlands	Unemployment rates	10.3	8.3	6.6	4.7	4.2	4.9	2.6	2.1	1.7	1.4	2.8	1.8	2.1	1.7	1.7
	Labour force participation rates	60.0	67.3	67.4	73.4	74.7	93.4	93.5	93.4	93.8	94.0	45.8	47.0	49.8	50.8	51.4
	Employment/population ratios	53.8	61.7	62.9	69.9	71.5	88.8	91.0	91.5	92.2	92.7	44.5	46.2	48.8	49.9	50.5
New Zealand	Unemployment rates	14.9	15.6	14.6	14.1	12.1	6.6	6.1	5.5	4.4	4.0	5.0	4.8	5.5	5.4	4.0
	Labour force participation rates	71.4	67.9	66.9	65.9	66.5	93.4	91.4	91.1	91.4	91.3	56.8	70.5	71.6	72.2	74.3
	Employment/population ratios	60.7	57.3	57.2	56.6	58.5	87.3	85.9	86.0	87.3	87.6	53.9	67.1	67.7	68.3	71.3
Norway^d	Unemployment rates	12.4	8.9	9.6	9.5	10.6	4.7	2.3	2.6	2.9	2.7	3.0	2.0	1.3	1.8	1.7
	Labour force participation rates	63.9	66.4	66.7	67.5	64.8	92.3	92.4	91.8	91.4	91.4	72.8	76.0	74.5	74.4	73.6
	Employment/population ratios	56.0	60.5	60.2	61.0	57.9	88.0	90.2	89.4	88.8	88.9	70.7	74.5	73.6	73.1	72.3
Poland	Unemployment rates	..	21.5	28.3	33.3	40.1	..	8.0	10.0	12.1	14.2	..	6.2	8.7	9.1	10.4
	Labour force participation rates	..	41.0	37.9	40.9	40.5	..	89.3	88.7	88.3	88.0	..	44.5	45.8	40.4	41.5
	Employment/population ratios	..	32.2	27.2	27.3	24.2	..	82.2	79.8	77.6	75.5	..	41.7	41.8	36.7	37.1
Portugal	Unemployment rates	7.1	8.0	7.0	6.2	7.2	2.3	3.4	3.4	2.7	2.6	2.2	3.5	3.9	3.7	3.2
	Labour force participation rates	66.5	50.7	51.2	51.4	53.0	94.3	93.2	93.0	92.8	92.8	66.5	65.7	64.6	64.9	63.6
	Employment/population ratios	61.8	46.7	47.6	48.2	49.2	92.1	90.0	89.8	90.3	90.4	65.0	63.4	62.1	62.5	61.6
Slovak Republic	Unemployment rates	..	26.6	35.3	39.7	41.8	..	9.4	12.8	15.2	16.0	..	7.1	10.4	13.5	12.6
	Labour force participation rates	..	51.8	50.9	49.4	50.2	..	93.7	93.7	93.9	94.0	..	42.0	41.1	41.0	43.0
	Employment/population ratios	..	38.0	32.9	29.8	29.2	..	84.9	81.7	79.6	79.0	..	39.0	36.8	35.4	37.6

Table C. Employment/population ratios, activity and unemployment rates (cont.)

		Men (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Spain^a	Unemployment rates	23.2	27.0	21.7	19.4	16.1	9.3	11.6	9.2	8.0	6.3	8.4	9.6	9.3	8.6	5.6
	Labour force participation rates	61.7	52.1	53.3	53.6	52.7	94.3	92.8	92.9	93.0	91.6	62.4	58.2	57.8	60.5	61.4
	Employment/population ratios	47.4	38.0	41.8	43.2	44.2	85.5	82.0	84.3	85.6	85.9	57.2	52.6	52.4	55.2	57.9
Sweden^a	Unemployment rates	4.5	17.5	14.8	12.3	12.7	1.3	7.8	6.5	5.2	4.4	1.3	7.8	7.3	6.9	5.3
	Labour force participation rates	69.3	51.4	52.6	53.3	54.2	94.7	90.5	90.3	90.6	90.6	75.4	71.3	72.3	72.8	73.5
	Employment/population ratios	66.1	42.4	44.8	46.7	47.3	93.5	83.4	84.4	85.8	86.6	74.4	65.8	67.1	67.8	69.6
Switzerland^b	Unemployment rates	3.0	4.7	5.6	5.6	5.8	0.8	2.8	2.2	1.6	1.0	1.4	4.0	2.5	3.0	1.8
	Labour force participation rates	72.9	70.8	67.9	70.5	68.6	97.8	97.1	97.2	96.7	96.3	86.4	81.6	80.9	79.3	82.5
	Employment/population ratios	70.7	67.5	64.1	66.5	64.6	97.0	94.3	95.1	95.2	95.3	85.2	78.4	78.9	77.0	81.0
Turkey	Unemployment rates	16.6	14.9	15.8	13.7	20.7	5.2	5.0	5.9	5.0	9.0	4.0	2.3	2.6	3.1	4.3
	Labour force participation rates	71.8	59.7	60.3	56.4	53.9	94.2	92.7	91.7	89.4	87.4	61.3	58.0	55.9	52.6	50.8
	Employment/population ratios	59.9	50.8	50.8	48.6	42.7	89.3	88.1	86.3	84.9	79.5	58.8	56.7	54.4	51.0	48.6
United Kingdom^a	Unemployment rates	11.1	14.0	14.1	13.2	12.0	5.6	5.4	5.4	4.8	4.1	8.4	6.8	6.4	5.5	4.4
	Labour force participation rates	83.5	73.2	73.2	73.7	65.0	94.8	91.4	91.6	91.9	91.3	68.1	62.6	63.5	63.3	64.4
	Employment/population ratios	74.2	63.0	62.9	63.9	57.2	89.5	86.4	86.7	87.5	87.6	62.4	58.3	59.4	59.8	61.6
United States^a	Unemployment rates	11.6	11.1	10.3	9.7	11.4	4.6	3.3	3.0	2.9	3.7	3.8	2.8	2.7	2.4	3.4
	Labour force participation rates	71.8	68.4	68.0	68.6	67.1	93.4	91.8	91.7	91.6	91.3	67.8	68.1	67.9	67.3	68.1
	Employment/population ratios	63.5	60.8	61.0	62.0	59.4	89.1	88.8	89.0	89.0	87.9	65.2	66.2	66.1	65.6	65.8
European Union^d	Unemployment rates	13.9	16.9	16.0	14.1	13.1	5.1	7.3	6.8	6.0	5.5	6.1	8.9	8.7	8.0	6.3
	Labour force participation rates	57.7	51.6	52.1	52.7	51.2	93.3	91.9	92.1	92.4	91.8	56.2	52.4	52.7	53.1	52.2
	Employment/population ratios	49.3	42.9	43.8	45.3	44.5	88.2	85.1	85.8	86.8	86.8	51.8	47.7	48.1	48.8	48.9
OECD Europe^d	Unemployment rates	14.2	16.5	16.6	15.4	16.5	5.0	7.0	6.9	6.4	6.5	5.7	7.8	7.9	7.4	6.1
	Labour force participation rates	60.2	52.4	52.6	52.4	50.8	93.5	91.8	91.8	91.7	91.0	57.5	52.4	52.7	52.4	51.8
	Employment/population ratios	51.3	43.8	43.9	44.3	42.4	88.5	85.4	85.5	85.9	85.1	53.4	48.3	48.6	48.5	48.6
Total OECD^d	Unemployment rates	11.2	12.5	12.2	11.6	12.5	4.1	5.2	5.1	4.7	5.1	4.3	5.7	5.8	5.5	5.2
	Labour force participation rates	60.9	57.4	57.2	57.2	55.8	94.3	92.8	92.7	92.6	92.2	66.7	63.9	64.1	63.4	63.1
	Employment/population ratios	54.0	50.2	50.2	50.5	48.8	90.3	87.9	88.0	88.2	87.5	63.5	60.2	60.4	59.9	59.8

a) Age group 15 to 24 refers to 16 to 24.

b) The year 1990 refers to 1991.

c) Age groups 25 to 54 and 55 to 64 refer to age groups 25 to 59 and 60 to 64.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table C. **Employment/population ratios, activity and unemployment rates**

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia	Unemployment rates	12.4	13.2	12.0	11.5	12.0	5.5	5.7	5.3	4.6	5.0	3.0	4.4	4.7	2.4	3.3
	Labour force participation rates	67.7	65.1	65.9	68.2	67.7	66.6	69.6	69.2	70.7	71.4	24.9	32.4	31.7	36.3	36.9
	Employment/population ratios	59.3	56.5	58.0	60.4	59.5	62.9	65.6	65.6	67.4	67.8	24.2	31.0	30.3	35.4	35.7
Austria	Unemployment rates	..	7.6	6.4	5.6	5.8	..	5.2	4.6	4.4	3.8	..	5.7	3.4	5.9	5.2
	Labour force participation rates	..	55.5	54.2	51.5	50.1	..	75.5	76.3	76.8	76.9	..	18.1	18.3	18.9	18.3
	Employment/population ratios	..	51.3	50.7	48.6	47.2	..	71.6	72.8	73.5	74.0	..	17.1	17.6	17.8	17.4
Belgium	Unemployment rates	19.2	23.0	22.4	18.2	16.6	10.3	10.7	9.0	7.4	6.1	5.0	5.4	8.1	2.8	0.9
	Labour force participation rates	34.1	29.4	30.1	32.6	30.0	60.8	70.5	72.9	73.2	70.7	9.9	14.2	16.1	15.8	15.8
	Employment/population ratios	27.5	22.6	23.4	26.7	25.0	54.5	62.9	66.4	67.8	66.4	9.4	13.4	14.8	15.4	15.6
Canada	Unemployment rates	11.0	13.6	12.6	11.3	11.0	7.6	6.9	6.3	5.8	6.0	5.7	6.7	5.3	5.5	5.6
	Labour force participation rates	67.3	60.2	61.7	62.9	63.3	75.4	77.6	78.2	78.6	79.1	34.9	38.7	39.4	41.6	41.8
	Employment/population ratios	59.9	52.1	53.9	55.8	56.3	69.7	72.2	73.2	74.0	74.3	33.0	36.1	37.3	39.3	39.4
Czech Republic	Unemployment rates	..	14.8	18.5	17.4	17.3	..	7.3	9.5	9.9	9.1	..	4.4	5.1	5.4	5.8
	Labour force participation rates	..	42.1	42.1	40.6	38.0	..	81.9	82.0	81.8	81.8	..	23.9	24.4	23.7	24.6
	Employment/population ratios	..	35.8	34.3	33.6	31.5	..	76.0	74.2	73.7	74.3	..	22.9	23.2	22.4	23.2
Denmark	Unemployment rates	11.6	7.6	10.5	7.0	9.3	8.4	6.1	4.9	4.7	4.1	7.5	6.4	5.6	4.2	4.0
	Labour force participation rates	70.4	71.6	70.1	68.8	65.0	87.8	82.9	83.5	84.3	83.5	45.9	44.3	50.6	48.2	51.9
	Employment/population ratios	62.2	66.1	62.8	64.0	59.0	80.3	77.8	79.4	80.4	80.1	42.4	41.5	47.8	46.2	49.8
Finland	Unemployment rates	8.3	24.5	22.2	21.8	20.2	1.6	10.1	9.0	8.8	8.0	2.8	13.9	9.4	9.4	8.8
	Labour force participation rates	56.9	45.1	49.1	51.1	50.8	86.5	84.0	84.8	85.0	85.0	40.8	39.7	42.4	45.2	49.5
	Employment/population ratios	52.2	34.1	38.2	39.9	40.5	85.1	75.6	77.1	77.6	78.2	39.7	34.2	38.4	40.9	45.1
France	Unemployment rates	23.9	30.0	29.7	23.7	21.8	10.7	12.7	12.6	11.1	10.1	7.6	9.3	8.7	8.3	6.6
	Labour force participation rates	33.1	24.8	24.4	26.0	26.5	72.9	78.0	78.5	78.4	78.7	31.1	31.3	32.6	33.0	34.1
	Employment/population ratios	25.2	17.4	17.1	19.8	20.7	65.1	68.0	68.6	69.6	70.8	28.8	28.4	29.7	30.3	31.8
Germany	Unemployment rates	5.0	8.2	7.7	7.2	7.5	6.0	9.2	8.5	8.0	7.7	9.1	16.4	15.9	15.0	12.5
	Labour force participation rates	56.8	46.4	47.1	47.6	47.4	63.4	75.9	76.3	76.9	78.3	24.7	34.5	34.0	34.1	32.4
	Employment/population ratios	54.0	42.6	43.5	44.2	43.9	59.6	68.9	69.7	70.8	72.2	22.4	28.8	28.6	29.0	28.4
Greece	Unemployment rates	32.6	39.3	41.0	37.7	35.7	8.6	13.9	15.2	14.7	13.5	1.2	3.7	5.0	4.4	4.0
	Labour force participation rates	35.3	36.6	37.4	35.4	33.9	51.5	59.9	61.5	61.7	61.3	24.3	24.5	24.4	25.5	23.7
	Employment/population ratios	23.8	22.2	22.1	22.0	21.8	47.1	51.6	52.1	52.6	53.0	24.0	23.6	23.1	24.4	22.7
Hungary	Unemployment rates	..	11.6	11.3	10.9	9.8	..	6.1	5.6	5.0	4.5	..	5.1	1.3	1.6	1.4
	Labour force participation rates	..	34.9	35.0	33.3	30.8	..	68.2	70.0	70.4	70.0	..	10.0	11.4	13.5	15.5
	Employment/population ratios	..	30.9	31.1	29.7	27.8	..	64.0	66.1	66.9	66.9	..	9.5	11.3	13.3	15.3
Iceland^{a, b}	Unemployment rates	3.9	5.6	4.4	3.6	4.3	2.6	2.9	2.1	2.4	2.2	3.4	1.4	1.9	3.2	1.9
	Labour force participation rates	58.8	67.3	70.1	73.2	70.0	83.0	85.4	87.0	88.2	88.1	81.1	83.0	80.3	76.8	81.7
	Employment/population ratios	56.5	63.5	67.0	70.5	67.0	80.8	82.9	85.1	86.0	86.2	78.3	81.9	78.8	74.4	80.2

Table C. Employment/population ratios, activity and unemployment rates (cont.)

		Women (Percentages)														
		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Ireland	Unemployment rates	16.1	11.1	8.3	6.9	5.8	13.5	6.6	4.8	3.6	3.0	8.3	4.5	4.4	2.4	2.7
	Labour force participation rates	47.3	44.6	46.9	46.9	44.9	45.4	60.8	63.0	65.0	66.1	19.9	24.6	26.9	27.8	29.2
	Employment/population ratios	39.6	39.7	43.0	43.7	42.3	39.3	56.8	60.0	62.7	64.1	18.2	23.5	25.7	27.1	28.4
Italy^b	Unemployment rates	37.8	39.0	37.4	35.4	32.2	12.2	12.9	12.7	11.7	10.7	2.3	3.8	4.0	2.9	2.5
	Labour force participation rates	40.8	33.9	34.0	34.3	32.6	49.5	51.7	52.9	53.9	55.4	10.1	8.1	7.9	8.0	8.7
	Employment/population ratios	25.4	20.7	21.3	22.1	22.1	43.5	45.0	46.2	47.6	49.5	9.9	7.8	7.5	7.8	8.5
Japan	Unemployment rates	4.1	7.3	8.2	7.9	8.7	2.1	3.8	4.4	4.4	4.7	1.4	2.9	3.3	3.6	3.7
	Labour force participation rates	44.8	47.8	46.7	46.6	46.4	64.2	66.6	66.4	66.5	67.3	47.2	49.9	49.8	49.7	49.2
	Employment/population ratios	43.0	44.3	42.9	43.0	42.4	62.9	64.0	63.6	63.6	64.1	46.5	48.5	48.2	47.9	47.3
Korea	Unemployment rates	5.5	12.9	11.9	8.5	8.2	0.9	4.9	4.4	2.7	2.5	0.3	1.9	2.1	1.4	0.9
	Labour force participation rates	40.7	35.7	35.4	36.1	37.4	54.2	56.0	56.6	57.8	58.4	49.6	48.2	48.9	48.2	47.4
	Employment/population ratios	38.5	31.1	31.2	33.1	34.4	53.7	53.2	54.1	56.3	57.0	49.4	47.2	47.8	47.5	47.9
Luxembourg	Unemployment rates	4.7	7.1	7.4	7.3	5.4	2.0	3.9	2.9	2.9	1.9	0.6	1.9	1.5	0.0	0.0
	Labour force participation rates	44.0	33.4	31.9	30.6	32.1	49.7	58.4	62.0	64.9	65.1	13.8	15.6	17.7	16.8	14.4
	Employment/population ratios	42.0	31.0	29.5	28.3	30.3	48.7	56.2	60.2	63.0	63.8	13.7	15.3	17.5	16.8	14.4
Mexico^b	Unemployment rates	5.8	6.4	4.5	4.7	5.0	3.8	2.7	2.1	1.7	1.7	1.0	0.5	0.2	0.7	0.5
	Labour force participation rates	34.5	37.1	36.1	36.1	34.3	38.2	45.8	44.8	45.6	45.3	24.4	28.3	29.5	28.6	27.6
	Employment/population ratios	32.5	34.7	34.5	34.4	32.6	36.8	44.6	43.9	44.8	44.6	24.2	28.1	29.4	28.4	27.4
Netherlands	Unemployment rates	11.9	9.3	8.2	5.9	4.5	10.9	5.1	4.1	3.0	2.1	6.3	3.5	3.9	2.1	1.1
	Labour force participation rates	59.2	64.9	68.0	70.9	72.4	57.9	70.7	72.4	73.0	74.2	16.8	20.5	22.8	26.4	28.3
	Employment/population ratios	52.2	58.9	62.5	66.7	69.2	51.6	67.1	69.4	70.9	72.6	15.8	19.8	21.9	25.8	28.0
New Zealand	Unemployment rates	13.2	13.5	12.8	12.1	11.5	5.4	6.2	5.3	4.6	4.1	4.0	4.1	4.1	3.5	2.8
	Labour force participation rates	64.3	62.5	59.6	59.9	60.2	69.3	72.6	73.5	73.8	74.5	30.7	46.3	48.3	48.0	51.8
	Employment/population ratios	55.8	54.0	52.0	52.7	53.3	65.6	68.1	69.6	70.3	71.5	29.5	44.4	46.3	46.3	50.3
Norway^a	Unemployment rates	11.0	9.4	9.5	10.9	10.3	3.9	2.4	2.2	2.3	2.5	1.9	1.6	0.8	0.7	1.4
	Labour force participation rates	56.9	61.1	61.0	61.8	61.3	79.2	83.2	83.2	83.5	83.3	53.9	61.0	61.5	61.6	63.2
	Employment/population ratios	50.7	55.3	55.2	55.0	55.0	76.1	81.2	81.4	81.6	81.2	52.8	60.0	61.1	61.2	62.3
Poland	Unemployment rates	..	25.2	32.0	37.3	42.0	..	11.2	11.8	16.0	17.6	..	5.5	6.1	9.7	8.7
	Labour force participation rates	..	33.7	31.5	34.8	34.4	..	76.5	76.7	76.5	76.5	..	25.7	26.1	23.7	24.1
	Employment/population ratios	..	25.2	21.4	21.8	20.0	..	67.9	67.6	64.3	63.1	..	24.3	24.5	21.4	22.0
Portugal	Unemployment rates	12.8	12.8	10.8	11.6	11.9	5.8	5.7	4.6	4.4	4.4	1.8	2.9	2.0	2.6	3.1
	Labour force participation rates	54.4	44.5	43.4	41.9	42.8	69.4	75.0	75.7	77.3	78.1	32.3	39.6	41.9	42.2	41.9
	Employment/population ratios	47.5	38.8	38.7	37.1	37.7	65.4	70.7	72.1	73.9	74.7	31.7	38.4	41.1	41.1	40.6
Slovak Republic	Unemployment rates	..	23.4	32.1	33.8	35.7	..	11.2	13.4	15.8	15.8	..	8.7	6.7	8.7	11.2
	Labour force participation rates	..	41.9	42.8	42.6	41.5	..	81.1	81.5	82.9	83.9	..	10.4	11.1	10.7	11.0
	Employment/population ratios	..	32.1	29.0	28.2	26.6	..	72.1	70.6	69.8	70.7	..	9.5	10.3	9.8	9.8

Table C. **Employment/population ratios, activity and unemployment rates** (*cont.*)
Women (Percentages)

		15 to 24					25 to 54					55 to 64				
		1990	1998	1999	2000	2001	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Spain^a	Unemployment rates	39.7	43.0	36.9	32.9	27.0	20.6	24.4	21.2	18.9	13.7	7.2	12.1	11.0	11.3	8.0
	Labour force participation rates	47.5	41.4	42.4	43.3	40.7	46.9	59.6	60.7	62.8	61.2	19.5	21.4	21.2	22.6	23.6
	Employment/population ratios	28.7	23.6	26.8	29.0	29.7	37.2	45.1	47.8	51.0	52.8	18.1	18.8	18.9	20.1	21.8
Sweden^a	Unemployment rates	4.4	16.1	13.6	11.4	10.8	1.2	7.3	5.9	4.6	3.7	1.6	5.2	5.9	5.3	4.5
	Labour force participation rates	68.9	48.5	49.5	51.2	54.4	90.8	85.3	85.7	85.6	85.6	65.8	63.6	64.8	65.9	67.3
	Employment/population ratios	65.9	40.7	42.8	45.4	48.5	89.7	79.1	80.6	81.7	82.5	64.8	60.3	61.0	62.4	64.3
Switzerland^b	Unemployment rates	3.4	7.0	5.7	3.9	5.5	2.6	4.0	3.2	3.1	3.4	0.6	1.9	2.5	2.3	1.6
	Labour force participation rates	70.3	63.5	69.3	66.0	64.5	73.7	78.6	77.6	78.0	79.3	43.8	52.4	52.5	51.3	56.2
	Employment/population ratios	67.9	59.1	65.4	63.4	61.0	71.8	75.5	75.1	75.6	76.6	43.5	51.4	51.1	50.1	55.3
Turkey	Unemployment rates	15.0	13.0	14.2	12.2	18.3	5.9	4.8	5.5	4.7	7.0	1.0	0.7	0.2	0.5	1.6
	Labour force participation rates	39.4	31.1	32.9	27.4	26.5	36.0	30.4	31.5	28.1	28.2	26.6	24.9	27.4	20.5	18.4
	Employment/population ratios	33.5	27.1	28.3	24.0	21.7	33.9	28.9	29.8	26.8	26.2	26.4	24.7	27.4	20.4	18.1
United Kingdom^a	Unemployment rates	9.0	10.5	10.2	10.1	8.7	6.0	4.5	4.3	4.0	3.6	5.0	3.1	3.2	2.8	1.8
	Labour force participation rates	72.4	65.4	65.0	65.6	57.2	73.0	75.1	75.9	76.1	76.4	38.7	39.8	41.1	42.6	44.0
	Employment/population ratios	65.9	58.5	58.4	58.9	52.2	68.6	71.7	72.6	73.1	73.6	36.7	38.5	39.8	41.4	43.2
United States^a	Unemployment rates	10.7	9.8	9.5	8.9	9.7	4.6	3.8	3.4	3.3	3.8	2.8	2.4	2.6	2.5	2.7
	Labour force participation rates	62.9	63.3	62.9	63.2	62.2	74.0	76.5	76.8	76.8	76.4	45.2	51.2	51.5	51.8	53.0
	Employment/population ratios	56.1	57.2	57.0	57.6	56.2	70.6	73.6	74.1	74.3	73.5	44.0	50.0	50.1	50.5	51.6
European Union^D	Unemployment rates	18.8	20.4	19.0	17.0	15.0	9.1	10.5	9.8	8.9	7.9	5.9	9.7	9.2	8.4	6.6
	Labour force participation rates	50.2	43.4	43.8	44.5	43.0	63.1	69.7	70.5	71.1	71.6	27.6	30.3	30.9	31.6	31.9
	Employment/population ratios	40.7	34.5	35.5	36.9	36.5	57.1	62.3	63.6	64.8	66.0	25.3	27.3	28.0	29.0	29.8
OECD Europe^d	Unemployment rates	17.8	19.1	18.7	17.7	17.5	8.6	9.9	9.5	9.2	8.6	5.2	8.3	7.9	7.7	6.2
	Labour force participation rates	48.7	40.5	41.0	40.5	39.2	60.4	66.6	67.3	67.3	67.6	28.1	29.3	30.1	30.0	30.2
	Employment/population ratios	39.9	32.8	33.3	33.3	32.4	54.9	60.0	60.9	61.2	61.8	26.1	26.9	27.7	27.7	28.3
Total OECD^d	Unemployment rates	12.3	13.1	12.7	11.9	12.2	5.8	6.7	6.4	6.1	6.0	3.2	4.7	4.7	4.6	4.1
	Labour force participation rates	50.1	46.6	46.6	46.6	45.7	63.4	67.5	67.8	67.9	68.0	36.3	38.5	39.1	39.2	39.4
	Employment/population ratios	43.9	40.5	40.7	41.1	40.2	59.6	62.9	63.4	63.8	63.9	34.8	36.7	37.3	37.4	37.8

a) Age group 15 to 24 refers to 16 to 24.

b) The year 1990 refers to 1991.

c) Age groups 25 to 54 and 55 to 64 refer to age groups 25 to 59 and 60 to 64.

d) For above countries only.

Source: OECD Labour Force Statistics, 1981-2001, Part III, (forthcoming), Paris. For Austria, Belgium, Denmark, Greece, Luxembourg and the Netherlands data are from the European Union Labour Force Survey.

Table D. Employment/population ratios, activity and unemployment rates by educational attainment, 2000

		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	7.5	4.5	3.6	8.0	4.1	3.7	7.0	5.5	3.4
	Labour force participation rates	65.8	80.3	85.9	80.2	88.8	92.3	55.5	65.8	80.3
	Employment/population ratios	60.8	76.7	82.9	73.8	85.2	88.8	51.6	62.2	77.5
Austria	Unemployment rates	6.3	3.0	1.6	6.9	2.8	1.4	5.9	3.2	1.9
	Labour force participation rates	57.4	76.9	88.1	70.9	84.8	90.5	49.3	68.0	84.4
	Employment/population ratios	53.8	74.6	86.7	66.1	82.4	89.2	46.4	65.8	82.8
Belgium	Unemployment rates	9.8	5.3	2.7	7.7	3.9	2.3	13.5	7.0	3.1
	Labour force participation rates	56.0	79.3	87.7	70.8	87.5	92.0	41.2	70.6	83.5
	Employment/population ratios	50.5	75.1	85.3	65.4	84.0	89.9	35.6	65.6	80.9
Canada	Unemployment rates	9.9	5.8	3.8	9.6	5.7	3.7	10.5	6.0	3.9
	Labour force participation rates	61.1	80.8	86.0	73.1	87.7	91.0	48.4	73.3	81.7
	Employment/population ratios	55.0	76.1	82.7	66.1	82.7	87.6	43.3	68.9	78.5
Czech Republic	Unemployment rates	19.3	6.7	2.5	20.8	5.1	2.0	18.4	8.8	3.1
	Labour force participation rates	58.1	81.0	89.0	71.1	88.2	94.6	52.0	73.2	81.5
	Employment/population ratios	46.9	75.5	86.8	56.3	83.7	92.7	42.5	66.7	78.9
Denmark	Unemployment rates	6.3	3.9	2.6	4.9	3.3	2.7	7.8	4.7	2.6
	Labour force participation rates	66.7	84.2	90.8	74.5	87.1	93.1	59.8	80.9	88.7
	Employment/population ratios	62.5	80.9	88.4	70.9	84.2	90.6	55.1	77.1	86.4
Finland	Unemployment rates	12.1	8.9	4.7	11.0	7.9	3.9	13.3	10.1	5.4
	Labour force participation rates	65.2	82.2	88.6	68.9	85.8	91.1	60.8	78.2	86.4
	Employment/population ratios	57.3	74.9	84.4	61.3	79.0	87.6	52.7	70.3	81.8
France	Unemployment rates	13.9	7.9	5.1	11.9	6.1	4.6	16.2	10.2	5.5
	Labour force participation rates	66.2	82.2	87.5	76.9	88.0	91.4	57.2	75.6	84.0
	Employment/population ratios	57.0	75.8	83.1	67.8	82.6	87.1	47.9	67.9	79.4
Germany	Unemployment rates	13.7	7.8	4.0	15.3	7.4	3.6	12.1	8.3	4.7
	Labour force participation rates	58.6	76.3	86.9	75.5	83.2	90.0	48.2	69.4	81.9
	Employment/population ratios	50.6	70.4	83.4	64.0	77.1	86.8	42.4	63.7	78.0
Greece	Unemployment rates	7.9	10.9	7.2	5.3	6.8	4.9	12.5	16.9	10.3
	Labour force participation rates	60.2	72.7	87.1	82.2	89.1	90.0	41.1	57.3	83.6
	Employment/population ratios	55.4	64.7	80.8	77.9	83.0	85.6	36.0	47.6	75.0
Hungary	Unemployment rates	9.9	5.3	1.3	11.8	5.6	1.3	8.0	4.9	1.2
	Labour force participation rates	40.1	76.3	83.6	48.8	83.2	88.8	34.2	68.5	78.9
	Employment/population ratios	36.2	72.2	82.5	43.0	78.5	87.6	31.4	65.1	77.9

Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2000** (*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
Iceland	Unemployment rates	2.5	1.5	0.8	1.5	1.0	0.3	3.4	2.4	1.3
	Labour force participation rates	89.0	90.7	95.8	96.1	94.7	98.1	83.8	84.7	93.5
	Employment/population ratios	86.8	89.3	95.0	94.7	93.8	97.8	80.9	82.6	92.3
Ireland	Unemployment rates	6.8	2.5	1.9	7.0	2.4	1.6	6.2	2.7	2.2
	Labour force participation rates	60.7	75.7	86.9	79.7	92.2	94.7	39.7	62.2	79.1
	Employment/population ratios	56.6	73.8	85.2	74.1	90.0	93.1	37.3	60.5	77.4
Italy	Unemployment rates	10.0	7.4	5.9	7.7	4.9	4.0	15.1	10.6	8.1
	Labour force participation rates	53.2	76.6	86.5	74.7	86.0	91.4	32.7	67.0	81.3
	Employment/population ratios	47.9	71.0	81.4	69.0	81.8	87.7	27.7	59.9	74.7
Japan	Unemployment rates	6.0	4.7	3.5	6.6	5.0	3.1	5.0	4.3	4.2
	Labour force participation rates	71.4	77.4	82.4	86.6	95.4	97.6	56.3	61.6	64.3
	Employment/population ratios	67.1	73.8	79.5	80.9	90.7	94.6	53.4	59.0	61.6
Korea	Unemployment rates	3.4	3.8	3.4	4.8	4.2	3.7	2.2	3.0	2.4
	Labour force participation rates	70.2	71.5	78.1	84.7	89.4	91.0	61.3	51.3	55.7
	Employment/population ratios	67.8	68.8	75.5	80.6	85.6	87.6	60.0	49.8	54.4
Luxembourg	Unemployment rates	3.1	1.6	1.0	2.7	1.0	0.7	3.6	2.6	1.4
	Labour force participation rates	59.8	74.3	85.2	77.2	87.4	90.4	45.4	59.7	78.1
	Employment/population ratios	57.9	73.2	84.3	75.1	86.6	89.8	43.7	58.1	77.0
Mexico	Unemployment rates	1.3	1.6	2.0	1.3	1.2	1.8	1.3	1.9	2.5
	Labour force participation rates	64.0	67.0	84.7	94.1	95.7	94.8	37.6	57.8	71.2
	Employment/population ratios	63.2	65.9	83.0	92.9	94.6	93.1	37.1	56.7	69.4
Netherlands	Unemployment rates	3.5	2.1	1.8	2.7	1.6	1.6	4.5	2.9	2.2
	Labour force participation rates	61.8	81.8	88.1	78.8	89.0	91.8	48.0	73.9	82.9
	Employment/population ratios	59.6	80.1	86.5	76.7	87.6	90.4	45.8	71.8	81.1
New Zealand	Unemployment rates	7.8	3.5	3.6	8.6	3.2	3.6	6.8	4.0	3.6
	Labour force participation rates	65.8	83.2	83.8	79.6	91.1	91.0	54.2	74.1	78.0
	Employment/population ratios	60.7	80.3	80.8	72.8	88.2	87.7	50.5	71.1	75.2
Norway	Unemployment rates	2.2	2.6	1.9	2.3	3.0	2.0	2.2	2.2	1.7
	Labour force participation rates	66.8	85.0	91.6	75.1	89.2	93.9	59.0	80.3	89.3
	Employment/population ratios	65.3	82.7	89.9	73.4	86.6	92.0	57.7	78.5	87.8
Poland	Unemployment rates	20.6	13.9	4.3	19.6	11.5	4.0	21.8	16.8	4.5
	Labour force participation rates	53.9	77.3	88.3	64.7	83.5	90.9	45.0	70.8	86.3
	Employment/population ratios	42.8	66.6	84.5	52.0	74.0	87.3	35.2	58.9	82.4

Table D. **Employment/population ratios, activity and unemployment rates by educational attainment, 2000 (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
Portugal	Unemployment rates	3.6	3.3	2.8	2.9	2.2	2.3	4.3	4.4	3.1
	Labour force participation rates	75.8	86.7	92.9	86.5	88.8	94.8	65.5	84.5	91.5
	Employment/population ratios	73.1	83.8	90.3	84.0	86.8	92.7	62.7	80.7	88.6
Slovak Republic	Unemployment rates	36.3	14.3	4.6	41.7	13.9	5.3	32.2	14.7	3.7
	Labour force participation rates	48.5	82.4	89.7	61.5	88.2	92.9	41.8	76.1	86.4
	Employment/population ratios	30.9	70.6	85.6	35.8	75.9	88.0	28.3	64.9	83.1
Spain	Unemployment rates	13.7	11.0	9.5	9.4	6.4	6.1	21.9	17.4	13.6
	Labour force participation rates	62.4	80.9	87.9	83.9	91.6	92.0	41.9	69.7	83.6
	Employment/population ratios	53.9	72.0	79.5	76.1	85.7	86.4	32.7	57.6	72.2
Sweden	Unemployment rates	8.0	5.3	3.0	7.6	5.7	3.6	8.5	4.9	2.5
	Labour force participation rates	73.9	86.2	89.4	79.4	89.0	90.2	67.3	83.4	88.6
	Employment/population ratios	68.0	81.7	86.7	73.3	83.9	87.0	61.6	79.3	86.4
Switzerland	Unemployment rates	5.0	2.0	1.3	4.9	1.5	1.1	5.2	2.6	1.9
	Labour force participation rates	69.0	83.6	92.2	86.1	93.8	95.6	59.0	75.1	84.0
	Employment/population ratios	65.5	81.9	90.9	81.9	92.4	94.5	56.0	73.2	82.5
Turkey	Unemployment rates	4.7	5.6	3.7	4.9	4.6	3.5	3.9	11.0	4.1
	Labour force participation rates	55.2	65.2	81.5	84.4	87.7	87.3	22.0	25.9	71.1
	Employment/population ratios	52.6	61.6	78.5	80.2	83.6	84.2	21.1	23.1	68.1
United Kingdom	Unemployment rates	8.9	4.5	2.1	11.6	4.8	2.2	6.0	4.1	2.1
	Labour force participation rates	58.9	82.8	89.8	68.0	88.7	92.4	51.6	76.8	86.5
	Employment/population ratios	53.7	79.1	87.8	60.1	84.5	90.4	48.5	73.7	84.7
United States	Unemployment rates	7.9	3.6	1.8	7.1	3.7	1.8	9.1	3.5	1.7
	Labour force participation rates	62.7	79.5	86.5	74.9	86.2	91.7	50.4	73.3	81.5
	Employment/population ratios	57.8	76.7	85.0	69.6	83.1	90.0	45.8	70.7	80.2
European Union ^a	Unemployment rates	10.6	6.5	4.3	8.8	5.6	3.5	13.1	7.6	5.3
	Labour force participation rates	60.3	79.6	87.9	77.0	86.7	91.3	45.7	72.3	84.0
	Employment/population ratios	53.9	74.5	84.2	70.2	81.9	88.1	39.7	66.8	79.6
OECD Europe ^a	Unemployment rates	10.0	7.2	4.1	8.4	6.2	3.4	12.6	8.6	5.0
	Labour force participation rates	58.8	79.1	87.8	77.7	86.5	91.2	41.7	71.2	83.7
	Employment/population ratios	52.9	73.3	84.2	71.2	81.1	88.1	36.4	65.1	79.5
Total OECD ^a	Unemployment rates	7.4	5.6	3.0	6.6	5.2	2.8	8.9	6.1	3.4
	Labour force participation rates	61.7	78.6	85.8	81.1	87.8	92.6	44.3	69.4	78.4
	Employment/population ratios	57.1	74.2	83.2	75.8	83.3	90.0	40.4	65.2	75.8

a) For above countries only.

Source : OECD, *Education at a Glance - OECD Indicators 2002*.

Table E. Incidence and composition of part-time employment^a

	Percentages									
	Part-time employment as a proportion of employment									
	Men					Women				
	1990	1998	1999	2000	2001	1990	1998	1999	2000	2001
Australia ^{b,c}	11.3	14.4	14.3	14.8	15.8	38.5	40.7	41.4	40.7	41.6
Austria	..	2.7	2.8	2.6	2.7	..	22.8	24.4	24.4	24.8
Belgium	4.6	4.9	7.3	7.1	5.6	29.8	32.2	36.6	34.5	33.4
Canada	9.1	10.6	10.3	10.3	10.4	26.8	28.8	28.0	27.3	27.1
Czech Republic	..	1.7	1.7	1.6	1.6	..	5.4	5.6	5.6	5.4
Denmark	10.2	9.8	8.9	8.9	9.1	29.6	25.4	22.7	23.5	20.8
Finland	4.7	6.7	6.6	7.1	7.3	10.6	13.0	13.5	13.9	14.0
France	4.4	5.8	5.8	5.3	5.1	21.7	25.0	24.7	24.3	23.8
Germany	2.3	4.6	4.8	4.8	..	29.8	32.4	33.1	33.9	..
Greece	4.0	5.3	4.5	3.0	2.6	11.5	15.4	13.5	9.4	8.5
Hungary	..	1.9	2.1	1.7	1.7	..	5.0	5.1	4.8	4.0
Iceland ^d	7.5	9.8	9.1	8.8	9.7	39.7	38.6	35.2	33.7	32.6
Ireland	4.2	8.2	7.9	7.9	7.1	20.5	31.2	31.9	32.3	33.0
Italy	3.9	4.9	5.3	5.7	5.4	18.2	22.4	23.2	23.4	23.7
Japan ^{b,e}	9.5	12.9	13.4	11.8	13.7	33.4	39.0	39.7	39.4	41.0
Korea ^b	3.1	5.1	5.9	5.2	5.3	6.5	9.2	10.5	9.9	10.5
Luxembourg	1.6	2.6	1.6	2.1	1.8	19.1	29.6	28.3	28.9	29.9
Mexico	..	8.2	7.2	7.1	7.6	..	28.3	26.9	25.6	25.8
Netherlands	13.4	12.4	11.9	13.4	13.8	52.5	54.8	55.4	57.2	58.1
New Zealand	7.9	10.7	11.4	11.2	11.2	34.6	38.0	37.7	36.4	36.5
Norway	6.9	7.9	8.2	8.7	9.0	39.8	35.9	35.0	33.6	32.6
Poland ^b	..	8.0	9.6	8.8	7.4	..	16.6	19.2	17.9	16.6
Portugal	3.1	5.1	5.0	4.8	5.1	11.8	15.8	14.6	14.7	14.3
Slovak Republic	..	1.0	0.9	1.0	1.1	..	3.2	2.9	3.0	2.8
Spain	1.4	2.9	2.9	2.7	2.7	11.5	16.6	16.8	16.5	16.6
Sweden	5.3	5.6	7.3	7.3	7.1	24.5	22.0	22.3	21.4	29.3
Switzerland ^{d,d}	6.8	7.2	7.7	8.4	8.9	46.5	45.8	46.5	44.7	44.7
Turkey	4.9	3.1	4.1	5.5	4.6	18.8	11.6	13.9	19.0	17.4
United Kingdom	5.3	8.2	8.5	8.4	..	39.5	41.2	40.6	40.8	..
United States ^f	8.3	8.2	8.1	7.9	8.1	20.0	19.1	19.0	18.2	18.2
European Union ^g	4.2	5.8	6	6.0	5.6	27.0	29.8	29.9	30.0	25.2
OECD Europe ^g	4.4	5.4	5.8	6.0	5.4	26.8	26.4	26.9	27.4	22.6
Total OECD ^g	6.6	7.7	7.8	7.6	8.1	25.0	25.8	25.9	25.7	24.1
	Part-time employment as a proportion of total employment					Women's share in part-time employment				
	1990	1997	1998	1999	2000	1990	1997	1998	1999	2000
Australia ^{b,c}	22.6	25.9	26.1	26.2	27.2	70.8	68.6	68.9	68.3	67.5
Austria	..	11.5	12.3	12.2	12.4	..	86.9	87.2	88.0	88.0
Belgium	14.2	16.3	19.9	19.0	17.6	79.9	82.4	79.0	79.0	81.8
Canada	17.0	18.9	18.5	18.1	18.1	70.1	69.7	69.7	69.3	69.1
Czech Republic	..	3.3	3.4	3.3	3.2	..	70.0	70.9	72.5	72.0
Denmark	19.2	17.0	15.3	15.7	14.5	71.5	68.7	68.4	69.8	66.5
Finland	7.5	9.6	9.9	10.4	10.5	67.2	63.6	64.9	63.8	63.4
France	12.2	14.8	14.7	14.2	13.8	79.8	79.3	79.0	80.1	80.4
Germany	13.4	16.6	17.1	17.6	..	89.7	84.1	84.1	84.5	..
Greece	6.7	9.0	7.8	5.4	4.8	61.1	63.1	64.4	65.5	66.8
Hungary	..	3.4	3.5	3.2	2.8	..	69.2	68.7	71.4	68.3
Iceland ^d	22.2	23.2	21.2	20.4	20.4	81.6	77.4	77.1	77.0	74.5
Ireland	9.8	18.0	18.3	18.5	18.4	71.8	73.6	75.7	76.0	74.5
Italy	8.8	11.2	11.8	12.2	12.2	70.8	71.9	71.5	70.5	72.6
Japan ^{b,e}	19.2	23.6	24.1	23.1	24.9	70.5	67.5	67.0	69.7	67.5
Korea ^b	4.5	6.8	7.8	7.1	7.5	58.7	54.8	55.2	57.2	58.4
Luxembourg	7.6	12.8	12.1	13.0	13.1	86.5	87.3	91.8	90.4	91.7
Mexico	..	15.0	13.8	13.5	13.8	..	63.5	65.4	65.1	63.8
Netherlands	28.2	30.0	30.4	32.1	33.0	70.4	75.8	77.4	76.2	76.3
New Zealand	19.6	23.0	23.4	22.6	22.7	77.1	74.3	73.3	72.9	73.2
Norway	21.8	20.8	20.7	20.3	20.1	82.7	79.6	78.8	77.0	76.0
Poland ^b	..	11.8	13.9	12.8	11.6	..	62.2	61.6	61.7	64.7
Portugal	6.8	9.9	9.3	9.2	9.2	74.0	71.3	70.8	71.7	69.9
Slovak Republic	..	2.0	1.8	1.9	1.9	..	71.9	73.2	71.2	68.9
Spain	4.6	7.7	7.9	7.8	7.9	79.5	75.9	77.0	78.6	78.9
Sweden	14.5	13.5	14.5	14.0	17.8	81.1	78.1	73.7	72.9	79.2
Switzerland ^{d,d}	22.1	24.2	24.8	24.4	24.8	82.4	83.4	82.6	80.6	80.1
Turkey	9.2	5.6	7.1	9.0	8.0	62.5	60.7	60.6	55.1	57.8
United Kingdom	20.1	23.0	22.9	23.0	..	85.1	80.4	79.6	79.9	..
United States ^f	13.8	13.4	13.3	12.8	13.0	68.2	68.0	68.4	68.0	67.5
European Union ^g	13.3	15.9	16.2	16.3	13.8	80.9	79.0	78.8	79.0	76.7
OECD Europe ^g	13.2	14.1	14.6	14.9	12.4	79.6	77.2	76.8	76.5	74.0
Total OECD ^g	14.3	15.4	15.5	15.3	14.9	73.4	71.1	71.1	71.6	68.9

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) Data are based on actual hours worked. For Poland until 2000 only.

c) Part-time employment based on hours worked at all jobs.

Sources and definitions:

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 the "Definition of Part-time Work for the Purpose of International Comparisons", Labour Market and Social Policy Occasional Paper No. 22, available on Internet (<http://www.oecd.org/els/employment/docs.htm>).

d) Data 1990 refer to 1991.

e) Less than 35 hours per week.

f) Data are for wage and salary workers only.

g) For above countries only.

Table F. Average annual hours actually worked per person in employment ^a

	1979	1983	1990	1997	1998	1999	2000	2001
Total employment								
Australia	1 904	1 853	1 866	1 861	1 856	1 860	1 855	1 837
Belgium	..	1 684	1 679	1 607	1 611	1 553	1 530	1 528
Canada	1 832	1 780	1 788	1 787	1 779	1 785	1 801	..
Czech Republic	..	..	..	2 067	2 075	2 088	2 092	2 000
Denmark	..	..	1 492	1 520	1 519	1 544	1 504	1 482
Finland ^b	..	1 809	1 763	1 780	1 761	1 765	1 721	1 694
Finland ^c	1 837	1 787	1 728	1 737	1 730	1 726	1 730	1 691
France	1 806	1 712	1 657	1 605	1 603	1 596	1 590	1 532
Germany ^d	..	..	1 560	1 513	1 507	1 496	1 482	1 467
Western Germany	1 732	1 697	1 583	1 489	1 484	1 475	1 461	1 446
Greece	..	1 983	1 912	1 924	1 921	1 940	1 921	1 921
Iceland	..	..	..	1 839	1 817	1 873	1 885	1 847
Ireland	..	1 909	1 922	1 797	1 722	1 693	1 690	1 674
Italy	1 715	1 692	1 674	1 640	1 629	1 625	1 622	1 606
Japan	2 126	2 095	2 031	1 865	1 842	1 810	1 821	..
Korea	..	2 734	2 514	2 436	2 390	2 497	2 474	2 447
Mexico	..	..	..	1 927	1 878	1 921	1 888	1 863
Netherlands	..	..	1 454	1 380	1 364	1 345	1 381	1 346
New Zealand	..	..	1 820	1 823	1 825	1 842	1 817	1 817
Norway	1 514	1 485	1 432	1 401	1 400	1 395	1 376	1 364
Slovak Republic	..	..	..	2 055	2 034	2 022	2 023	2 026
Spain	..	..	..	1 813	1 834	1 816	1 814	1 816
Sweden	1 517	1 520	1 549	1 628	1 629	1 636	1 625	1 603
Switzerland	..	..	..	1 589	1 589	1 597	1 568	..
United Kingdom	1 815	1 713	1 767	1 737	1 731	1 719	1 708	1 711
United States	1 838	1 824	1 838	1 849	1 850	1 846	1 835	1 821
Dependent employment								
Canada	1 801	1 762	1 771	1 782	1 773	1 780	1 797	..
Czech Republic	..	..	..	1 989	1 995	2 014	2 018	1 922
Finland ^b	..	..	1 666	1 687	1 672	1 673	1 638	1 616
France	1 669	1 570	1 543	1 501	1 051	1 499	..	..
Germany ^d	..	..	1 494	1 433	1 427	1 415	1 400	1 384
Western Germany	1 649	1 617	1 509	1 405	1 401	1 390	1 377	1 361
Hungary	..	1 829	1 710	1 786	1 788	1 795	1 795	1 766
Iceland	..	..	..	1 790	1 762	1 810	1 820	1 779
Italy	1 636	1 614	1 599	1 577	1 559	1 554	1 557	1 543
Japan ^e	2 114	2 098	2 052	1 919	1 900	1 879	1 842	1 859
Japan ^f	..	..	2 064	1 891	1 871	1 840	1 853	1 836
Mexico	..	..	..	1 978	1 942	1 976	1 935	1 915
Netherlands	1 591	1 530	1 433	1 355	1 340	1 343	..	..
Slovak Republic	..	..	..	2 017	1 998	1 984	1 986	1 993
Spain	..	..	..	1 749	1 767	1 753	1 753	1 757
United Kingdom	1 750	1 652	1 704	1 702	1 703	1 695	1 684	..
United States	1 816	1 809	1 820	1 832	1 833	1 828	1 818	1 805

a) The concept used is the total number of hours worked over the year divided by the average numbers 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.

b) Data estimated from the Labour Force Survey.

c) Data estimated from national accounts.

d) The year 1990 refers to 1991.

e) Data refer to establishments with 30 or more regular employees.

f) Data refer to establishments with 5 or more regular employees.

Table F. Average annual hours actually worked per person in employment ^a (cont.)*Sources and definitions:*

Secretariat estimates for *Belgium, Denmark, Greece, Ireland, Italy, Netherlands and Portugal* for annual hours worked for the total economy based on the European Labour Force Survey. Estimates of annual working time per employed persons are based on the Spring European Labour Force Survey (EULFS) as the main source of data for various components of working time (overtime, illness, maternity leave, etc.). The data from the EULFS correspond to one single reading in the year, which requires the use of external sources for hours not worked due to public holidays and annual leave. A correction is also made to account for an estimated 50 per cent underreporting, on average, of hours lost due to Illness and Maternity leave in the EULFS. In sum, the estimates are computed by multiplying weekly usual hours worked by the number of effective weeks worked during the year (taking into account vacation and time not worked due to other reasons).

Australia: Data supplied by the Australian Bureau of Statistics from the Labour Force Survey. Annual hours are adjusted to take account of public holidays occurring during the reporting period. The method of estimation is consistent with the national accounts.

Canada: Data series supplied by Statistics Canada, based mainly on the monthly Labour Force Survey supplemented by the Survey of Employment Payrolls and Hours, the annual Survey of Manufacturers and the Census of Mining.

Czech Republic: Data supplied by the Czech Statistical Office and based on the quarterly Labour Force Sample Survey. Main meal breaks (one half hour a day) are included.

Finland: Data supplied by Statistics Finland. National accounts series based on an establishment survey for manufacturing, and the Labour Force Survey for other sectors and for the self-employed. Alternative series based solely on the Labour Force Survey.

France: Data series supplied by the Institut National de la Statistique et des Études Économiques (INSEE), produced within the framework of the national accounts. Estimates for year 2000 and 2001 made by the Secretariat by prolonging the trend in data based on alternative estimates derived from the European Labour Force Survey (see notes for Belgium, Denmark, etc.).

Germany and western Germany: Data series from 1991 onward that extend coverage of part-time work with few hours of work. Data supplied by the Institut für Arbeitsmarkt- und Berufsforschung, calculated within a comprehensive accounting structure, based on establishment survey estimates of weekly hours worked by full-time workers whose hours are not affected by absence, and extended to annual estimates of actual hours by adjusting for a wide range of factors, including public holidays, sickness absence, overtime working, short-time working, bad weather, strikes, part-time working and parental leave. Data prior to 1991 are spliced with old annual hours of work estimates for 1991.

Iceland: Data are provided by Statistics Iceland and are based on the Icelandic Labor Force Survey. Annual actual hours worked per person in employment are computed by multiplying daily actual hours worked by annual actual working days net of public holidays and annual vacations. The latter are for a typical work contract by sector of activity.

Italy: Data are Secretariat estimates based on the European Labour Force Survey for 1985 to 1999 (see notes for Belgium, Denmark, etc.). From 1960 to 1985, trend in data is taken from the series provided by ISTAT and based on a special establishment survey total employment discontinued in 1985.

Japan: Data for total employment are Secretariat estimates based on data from the Monthly Labour Survey of Establishments, extended to agricultural and government sectors and to the self-employed by means of the Labour Force Survey. Data for dependent employment supplied by Statistics Bureau, Management and Coordination Agency, from the Monthly Labour Survey, referring to all industries excluding agriculture, forest, fisheries and government services.

Korea: Data supplied by the Ministry of Labour from the Report on monthly labour survey.

Mexico: Data supplied by STPS-INEGI from the bi-annual National Survey of Employment, based on the assumption of 44 working weeks per year.

Netherlands: From 1977 onwards, figures are "Annual Contractual Hours", supplied by Statistics Netherlands, compiled within the framework of the Labour Accounts. Overtime hours are excluded. For 1970 to 1976, the trend has been derived from data supplied by the Economisch Instituut voor het Midden en Kleinbedrijf, referring to persons employed in the private sector, excluding agriculture and fishing.

New Zealand: Data supplied by Statistics New Zealand and derived from the quarterly Labour Force Survey, whose continuous sample design avoids the need for adjustments for public holidays and other days lost.

Norway: Data supplied by Statistics Norway, based on national accounts and estimated from a number of different data sources, the most important being establishment surveys, the Labour Force Surveys and the public sector accounts.

Spain: New series supplied by Instituto Nacional de Estadística and derived from the quarterly Labour Force Survey. Series break at 1986/87 due to changes in the survey.

Sweden: New series from 1996 are supplied by Statistics Sweden derived from national accounts data, based on both the Labour Force Survey and establishment surveys.

Switzerland: Data supplied by Office fédéral de la statistique. The basis of the calculation is the Swiss Labour Force Survey which provides information on weekly hours of work during one quarter of the year. The estimates of annual hours are based also on supplementary, annual information on vacations, public holidays and overtime working and have been extended to correspond to national accounts concepts.

United Kingdom: Since 1994, data refer to the United Kingdom (including Northern Ireland). Break in series 1994/95 due to small change in the way estimates of employment are derived. For 1992 to 1995, the levels are derived directly from the continuous Labour Force Survey. For 1984 to 1991, the trend in the data is taken from the annual Labour Force Survey. From 1970 to 1983, the trend corresponds to estimates by Professor Angus Maddison.

United States: Please note the change in the estimates made the Secretariat to United States hours data compared to those published in the previous edition. Secretariat estimates are based on unpublished data supplied by the Bureau of Labor Statistics (BLS). Estimates of annual hours actually worked per job on the basis of the Current Employment Statistics (CES) and the Current Population Survey (CPS) are multiplied by one plus the rate of multiple jobholding from the CPS to produce estimates of annual working time on a per worker basis, as it is the case for most countries.

Table G. **Incidence of long-term unemployment**^{a, b, c, d, e}
As a percentage of total unemployment

	1990		1998		1999		2000		2001	
	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	41.0	21.6	52.2	33.6	48.4	29.4	43.6	27.9	38.7	21.5
Austria	..	..	44.0	30.3	39.3	25.9	39.7	25.9	36.2	23.5
Belgium	81.4	68.7	76.3	61.7	73.5	60.5	71.8	56.3	66.5	51.7
Canada	20.2	7.2	24.1	13.8	24.1	11.6	19.5	11.2	16.8	9.5
Czech Republic	..	..	54.6	31.2	61.9	37.1	69.9	48.8	71.3	52.7
Denmark	53.2	29.9	41.4	26.9	38.5	20.5	38.1	20.0	38.5	22.2
Finland ^f	32.6	9.2	42.2	27.5	46.4	29.6	46.5	29.0	42.2	26.2
France	55.5	38.0	64.3	44.2	55.6	40.4	62.0	42.6	57.2	37.6
Germany	64.7	46.8	69.6	52.6	67.2	51.7	67.6	51.5	..	..
Greece	71.9	49.8	74.8	54.9	74.3	55.3	73.5	56.4	69.0	52.8
Hungary	..	..	71.0	49.8	70.4	49.5	69.7	48.9	68.1	46.7
Iceland ^f	13.6	6.7	22.9	16.1	20.2	11.7	18.6	11.8	21.1	12.5
Ireland	81.0	66.0	..	..	76.1	55.3	..	..	..	..
Italy	85.2	69.8	77.3	59.6	77.2	61.4	77.6	61.3	77.4	63.4
Japan	39.0	19.1	39.3	20.9	44.5	22.4	46.9	25.5	46.2	26.6
Korea	13.9	2.6	14.7	1.6	18.6	3.8	14.3	2.3	13.0	2.3
Luxembourg ^g	(66.7)	(42.9)	(55.2)	(31.3)	(53.8)	(32.3)	(37.0)	(22.4)	(43.5)	(27.6)
Mexico	..	..	3.3	0.9	6.8	1.7	4.9	1.1	4.1	1.1
Netherlands	63.6	49.3	83.5	47.9	80.7	43.5	..	..	..	..
New Zealand	39.5	20.9	37.9	19.4	39.0	20.8	36.2	19.2	34.0	18.3
Norway	40.8	20.4	20.5	8.2	16.2	6.8	16.3	5.0	16.6	4.9
Poland	..	..	60.4	37.4	57.1	34.8	63.0	37.9	66.1	43.1
Portugal	62.4	44.8	64.5	44.7	63.8	41.2	60.0	42.9	58.0	38.1
Slovak Republic	..	..	68.0	51.3	69.2	47.7	74.4	54.6	67.6	48.2
Spain	70.2	54.0	70.5	54.3	67.8	51.2	64.8	47.6	61.8	44.0
Sweden	22.2	12.1	49.2	33.5	45.2	30.1	41.5	26.4	36.7	22.3
Switzerland ^f	27.5	17.0	49.2	34.8	61.2	39.6	45.7	29.0	47.3	29.9
Turkey	72.6	47.0	60.7	40.1	49.8	28.4	35.9	21.1	37.7	23.1
United Kingdom	50.3	34.4	47.3	32.7	45.4	29.6	43.2	28.0	43.6	27.7
United States	10.0	5.5	14.1	8.0	12.3	6.8	11.4	6.0	11.8	6.1
European Union ^b	65.3	48.6	66.7	49.2	63.7	47.4	63.8	46.9	60.4	43.7
OECD Europe ^h	64.8	46.9	64.5	45.9	61.0	43.2	61.4	43.2	58.2	40.4
Total OECD ^h	44.6	30.9	48.6	33.4	47.2	31.8	46.9	31.6	41.8	27.5

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 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 Canada, Sweden and the United States, averages of quarterly figures for the Czech Republic, Hungary, Norway, New Zealand, Poland, the Slovak Republic, and Spain, and averages of semi annual figures for Turkey. The reference period for the remaining countries is as follows (among EU countries it occasionally varies from year to year): Australia, August; Austria, April; Belgium, April; Denmark, April-May; Finland, autumn prior to 1995, spring between 1995 and 1998, and averages of monthly figures since 1999; France, March; Germany, April; Greece, March-July; Iceland, April; Ireland, May; Italy, April; Japan, February; Luxembourg, April; Mexico, April; the Netherlands, March-May; 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 (excluding unemployment pensioners). 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.

Table G. **Incidence of long-term unemployment among men**^{a, b, c, d, e} (cont.)
As a percentage of male unemployment

	1990		1998		1999		2000		2001	
	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	42.6	24.4	55.1	36.5	50.9	31.8	45.9	30.6	40.3	24.1
Austria	..	..	40.3	30.0	43.6	32.7	39.0	28.2	34.0	23.8
Belgium	79.5	66.1	75.0	59.5	73.2	60.1	70.2	55.9	68.2	52.5
Canada	20.4	8.0	25.6	15.0	23.3	12.8	20.9	12.2	17.9	10.5
Czech Republic	..	..	52.9	30.9	58.0	32.7	68.4	47.5	70.0	52.0
Denmark	48.9	27.8	40.9	23.9	38.6	20.9	36.5	20.1	39.1	26.2
Finland ^f	36.8	9.7	46.3	31.7	49.2	33.1	49.6	32.2	45.0	30.0
France	53.1	35.4	62.3	43.3	53.7	39.0	60.6	41.2	56.9	37.6
Germany	65.2	49.1	66.0	49.9	65.3	49.9	65.9	50.1	..	..
Greece	61.8	39.9	68.9	44.7	69.0	48.6	67.1	49.4	61.8	47.0
Hungary	..	..	71.5	50.2	70.9	50.6	71.3	51.0	70.2	48.4
Iceland ^f	5.1	1.3	21.4	13.6	13.9	6.6	17.5	8.8	17.3	11.2
Ireland	84.3	71.1	..	..	77.8	59.5	..	..	..	..
Italy	84.1	68.6	76.4	60.4	76.6	62.1	76.8	61.4	76.1	63.7
Japan	47.6	26.2	45.0	25.8	49.5	27.4	52.8	30.7	53.2	32.1
Korea	16.0	3.3	16.8	1.9	21.3	4.7	16.8	3.1	15.4	2.8
Luxembourg ^g	(80.0)	(60.0)	(57.3)	(38.0)	(61.6)	(38.6)	(40.0)	(26.4)	(51.4)	(31.6)
Mexico	..	..	4.2	1.2	5.8	2.7	4.3	0.5	4.3	1.1
Netherlands	65.6	55.2	81.0	51.3	75.1	47.7	..	..	..	..
New Zealand	44.0	24.5	41.1	22.6	42.5	23.0	39.5	23.1	37.1	21.2
Norway	37.9	19.0	23.1	10.3	17.1	7.3	20.0	6.7	17.8	6.7
Poland	..	..	55.2	32.5	52.4	31.4	59.3	34.1	62.7	39.9
Portugal	56.3	38.2	61.9	43.6	63.5	39.5	60.1	46.7	53.8	35.7
Slovak Republic	..	..	66.4	48.9	67.5	45.3	74.1	54.1	67.7	48.4
Spain	63.3	45.8	65.5	48.2	62.1	45.4	58.5	41.0	56.0	37.9
Sweden	22.2	12.3	52.2	36.3	48.5	33.3	44.3	29.3	39.0	24.2
Switzerland ^f	28.8	15.9	51.7	38.1	59.3	40.6	47.6	28.2	38.8	20.6
Turkey	71.2	44.9	58.3	37.7	47.4	25.2	33.0	18.1	33.7	20.1
United Kingdom	56.8	41.8	53.2	38.0	50.1	34.5	48.1	33.7	48.6	33.0
United States	12.1	7.0	15.2	8.8	13.0	7.4	12.2	6.7	12.1	6.3
European Union ^h	63.5	47.0	64.5	47.6	61.9	46.2	61.9	45.5	58.9	42.9
OECD Europe ^h	64.5	46.5	62.6	44.7	58.9	41.5	58.9	41.2	54.7	37.8
Total OECD ^h	43.7	29.7	47.1	32.0	45.9	30.6	45.5	30.3	40.3	26.3

f) Data for 1990 refer to 1991.

g) Data in brackets are based on small sample sizes and, therefore, must be treated with care.

h) For above countries only.

Table G. Incidence of long-term unemployment among women^{a, b, c, d, e} (cont.)
As a percentage of female unemployment

	1990		1998		1999		2000		2001	
	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	38.8	17.8	48.0	29.3	44.9	25.8	40.2	24.0	36.4	17.9
Austria	..	..	48.6	30.7	39.8	24.1	40.6	22.8	38.9	23.2
Belgium	82.5	70.0	77.5	63.5	73.8	60.9	73.1	56.7	64.5	50.8
Canada	19.8	6.1	22.2	12.2	18.9	10.2	17.8	10.0	15.3	8.2
Czech Republic	..	..	55.9	31.5	65.3	40.9	71.2	49.8	72.5	53.4
Denmark	57.7	32.0	41.6	29.0	38.5	20.1	39.6	20.0	38.0	18.8
Finland ^f	26.3	8.4	37.8	23.1	43.7	26.2	43.7	26.2	39.6	22.6
France	57.3	40.0	66.0	45.0	57.4	41.7	63.2	43.7	57.5	37.6
Germany	64.2	44.5	73.7	55.6	69.4	54.0	69.5	53.1	..	..
Greece	78.2	55.9	78.6	61.5	77.7	59.5	77.7	61.0	73.7	56.6
Hungary	..	..	70.1	49.2	69.7	47.9	67.3	45.7	64.8	44.1
Iceland ^g	21.1	11.5	24.1	18.1	24.5	15.2	19.4	14.0	24.8	13.8
Ireland	75.0	56.8	..	..	72.9	47.5	..	..	..	..
Italy	86.0	70.7	78.1	58.8	77.7	60.7	78.3	61.2	78.5	63.1
Japan	26.3	8.8	30.5	13.7	36.9	14.8	37.4	17.1	35.7	18.3
Korea	8.9	0.9	10.3	0.8	13.1	1.9	9.2	0.7	8.1	1.2
Luxembourg ^g	(55.6)	(33.3)	(53.6)	(26.3)	(47.5)	(27.2)	(34.3)	(18.8)	(34.9)	(23.1)
Mexico	..	..	2.2	0.4	8.0	0.4	6.0	2.0	3.9	1.0
Netherlands	62.0	44.6	85.5	45.2	84.9	40.4	..	..	..	..
New Zealand	32.6	15.5	33.7	15.2	34.3	17.9	32.0	14.3	30.1	14.6
Norway	45.0	22.5	17.1	5.7	15.6	6.3	11.4	2.9	10.8	2.7
Poland	..	..	65.1	41.8	61.9	38.3	66.6	41.3	69.5	39.9
Portugal	66.4	49.4	66.6	45.6	64.2	42.9	60.0	40.0	61.0	39.9
Slovak Republic	..	..	69.9	54.0	71.3	50.5	74.8	55.1	67.4	47.8
Spain	76.5	61.5	74.5	59.2	72.0	55.5	69.3	52.2	66.1	48.6
Sweden	22.2	11.8	45.6	30.1	41.2	26.1	37.9	22.8	33.8	20.0
Switzerland ^f	26.6	17.8	46.8	31.7	63.1	38.7	44.0	29.7	52.3	35.5
Turkey	75.6	51.2	66.9	46.4	56.0	36.4	44.1	29.5	50.1	32.5
United Kingdom	40.8	23.7	37.7	24.0	37.6	21.5	35.6	19.0	35.8	19.5
United States	7.3	3.7	12.8	7.1	11.6	6.2	10.5	5.3	11.5	5.7
European Union ^h	66.9	50.1	68.9	50.8	65.5	48.8	65.6	48.2	61.8	44.5
OECD Europe ^h	65.2	47.3	66.6	47.2	63.4	45.2	64.2	45.3	62.2	43.4
Total OECD ^h	45.7	32.2	50.2	35.0	48.6	33.2	48.6	33.1	43.6	29.0

Sources:

Data for Belgium, Denmark, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and the United Kingdom are based on the European Union Labour Force Survey and were supplied by Eurostat.

Austria: Data from the Labour Force Survey supplied by Statistics Austria.

Australia: Data from the Labour Force Survey supplied by the Australian Bureau of Statistics (ABS).

Canada: Data from the Labour Force Survey supplied by Statistics Canada.

Czech Republic: Data from the Labour Force Sample Survey supplied by the Czech Statistical Office.

Finland: Data from the Supplementary Labour Force Survey (biennial from 1989 until 1995, and annual from 1995 to 1998) and from the Labour Force Survey since 1999 supplied by the Central Statistical Office Labour Force Survey since 1999 (CSO).

France: Data from the Enquête Emploi supplied by the Institut National de la Statistique et des Études Économiques (INSEE).

Hungary: Data from the Labour Force Survey supplied by the Central Statistical Office (CSO).

Iceland: Data from the Labour Force Survey supplied by Statistics Iceland.

Japan: Data from the Special Survey of the Labour Force Survey supplied by the Statistics Bureau, Management and Coordination Agency (MCA).

Korea: Data from the Labour Force Survey supplied by the National Statistical Office (NSO).

Mexico: Data from the biennial Encuesta Nacional de Empleo (ENE) supplied by the Secretaría del Trabajo y Previsión Social (STPS).

New Zealand: Data from the Household Labour Force Survey supplied by the Department of Statistics.

Norway: Data from the Labour Force Survey supplied by the Central Statistical Office (CSO).

Poland: Data from the Labour Force Survey supplied by the Central Statistical Office (CSO).

Slovak Republic: Data from the Labour Force Survey supplied by the Statistical Office of the Slovak Republic (SOS).

Spain: Data from the Labour Force Survey supplied by Instituto Nacional de Estadística (INE).

Sweden: Data from the Labour Force Survey supplied by Statistics Sweden.

Switzerland: Data from the Labour Force Survey supplied by the Swiss Federal Statistical Office (SFS).

Turkey: Data from the Household Labour Force Survey supplied by the State Institute of Statistics (SIS).

United States: Data from the Current Population Census (CPS) supplied by the Bureau of Labor Statistics (BLS).

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries

Programme categories and sub-categories	Australia ^a				Austria				Belgium															
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force											
	1997-98	1998-99	1999-00	2000-01	1997-98	1998-99	1999-00	2000-01	1998	1999	2000	2001	1997	1998	1999	2000	1997	1998	1999	2000				
1. Public employment services and administration	0.21	0.20	0.20	0.20					0.13	0.13	0.13	0.14					0.19	0.19	0.18	0.17				
2. Labour market training	0.06	0.02	0.02	0.02	1.96	0.80	0.98	0.96	0.15	0.19	0.17	0.20	1.67^b	3.01^b	3.02^b	3.29^b	0.26	0.25	0.24	0.24	8.55	8.95	9.09	8.81
<i>a)</i> Training for unemployed adults and those at risk	0.06	0.02	0.02	0.02	1.72	0.58	0.79	0.73	0.13	0.16	0.16	0.18	-	-	0.83	-	0.17	0.16	0.16	0.16	2.41	2.82	2.99	2.69
<i>b)</i> Training for employed adults	-	-	-	-	0.24	0.21	0.19	0.23	0.02	0.02	0.02	0.02	-	-	-	-	0.09	0.09	0.09	0.08	6.14	6.13	6.10	6.12
3. Youth measures	0.06	0.05	0.06	0.07	1.98	0.54	0.80	3.11	0.04	0.05	0.04	0.03	0.17	0.20	0.11	0.12	0.01	..	..	-	0.24	..	..	0.32
<i>a)</i> Measures for unemployed and disadvantaged youth	-	-	0.01	0.01	0.29	0.23	0.62	0.89	0.01	0.02	0.02	0.01	-	-	-	-	..	..	..	..	..	..	..	..
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.06	0.05	0.05	0.07	1.69	0.31	0.18	2.23	0.03	0.03	0.02	0.01	-	-	-	-	0.01	..	..	-	0.24	..	..	0.32
4. Subsidised employment	0.13	0.09	0.11	0.11	1.18	0.78	1.08	1.42	0.07	0.09	0.11	0.11	0.32	0.64	0.57	0.79	0.65	0.85	0.79	0.77	5.40	8.61	9.30	9.66
<i>a)</i> Subsidies to regular employment in the private sector	0.04	0.01	0.01	0.01	0.74	-	-	0.07	0.03	0.05	0.05	0.06	-	-	-	-	0.17	0.35	0.27	0.27	2.38	4.37	3.75	3.89
<i>b)</i> Support of unemployed persons starting enterprises	0.02	0.02	0.02	0.01	0.07	0.07	0.08	0.16	0.01	0.01	0.02	0.02	-	-	-	-	-	-	-	-	-	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.07	0.07	0.09	0.09	0.36	0.71	0.96	1.18	0.03	0.03	0.04	0.03	-	-	-	-	0.48	0.48	0.50	0.48	3.01	2.91	3.08	3.56
5. Measures for the disabled	0.05	0.06	0.05	0.05	0.33	0.81	0.76	0.81	0.05	0.06	0.05	0.06	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	0.12	0.12	0.12	0.12	..	..	..	..
<i>a)</i> Vocational rehabilitation	0.02	0.02	0.02	0.02	0.29	0.28	0.19	0.19	0.02	0.03	0.02	0.03	-	-	-	-	0.02	0.02	0.02	0.02	..	..	..	..
<i>b)</i> Work for the disabled	0.04	0.04	0.04	0.04	-	0.53	0.57	0.62	0.03	0.03	0.03	0.02	-	-	-	-	0.10	0.10	0.10	0.10	..	..	..	..
6. Unemployment compensation	1.24	1.17	1.04	0.98	9.01	..	8.62	8.57	1.21	1.15	1.02	1.01	19.37	18.88	14.60	18.98	2.04	1.89	1.80	1.69	..	..	..	..
7. Early retirement for labour market reasons	-	-	-	-	-	-	-	-	0.05	0.04	0.04	0.06	0.64	0.59	0.78	1.00	0.60	0.55	0.52	0.49	..	..	..	..
TOTAL	1.75	1.60	1.49	1.43	15.03	..	19.89	22.36	1.71	1.71	1.57	1.60	21.85	23.32	19.08	24.18	3.85	3.86	3.66	3.48	..	..	..	..
Active measures (1-5)	0.51	0.43	0.45	0.46	6.02	9.98	11.26	13.79	0.44	0.52	0.51	0.53	1.83	3.84	3.70	4.21	1.22	1.41	1.34	1.30	..	..	..	..
Passive measures (6 and 7)	1.24	1.17	1.04	0.98	9.01	..	8.62	8.57	1.27	1.19	1.06	1.07	20.02	19.47	15.38	19.98	2.64	2.45	2.32	2.18	..	..	..	..

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

^{a)} Fiscal years starting on July 1.^{b)} Participant inflows for category 5 "Measures for the disabled" are included in category 2 "Labour market training".

Table H. Public expenditure and participant inflows^a in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Canada ^a				Czech Republic				Denmark															
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force											
	1997-98	1998-99	1999-00	2000-01 ^b	1995-96	1996-97	1997-98		1998	1999	2000	2001	1997	1998	1999	2000	1997	1998	1999	2000				
1. Public employment services and administration	0.18	0.19	0.18	0.17					0.08	0.09	0.08	0.08					0.12	0.12	0.12	0.12				
2. Labour market training	0.15	0.18	0.18	0.17	1.93	1.90	1.61		0.01	0.01	0.02	0.02	0.32	0.44	0.64	0.68	0.93	0.97	0.99	0.85	18.47	20.62	19.72	15.90
<i>a)</i> Training for unemployed adults and those at risk	0.15	0.17	0.18	0.17	1.91	1.90	1.61		0.01	0.01	0.02	0.02	0.32	0.44	0.64	0.68	0.64	0.72	0.78	0.67	8.82	12.46	11.64	5.76
<i>b)</i> Training for employed adults	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	0.28	0.25	0.21	0.18	9.65	8.16	8.09	10.15
3. Youth measures	0.03	0.03	0.02	0.02	0.54	0.54	..		0.01	0.02	0.02	0.02	0.18	0.21	0.22	0.19	0.10	0.08	0.12	0.10	1.50	1.50	1.88	1.83
<i>a)</i> Measures for unemployed and disadvantaged youth	0.02	0.02	0.01	0.01	0.24	0.16	..		0.01	0.02	0.02	0.02	0.18	0.21	0.22	0.19	0.10	0.08	0.12	0.10	1.50	1.50	1.88	1.83
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.01	0.01	0.01	0.01	0.30	0.39	..		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Subsidised employment	0.07	0.08	0.05	0.03	0.31	0.28	0.34		0.03	0.05	0.09	0.09	0.39	0.60	0.90	0.80	0.30	0.27	0.23	0.17	1.11	1.05	1.00	0.82
<i>a)</i> Subsidies to regular employment in the private sector	0.01	0.01	0.01	-	-	0.06	0.10		0.01	0.02	0.04	0.04	0.13	0.24	0.41	0.33	0.02	0.02	0.02	0.02	0.22	0.25	0.22	0.20
<i>b)</i> Support of unemployed persons starting enterprises	0.02	0.01	0.01	0.01	0.07	0.09	0.10		-	0.01	0.01	0.01	-	0.06	0.11	0.09	0.06	0.04	0.02	-	0.10	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.04	0.05	0.04	0.02	0.20	0.12	0.14		0.02	0.03	0.04	0.04	0.23	0.31	0.38	0.39	0.22	0.21	0.19	0.15	0.78	0.78	0.78	0.62
5. Measures for the disabled	0.03	0.02	0.02	0.02	-	-	-		0.01	0.01	0.01	0.01	-	-	-	-	0.21	0.25	0.33	0.33	2.28	2.51	3.05	2.58
<i>a)</i> Vocational rehabilitation	0.03	0.02	0.02	0.02	-	-	-		-	-	-	-	-	-	-	-	0.21	0.25	0.33	0.33	2.28	2.51	3.05	2.58
<i>b)</i> Work for the disabled	-	-	-	-	-	-	-		0.01	0.01	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-
6. Unemployment compensation	0.99	0.94	0.78	0.72	..	..	..		0.23	0.30	0.29	0.24	..	..	..	..	2.12	1.69	1.43	1.35	24.42	23.08	21.15	19.61
7. Early retirement for labour market reasons	-	-	-	-	..	..	..		-	-	-	-	-	-	-	-	1.71	1.72	1.70	1.65	1.06	1.06	0.58	0.98
TOTAL	1.45	1.44	1.24	1.13	..	..	..		0.36	0.49	0.51	0.46	..	..	..	..	5.49	5.09	4.91	4.56	48.86	49.83	47.39	41.72
Active measures (1-5)	0.45	0.50	0.45	0.41	2.78	2.72	..		0.13	0.18	0.22	0.21	0.90	1.27	1.76	1.69	1.66	1.68	1.78	1.56	23.37	25.69	25.66	21.13
Passive measures (6 and 7)	1.00	0.95	0.79	0.72	..	..	..		0.23	0.30	0.29	0.24	..	..	..	..	3.83	3.41	3.13	3.00	25.48	24.15	21.72	20.59

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.

a) Fiscal years starting on April 1.*b)* Provisional data.

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Finland				France				Germany															
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force											
	1998	1999	2000	2001 ^a	1998	1999	2000	2001 ^a	1997	1998	1999	2000	1997	1998	1999	2000	1998	1999	2000	2001	1998	1999	2000	2001
1. Public employment services and administration	0.13	0.14	0.11	0.12					0.16	0.16	0.17	0.18					0.23	0.23	0.23	0.23				
2. Labour market training	0.44	0.40	0.30	0.29	4.35	4.22	3.40	2.76	0.34	0.31	0.28	0.25	2.73	2.87	2.65	2.41	0.34	0.35	0.34	0.34	1.51	1.32	1.49	1.22
<i>a)</i> Training for unemployed adults and those at risk	0.42	0.36	0.27	0.26	2.40	2.33	2.55	2.58	0.31	0.28	0.25	0.22	2.26	2.26	2.12	1.86	0.34	0.35	0.34	0.34	1.51	1.32	1.49	1.22
<i>b)</i> Training for employed adults	0.02	0.04	0.03	0.03	1.95	1.89	0.85	0.18	0.03	0.04	0.03	0.03	0.48	0.61	0.53	0.55	-	-	-	..	-	-	-	..
3. Youth measures	0.21	0.20	0.18	0.16	2.85	2.49	2.07	1.52	0.26	0.33	0.40	0.42	2.56	2.97	2.96	2.82	0.07	0.08	0.08	0.09	0.88	1.01	1.02	..
<i>a)</i> Measures for unemployed and disadvantaged youth	0.08	0.07	0.06	0.06	1.50	1.25	1.05	0.74	0.07	0.14	0.21	0.24	0.59	0.80	0.70	0.56	0.06	0.07	0.07	0.08	0.60	0.61	0.66	0.66
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.13	0.13	0.11	0.10	1.35	1.23	1.02	0.78	0.19	0.19	0.19	0.18	1.96	2.16	2.27	2.26	0.01	0.01	0.01	0.01	0.28	0.40	0.36	..
4. Subsidised employment	0.51	0.38	0.31	0.29	3.53	2.74	2.24	1.99	0.50	0.43	0.43	0.37	3.92	3.77	3.53	3.11	0.39	0.40	0.32	0.25	2.01	1.59	1.24	1.04
<i>a)</i> Subsidies to regular employment in the private sector	0.18	0.16	0.15	0.15	1.29	1.06	0.91	0.85	0.31	0.24	0.23	0.18	2.19	2.15	1.96	1.66	0.04	0.03	0.03	0.03	0.17	0.10	0.11	0.12
<i>b)</i> Support of unemployed persons starting enterprises	0.03	0.03	0.03	0.03	0.20	0.17	0.16	0.19	-	-	-	-	0.13	0.15	0.16	0.16	0.03	0.04	0.04	0.04	0.25	0.24	0.23	0.24
<i>c)</i> Direct job creation (public or non-profit)	0.29	0.19	0.13	0.12	2.04	1.51	1.17	0.95	0.18	0.18	0.19	0.18	1.53	1.40	1.36	1.24	0.32	0.33	0.25	0.19	1.59	1.25	0.90	0.68
5. Measures for the disabled	0.11	0.10	0.09	0.09	0.89	0.83	0.90	0.88	0.08	0.09	0.09	0.09	0.31	0.26	0.37	0.45	0.25	0.27	0.27	0.29	0.30	0.32	0.30	0.30
<i>a)</i> Vocational rehabilitation	0.06	0.05	0.05	0.05	0.89	0.83	0.90	0.88	0.02	0.02	0.02	0.03	0.31	0.26	0.37	0.45	0.10	0.12	0.11	0.12	0.30	0.32	0.30	0.30
<i>b)</i> Work for the disabled	0.05	0.05	0.04	0.04	-	-	-	-	0.06	0.06	0.06	0.06	..	..	..	..	0.15	0.15	0.15	0.16	-	-	-	-
6. Unemployment compensation	2.13	1.87	1.64	1.52	..	..	..	..	1.49	1.47	1.46	1.38	6.61	6.64	6.60	6.38	2.28	2.12	1.89	1.90	..	..	-	-
7. Early retirement for labour market reasons	0.43	0.47	0.47	0.50	..	..	..	..	0.35	0.32	0.30	0.27	0.34	0.34	0.29	0.25	-	0.01	0.01	0.02	..	..	..	-
TOTAL	3.96	3.56	3.11	2.96	..	..	..	..	3.19	3.11	3.13	2.96	16.47	16.84	16.41	15.42	3.56	3.44	3.14	3.13	..	..	..	..
Active measures (1-5)	1.40	1.22	0.99	0.95	11.62	10.27	8.61	7.16	1.35	1.31	1.37	1.31	9.52	9.86	9.52	8.78	1.27	1.31	1.24	1.20	4.70	4.25	4.04	..
Passive measures (6 and 7)	2.56	2.33	2.11	2.02	..	..	..	..	1.84	1.80	1.75	1.65	6.95	6.98	6.89	6.64	2.28	2.13	1.90	1.92	..	..	..	-

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

^{a)} Provisional data.

Table H. Public expenditure and participant inflows^a in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Greece			Hungary				Italy				Japan ^a											
	Public expenditure as a percentage of GDP			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP											
	1996	1997	1998	1998	1999	2000	2001 ^b	1998	1999	2000	2001 ^b	1997	1998	1999	2000	1997	1998	1999	2000				
1. Public employment services and administration	0.14	0.12	0.06	0.12	0.11	0.11	0.11					..	..	..	..	0.24	0.21	0.20	0.20				
2. Labour market training	0.09	0.06	0.21	0.07	0.07	0.07	0.07	1.30	1.35	1.34	1.62	0.09	0.12	0.07	0.05	1.15	1.26	0.77	-	0.03	0.03	0.03	0.03
<i>a</i>) Training for unemployed adults and those at risk	..	..	0.12	0.07	0.07	0.06	0.07	1.18	1.24	1.26	1.56	..	..	..	..	..	..	..	..	0.03	0.03	0.03	0.03
<i>b</i>) Training for employed adults	..	..	0.07	-	-	-	-	0.12	0.11	0.09	0.06	..	..	..	..	..	..	..	..	-	-	-	-
3. Youth measures	0.09	0.09	0.10	-	-	-	-	-	-	-	-	0.17	0.22	0.24	0.23	2.87	3.45	3.43	3.33	-	-	-	-
<i>a</i>) Measures for unemployed and disadvantaged youth	0.03	0.02	-	-	-	-	-	-	-	-	-	..	0.01	0.01	0.01	-	-	-	-	-	-	-	-
<i>b</i>) Support of apprenticeship and related forms of general youth training	0.07	0.07	0.10	-	-	-	-	-	-	-	-	0.17	0.21	0.23	0.21	2.87	3.45	3.43	3.33	-	-	-	-
4. Subsidised employment	0.10	0.06	0.08	0.20	0.22	0.21	0.29	4.19	4.07	4.03	5.09	0.16	0.24	0.27	0.32	..	2.42	4.15	4.35	0.05	0.05	0.08	0.08
<i>a</i>) Subsidies to regular employment in the private sector	0.07	0.04	0.05	0.09	0.09	0.07	0.09	1.41	1.03	0.98	1.15	0.11	0.17	0.19	0.24	1.42	1.83	3.50	3.80	-	-	-	-
<i>b</i>) Support of unemployed persons starting enterprises	0.02	0.02	0.03	-	-	-	0.01	0.08	0.09	0.09	0.24	-	-	0.01	0.04	-	-	-	-	-	-	-	-
<i>c</i>) Direct job creation (public or non-profit)	-	-	-	0.11	0.13	0.15	0.19	2.71	2.96	2.95	3.71	0.06	0.06	0.07	0.05	..	0.59	0.63	0.50	-	-	-	-
5. Measures for the disabled	0.03	0.01	0.01	-	-	-	-	-	-	-	-	..	..	..	..	..	..	..	..	0.01	0.01	0.01	0.01
<i>a</i>) Vocational rehabilitation	..	..	0.01	-	-	-	-	-	-	-	-	..	..	..	..	..	..	..	..	-	-	-	-
<i>b</i>) Work for the disabled	..	..	-	-	-	-	-	-	-	-	-	..	..	..	..	..	..	..	..	-	-	-	-
6. Unemployment compensation	0.44	0.49	0.47	0.45	0.47	0.43	0.37	7.33	7.44	7.03	7.14	0.62	0.59	0.56	0.52	6.52	12.01	10.96	10.79	0.41	0.47	0.50	0.55
7. Early retirement for labour market reasons	-	-	-	0.16	0.09	0.04	0.01	-	-	-	-	0.23	0.18	0.13	0.11	1.73	1.73	1.68	1.70	-	-	-	-
TOTAL	0.88	0.84	0.93	1.01	0.97	0.86	0.85	12.82	12.86	12.41	13.85	..	..	..	..	..	..	..	..	0.74	0.76	0.82	0.86
Active measures (1-5)	0.44	0.35	0.46	0.39	0.40	0.39	0.47	5.49	5.42	5.37	6.71	..	..	..	..	..	..	..	..	0.33	0.29	0.31	0.31
Passive measures (6 and 7)	0.44	0.49	0.47	0.62	0.57	0.47	0.38	7.33	7.44	7.03	7.14	0.86	0.76	0.68	0.63	8.25	13.74	12.64	12.49	0.41	0.47	0.50	0.55

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.

a) Fiscal years starting on april 1.*b*) Provisional data.

Table H. Public expenditure and participant inflows* in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Korea								Mexico								Netherlands							
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
1. Public employment services and administration	0.05	0.04	0.04	0.05					..	..	..	..					0.31	0.28	0.25	0.26				
2. Labour market training	0.12	0.11	0.09	0.08	4.66	5.33	6.77	8.09	0.04	0.04	0.04	0.03	2.93	3.41	3.44	1.88	0.30	0.34	0.30	0.31	3.00	3.46	3.62	3.80
<i>a) Training for unemployed adults and those at risk</i>	0.07	0.09	0.06	0.04	1.55	1.68	1.18	1.05	0.03	0.03	0.03	0.03	1.32	1.44	1.54	1.02	0.25	0.28	0.25	0.24	1.20	1.37	1.34	1.37
<i>b) Training for employed adults</i>	0.05	0.02	0.03	0.04	3.11	3.65	5.59	7.04	0.01	0.01	0.01	0.01	1.61	1.98	1.90	0.86	0.05	0.06	0.05	0.07	1.80	2.09	2.28	2.43
3. Youth measures	0.01	0.01	0.01	0.01	0.16	0.14	0.16	0.18	-	-	-	-	-	-	-	-	0.04	0.04	0.04	0.04	0.59	0.64	0.63	0.64
<i>a) Measures for unemployed and disadvantaged youth</i>	0.01	0.01	0.01	0.01	0.16	0.14	0.16	0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>b) Support of apprenticeship and related forms of general youth training</i>	-	-	-	-	..	..	..	..	-	-	-	-	-	-	-	-	0.04	0.04	0.04	0.04	0.59	0.64	0.63	0.64
4. Subsidised employment	0.27	0.52	0.32	0.15	5.46	9.71	5.97	4.71	0.03	0.04	0.03	0.02	1.20	1.75	1.39	1.45	0.41	0.40	0.41	0.38	1.91	1.88	1.88	1.78
<i>a) Subsidies to regular employment in the private sector</i>	0.02	0.02	0.01	0.01	3.37	2.24	1.65	1.97	-	-	-	-	-	-	-	-	0.08	0.07	0.06	0.05	1.47	1.39	1.43	1.40
<i>b) Support of unemployed persons starting enterprises</i>	0.04	0.03	0.01	0.01	0.05	0.47	0.29	0.14	..	..	..	..	0.16	0.12	0.10	0.07	-	-	-	-	-	-	-	-
<i>c) Direct job creation (public or non-profit)</i>	0.21	0.48	0.30	0.13	2.04	7.00	4.04	2.60	0.03	0.04	0.02	0.02	1.04	1.63	1.28	1.38	0.33	0.33	0.34	0.33	0.44	0.49	0.45	0.38
5. Measures for the disabled	0.01	0.01	0.01	0.02	0.11	0.11	0.12	0.14	-	-	-	-	-	-	-	-	0.52	0.56	0.57	0.58	0.39	0.73	0.77	0.99
<i>a) Vocational rehabilitation</i>	0.01	0.01	0.01	0.02	0.11	0.11	0.12	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>b) Work for the disabled</i>	-	-	..	..	..	..	..	..	-	-	-	-	-	-	-	-	0.52	0.56	0.57	0.58	0.37	0.71	0.77	0.99
6. Unemployment compensation	0.18	0.19	0.09	0.16	1.92	2.14	1.38	1.69	-	-	-	-	-	-	-	-	2.58	2.33	2.11	1.92	7.33	5.46	4.46	4.03
7. Early retirement for labour market reasons	-	-	-	-	..	..	..	..	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0.64	0.89	0.57	0.47	12.31	17.44	14.41	14.81	..	..	..	..	4.13	5.17	4.82	3.33	4.10	3.89	3.60	3.44	13.23	12.17	11.36	11.23
Active measures (1-5)	0.46	0.70	0.48	0.31	10.39	15.30	13.02	13.11	..	..	..	..	4.13	5.17	4.82	3.33	1.58	1.62	1.55	1.58	5.90	6.71	6.90	7.20
Passive measures (6 and 7)	0.18	0.19	0.09	0.16	1.92	2.14	1.38	1.69	-	-	-	-	-	-	-	-	2.52	2.27	2.05	1.86	7.33	5.46	4.46	4.03

.. Data not available.

- Nil or less than half of the last digit used.

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

Table H. Public expenditure and participant inflows^a in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	New Zealand ^a				Norway				Poland															
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force				Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force											
	1997-98	1998-99	1999-00	2000-01	1997-98	1998-99	1999-00	2000-01	1998	1999	2000	2001	1998	1999	2000	2001								
1. Public employment services and administration	0.15	0.12	0.08	0.11					0.15	0.15	0.12	0.12	..	..	..	..				
2. Labour market training	0.31	0.24	0.18	0.16	..	3.29	6.50	4.50	0.10	0.05	0.08	0.06	1.27	1.03	1.05	0.86	0.02	0.02	0.01	0.01	0.80	0.74	0.57	0.27
<i>a)</i> Training for unemployed adults and those at risk	0.31	0.24	0.18	0.16	..	3.29	6.50	4.50	0.10	0.05	0.08	0.06	1.27	1.03	1.05	0.86	0.02	0.02	0.01	0.01	0.80	0.74	0.57	0.27
<i>b)</i> Training for employed adults	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Youth measures	0.09	0.12	0.13	0.14	2.71	3.22	0.11	4.79	0.02	0.01	0.01	0.01	0.49	0.39	0.41	0.41	0.10	0.09	0.07	0.08	2.56	2.37	..	..
<i>a)</i> Measures for unemployed and disadvantaged youth	0.02	0.07	0.07	0.07	0.29	0.55	0.11	1.22	0.02	0.01	0.01	0.01	0.49	0.39	0.41	0.41	0.04	0.04	0.03	0.03	0.82	0.81	..	..
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.07	0.05	0.07	0.07	2.42	2.68	-	3.56	-	-	-	-	-	-	-	-	0.06	0.05	0.04	0.05	1.74	1.56	..	..
4. Subsidised employment	0.15	0.09	0.11	0.09	..	1.34	2.63	1.97	0.04	0.02	0.01	0.01	0.38	0.25	0.26	0.27	0.16	0.11	0.06	0.05	1.51	1.19	0.90	0.41
<i>a)</i> Subsidies to regular employment in the private sector	0.09	0.04	0.06	0.05	..	0.71	1.06	0.92	0.03	0.01	0.01	0.01	0.33	0.19	0.22	0.22	0.07	0.05	0.03	0.02	0.84	0.74	0.58	0.23
<i>b)</i> Support of unemployed persons starting enterprises	0.01	0.03	0.03	0.03	..	0.40	0.35	0.36	-	-	-	-	0.05	0.06	-	-	0.02	0.02	0.01	0.01	0.06	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.04	0.03	0.02	0.01	..	0.22	1.22	0.69	-	-	-	-	-	-	-	-	0.06	0.03	0.02	0.02	0.60	0.40	0.29	0.17
5. Measures for the disabled	0.03	0.05	0.05	0.05	0.67	0.62	1.33	1.31	0.58	0.59	0.54	0.59	1.84	1.84	2.29	2.54	0.18	0.14	0.10	..	0.23	0.23	0.21	..
<i>a)</i> Vocational rehabilitation	0.01	0.03	0.03	0.01	0.40	0.43	1.00	0.41	0.38	0.40	0.38	0.43	1.20	1.26	1.58	1.78	-	0.01	0.01	..	-	-	0.06	..
<i>b)</i> Work for the disabled	0.01	0.02	0.02	0.04	0.27	0.19	0.33	0.91	0.20	0.19	0.15	0.17	0.64	0.58	0.72	0.76	0.18	0.13	0.09	..	0.20	0.20	0.15	..
6. Unemployment compensation	1.46	1.55	1.58	1.41	13.30	13.69	10.21	8.68	0.49	0.47	0.44	0.44	3.97	4.70	4.46	4.20	0.55	0.64	0.84	1.00	3.01	3.58	4.58	5.28
7. Early retirement for labour market reasons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	2.18	2.17	2.13	1.96	..	22.17	20.78	21.25	1.38	1.28	1.20	1.23	7.95	8.20	8.47	8.26	..	..	..	..	8.11	8.12	..	..
Active measures (1-5)	0.72	0.61	0.55	0.55	..	8.48	10.57	12.57	0.90	0.81	0.76	0.79	3.98	3.50	4.02	4.06	..	..	..	..	5.11	4.53	..	..
Passive measures (6 and 7)	1.46	1.55	1.58	1.41	13.30	13.69	10.21	8.68	0.49	0.47	0.44	0.44	3.97	4.70	4.46	4.20	0.55	0.64	0.84	1.00	3.01	3.58	4.58	5.28

.. Data not available.

- Nil or less than half of the last digit used

^a Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.^{a)} Fiscal years starting on July 1.

Table H. Public expenditure and participant inflows⁷ in labour market programmes in OECD countries (cont.)

Programme categories and sub-category	Portugal							Spain ^a			Sweden										
	Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP			Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1997	1998	1999	2000	1996	1997	1998	1999	2000	2001 ^b	1999	2000	2001 ^b	1998	1999	2000	2001	1998	1999	2000	2001
1. Public employment services and administration	0.11	0.11	0.11	0.11				0.06	0.09	0.09				0.28	0.27	0.25	0.23				
2. Labour market training	0.27	0.29	0.29	0.15	6.19	7.22	9.92	0.12	0.15	0.14	10.12	10.33	14.57	0.45	0.48	0.31	0.30	4.58	3.79	2.84	2.32
<i>a)</i> Training for unemployed adults and those at risk	0.08	0.08	0.08	0.07	0.34	0.60	0.63	0.01	0.01	0.01	1.95	2.02	1.55	0.44	0.47	0.30	0.30	3.95	3.21	2.42	2.32
<i>b)</i> Training for employed adults	0.19	0.22	0.21	0.09	5.86	6.62	9.30	0.11	0.11	0.10	8.17	8.31	13.02	0.01	0.01	0.01	-	0.64	0.58	0.42	-
3. Youth measures	0.28	0.24	0.28	0.22	2.70	..	..	0.07	0.07	0.06	2.41	1.98	0.08	0.03	0.03	0.02	0.02	0.89	0.73	0.62	0.55
<i>a)</i> Measures for unemployed and disadvantaged youth	0.05	0.07	0.09	0.10	0.27	0.27	0.43	0.06	0.05	0.04	0.98	0.80	0.08	0.03	0.03	0.02	0.02	0.89	0.73	0.62	0.55
<i>b)</i> Support of apprenticeship and related forms of general youth training	0.22	0.18	0.19	0.12	2.42	..	..	0.01	-	-	1.43	1.18	-	-	-	-	-	-	-	-	-
4. Subsidised employment	0.09	0.09	0.10	0.09	1.19	1.02	1.09	0.42	0.45	0.40	5.09	5.17	1.58	0.61	0.45	0.27	0.24	5.49	3.33	2.97	2.11
<i>a)</i> Subsidies to regular employment in the private sector	0.01	0.01	0.01	0.01	0.36	-	0.06	0.30	0.30	0.25	3.20	3.64	-	0.14	0.18	0.14	0.19	2.21	2.78	2.66	1.89
<i>b)</i> Support of unemployed persons starting enterprises	0.02	0.03	0.03	0.03	0.10	0.13	0.11	0.04	0.05	0.05	0.20	0.17	0.18	0.08	0.07	0.05	0.04	0.43	0.36	0.30	0.22
<i>c)</i> Direct job creation (public or non-profit)	0.05	0.05	0.05	0.05	0.73	0.84	0.91	0.06	0.06	0.06	1.69	1.37	1.40	0.39	0.20	0.07	-	2.85	0.19	-	-
5. Measures for the disabled	0.03	0.04	0.04	0.04	0.17	0.15	0.06	0.03	0.03	0.03	0.17	0.23	0.24	0.59	0.57	0.52	0.31	1.12	0.85	0.90	0.84
<i>a)</i> Vocational rehabilitation	0.02	..	..	..	0.12	0.13	-	-	-	-	-	-	-	0.04	0.04	0.03	0.02	0.67	0.51	0.55	0.43
<i>b)</i> Work for the disabled	0.01	..	..	..	-	-	-	0.03	0.03	0.03	0.17	0.23	0.24	0.55	0.53	0.49	0.28	0.45	0.34	0.34	0.41
6. Unemployment compensation	0.69	0.65	0.65	0.69	3.80	3.40	3.36	1.40^c	1.34^c	1.33^c	1.39	1.37	1.46	1.81	1.59	1.33	1.19	..	..	..	..
7. Early retirement for labour market reasons	0.14	0.15	0.15	0.21	0.41	0.50	0.56	<i>c</i>	<i>c</i>	<i>c</i>	..	..	..	0.12	0.09	-	-	..	..	..	..
TOTAL	1.60	1.57	1.62	1.52	14.46	..	..	2.10	2.14	2.06	19.17	19.08	17.93	3.88	3.49	2.70	2.28	..	..	..	..
Active measures (1-5)	0.77	0.77	0.81	0.61	10.25	..	..	0.70	0.81	0.73	17.78	17.72	16.47	1.96	1.81	1.37	1.09	12.09	8.69	7.33	5.81
Passive measures (6 and 7)	0.83	0.80	0.81	0.90	4.21	3.90	3.92	1.40	1.34	1.33	1.39	1.37	1.46	1.93	1.68	1.33	1.19	..	..	..	..

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution

a) Data by category and for total expenditure include expenditure on LMPs administered by the Autonomous Communities and by the municipalities with at least 20 000 inhabitants. The figures by sub-category, which do not include such disbursements, do not add up to the totals by category.

b) The figures are provisional.

c) Data for category 7 "Early retirement for labour market reasons" are included in category 6 "Unemployment compensation"

Table H. Public expenditure and participant inflows^a in labour market programmes in OECD countries (cont.)

Programme categories and sub-categories	Switzerland				United Kingdom ^a						United States ^b							
	Public expenditure as a percentage of GDP				Public expenditure as a percentage of GDP			Participant inflows as a percentage of the labour force			Public expenditure as a percentage of GDP				Participant inflows as a percentage of the labour force			
	1998	1999	2000	2001	1997	1998	1999	1997	1998	1999	1997	1998	1999	2000	1997	1998	1999	2000
1. Public employment services and administration	0.14	0.14	0.11	0.10	0.16	0.13	0.13				0.06	0.06	0.04	0.04				
2. Labour market training	0.14	0.11	0.09	0.08	0.07	0.05	0.05	0.48	0.51	0.51	0.04	0.04	0.04	0.04	0.78	0.59	..	0.99
<i>a)</i> Training for unemployed adults and those at risk	0.14	0.11	0.09	0.08	0.06	0.04	0.04	0.43	0.45	0.45	0.04	0.04	0.04	0.04	0.78	0.59	..	0.99
<i>b)</i> Training for employed adults	-	-	-	-	0.01	0.01	0.01	-	0.06	0.06	-	-	-	-	-	-	..	-
3. Youth measures	0.01	0.01	0.01	0.01	0.12	0.13	0.15	0.96	1.02	1.02	0.03	0.03	0.03	0.03	0.59	0.56	..	0.45
<i>a)</i> Measures for unemployed and disadvantaged youth	0.01	0.01	0.01	0.01	0.01	0.02	0.04	-	-	-	0.03	0.03	0.03	0.03	0.51	0.48	..	0.36
<i>b)</i> Support of apprenticeship and related forms of general youth training	-	-	-	-	0.11	0.11	0.11	0.96	1.02	1.02	-	-	-	-	0.08	0.08	..	0.09
4. Subsidised employment	0.32	0.25	0.14	0.11	0.01	-	0.01	-	-	-	0.01	0.01	0.01	0.01	..	..	..	..
<i>a)</i> Subsidies to regular employment in the private sector	0.10	0.08	0.06	0.04	-	-	0.01	-	-	-	-	-	-	-	..	..	..	..
<i>b)</i> Support of unemployed persons starting enterprises	0.01	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>c)</i> Direct job creation (public or non-profit)	0.21	0.16	0.08	0.07	0.01	-	-	-	-	-	0.01	0.01	0.01	0.01	0.07	0.07	..	0.05
5. Measures for the disabled	0.15	0.14	0.14	0.14	0.02	0.02	0.02	0.20	0.18	0.18	0.04	0.04	0.03	0.03	..	..	..	..
<i>a)</i> Vocational rehabilitation	0.15	0.14	0.14	0.14	-	-	0.01	0.12	0.10	0.10	0.04	0.04	0.03	0.03	..	..	..	..
<i>b)</i> Work for the disabled	-	-	-	-	0.02	0.02	0.02	0.08	0.08	0.08	-	-	-	-	-	-	-	-
6. Unemployment compensation	1.10	0.90	0.57	0.48	0.78	0.63	0.56	10.42	10.23	10.22	0.25	0.25	0.23	0.30	..	..	..	..
7. Early retirement for labour market reasons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1.87	1.55	..	..	1.15	0.96	0.92	12.08	11.97	11.96	0.42	0.42	0.38	0.45	..	..	..	..
Active measures (1-5)	0.77	0.66	..	..	0.38	0.33	0.36	1.66	1.74	1.74	0.17	0.17	0.15	0.15	..	..	..	..
Passive measures (6 and 7)	1.10	0.90	0.57	0.48	0.78	0.63	0.56	10.42	10.23	10.22	0.25	0.25	0.23	0.30	..	..	..	..

.. Data not available.

- Nil or less than half of the last digit used

* Data on the annual inflows of participants into the programmes have not been collected for category 1 "Public employment services and administration". The totals shown in the table must be interpreted with caution.

a) Excluding Northern Ireland. Fiscal years starting on April 1.*b)* Fiscal years starting on October 1.*Source:* OECD database on labour market programmes. The data are compiled each year by the OECD on the basis of submissions from Member countries. The programmes have been classified into standardized categories and sub-categories. For their definitions, see OECD (1992), *Employment Outlook*, Paris.

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