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OECD Employment Outlook
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Chapter 2

Employment Protection Regulation and Labour Market Performance

There has been heated policy debate on the costs and benefits of regulations governing dismissals and other features of employment protection. The key issue is how to keep a balance between the need for firms to adapt to ever-changing market conditions on the one hand, and workers' employment security on the other. Do employment protection regulations have an impact on firms' hiring and firing decisions and is this impact different across demographic groups? Do such regulations explain the high incidence of temporary work recorded in certain countries? How to instil labour market dynamism while also protecting workers against job and income loss?

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Introduction

As with most labour market regulations, employment protection legislation (EPL) was first introduced with the aim of enhancing workers' welfare and improving employment conditions. However, the same provisions that protect employees translate into a cost for employers and thus could have a negative impact on hiring. The literature on EPL highlights positive and negative effects on labour market performance. Among the former, it highlights the benefits of long-term employee-employer contracts including greater willingness to invest in on-the-job training. Among the latter, is the concern that workers hired on regular contracts may enjoy a high degree of employment security to the detriment of other workers hired on temporary contracts. In addition, employment protection may diminish firms' ability to cope with a rapidly changing environment driven by globalisation, technological change and the derived organisational innovation. The effects of EPL on labour market performance are a controversial subject, both in theory and in applied research.

Most available studies have looked at employment protection as an additional labour cost for firms, and have studied the effects of this cost on employment and joblessness, but two important and related aspects have often been left aside: *i*) the rationale for the existence of employment protection; and *ii*) its welfare consequences. Some recent studies have sought to address these issues by considering employment protection not just as an exogenous cost for employers, but as a comprehensive policy instrument, able to resolve certain market imperfections, with potential positive welfare implications. Policy recommendations have also evolved towards a more balanced view of the dilemma opposing the need for flexibility expressed by firms to the importance of protecting workers against labour market risks. For instance, the European Commission has recently recommended to EU member states "to review and, where appropriate, reform overly restrictive elements of employment legislation" while "taking account of the need for both flexibility and security" (European Commission, 2003a). The ILO has set similar objectives with the aim of promoting employment stability while maintaining a sufficient level of labour market flexibility.

Within the context of the OECD Jobs Strategy re-assessment, it is important to review the issue of employment protection in the light of these recent developments. This chapter starts by presenting a picture of current employment protection regulations in OECD countries. The second section studies the effects of EPL on labour market performance, trying to identify the socio-demographic groups that seem to benefit from it and those who, by contrast, appear to be penalised. The third part looks at the economic rationale for employment protection, and discusses its role as one of the instruments available to governments to protect workers against labour market risks, along with unemployment benefit systems and active labour market policies.

Main findings

- *Over the past 15 years, a process of convergence across OECD countries has taken place as regards EPL.* This process has been driven largely by an easing of regulation in the countries where EPL was relatively strict at the end of the 1980s. In most cases, these reforms consisted in easing the recourse to temporary forms of employment while leaving existing provisions for regular or permanent contracts practically unaltered. Despite this convergence, the *relative* position of countries across the overall spectrum of EPL strictness, as defined and measured by the OECD, has not changed much since the late 1980s. The overall strictness of EPL continues to vary widely between countries and the regulation of temporary employment remains a key element in explaining cross-countries differences.
- *Employment protection regulation fulfils its stated purpose, namely protecting existing jobs.* Indeed evidence presented in this chapter suggests that EPL tends to limit firms' ability to fire workers. *At the same time, EPL would reduce the re-employment chances of unemployed workers* – thereby exerting upward pressure on long-term unemployment. Indeed, in deciding whether to hire a worker, employers will take into account the likelihood that firing costs will be incurred in the future. In sum, EPL leads to two opposite effects on labour market dynamics: it reduces inflows into unemployment, while also making it more difficult for jobseekers to enter employment (*i.e.* lower outflows from unemployment).
- *The net impact of EPL on aggregate unemployment is therefore ambiguous* a priori, *and can only be resolved by empirical investigation.* However, the numerous empirical studies of this issue lead to conflicting results, and moreover their robustness has been questioned. On the other hand, it is possible to detect a link between EPL and employment rates for specific groups. Some studies, as well as the analysis presented in this chapter, suggest the possibility of a negative link between strict EPL and the employment rates of youth and prime-age women, while there may be positive links to the employment rates of other groups. This is consistent with the above findings of the effects of EPL on labour market dynamics. Indeed youth and prime-age women are more likely to be subject to entry problems in the labour market than is the case with other groups, and they are therefore likely to be disproportionately affected by the effects of EPL on firms' hiring decisions.
- *Differences in the strictness of EPL for regular and temporary jobs may be an important element in explaining the rise in the incidence of temporary work for youth and the low skilled* (this is less the case for other groups, notably prime-age men). This means that facilitating the use of temporary work arrangements, while not changing EPL on regular employment, may aggravate labour market duality. It may also affect career progression and productivity of workers trapped in temporary forms of employment, which are typically characterised by weak job attachments and limited opportunities for upgrading human capital.
- *Any overall assessment of EPL has to weigh costs against benefits.* EPL may foster long-term employment relationships, thus promoting workers' effort, co-operation and willingness to be trained, which is positive for aggregate employment and economic efficiency. In addition, by promoting firms' social responsibility in the face of adjustment to unfavourable economic circumstances, a *reasonable* degree of employment protection could be welfare-improving, *i.e.* it can help balance concern for workers' job security with the need for labour market adjustment and dynamism. Thus, some recent studies suggest that an optimal policy would combine some EPL with effective re-employment services and active labour market policies aiming at counteracting the negative effects of EPL on firms' hiring decisions.

- *The precise balance between the different policy planks* (EPL, unemployment benefits and active labour market policies) *depends on country circumstances and institutions*. For instance, in Denmark, employment services seem to be rather effective in "activating" benefit recipients while EPL is moderate in this country – the so-called "flexicurity" approach. Such a policy mix has helped guarantee sufficient dynamism in the labour market, while ensuring adequate employment security among workers. In the United States, experience-rating, which links employers' social security contributions to the layoff history of the firm, was introduced to prevent firms from taking advantage of temporary layoffs in response to cyclical downturns in labour demand. Some evaluation studies of the system in the United States lend support to this policy initiative, in terms of lower unemployment as well as greater job stability, in that experience-rating seems to have reduced the cyclicality of employment. More generally, further analysis of the policy interactions involved is clearly called for as part of the reassessment of the OECD Jobs Strategy.

1. Employment protection regulation in OECD countries

Since the seminal paper by Lazear was published in 1990, empirical studies on the effects of EPL on labour market outcomes have proliferated. In order to facilitate this task, constructing a good measure of these regulations has become of crucial importance. The OECD tackled the task in 1999, updating the work done by Grubb and Wells (1993) and extending it to include more dimensions of employment regulation, notably the regulation of collective dismissals. Despite some limitations, the OECD indicator still represents an improvement over the simple measure of severance pay used in the first papers of this literature.[1] Besides, it has been shown to be consistent with several proposed alternative measures ranging from employers' surveys that ask managers to rank the "flexibility of the enterprise to adjust job security to economic reality" to measures of broader-based indices of economic freedom (Addison and Teixeira, 2003).

A. Looking into the black box

Employment protection regulation, a set of rules governing the hiring and firing process, can be provided through both labour legislation and collective bargaining agreements. In addition, it is important to distinguish these rules from *practice*, which brings in the enforcement dimension. Therefore, when discussing the extent of employment protection, judicial practices and court interpretations of legislative and contractual rules have to be taken into account as well. The measure of employment protection developed in this chapter is mainly based on legislative provisions, but it also incorporates some aspects of contractual provisions and judicial practices. Nevertheless, given that collective agreements and courts' decisions often refer to a wide range of rules set on a case-by-case basis, their role is likely to be somewhat understated in the information presented here.

The three main components of the indicator

The indicator of employment protection in this chapter follows the approach developed in Chapter 2 of the 1999 edition of the OECD *Employment Outlook*, thereby allowing comparisons over time. It refers to the protection of *regular employment* and the regulation of *temporary work* and is intended to measure the *strictness* of EPL. More precisely, since most of the literature on employment protection emphasises the analogy of EPL to an

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employer-borne tax on employment adjustment, the overall intent is to reflect the cost implications of various regulatory provisions for employers (*i.e.* stricter is interpreted as more costly). The overall summary measure of EPL strictness relies on three main components related to protection of regular workers against (individual) dismissal, specific requirements for collective dismissals and regulation of temporary forms of employment:[2]

- In order to assess job protection of workers with regular contracts, three main areas are considered: *i)* difficulty of dismissal, that is legislative provisions setting conditions under which a dismissal is "justified" or "fair"; *ii)* procedural inconveniences that the employer may face when starting the dismissal process; *iii)* and notice and severance pay provisions. Regular employment contracts do not generally specify any duration for the employment relationship. Part of the role of the EPL is thus to define "just causes" or "serious reasons" for the termination of an employment relationship and the sanctions applicable to the employer in case of non-respect of this principle of just cause termination. In other words, these provisions set conditions under which it is possible for an employer to dismiss an employee. Procedural inconveniences can be seen as a complement to these provisions. Indeed, they may give the opportunity to the employee to challenge the layoff decision at an early stage of the process. These procedures may also involve a third party (such as a works' council or the competent labour authority), usually not empowered to stop the process but that can nevertheless help to avoid the dismissal. When the dismissal is certain, notice and severance pay provisions are then the final costs for the employer.
- Considering that collective dismissals may have a social cost, additional provisions have been introduced in almost all OECD countries to minimise this cost. The related component of the EPL index presented in this chapter only refers to *additional* delays and procedures required which go *beyond* those applicable for individual dismissal, and does not reflect the overall strictness of regulation applicable to collective dismissals. Indeed, whatever the number of additional requirements, collective dismissals are *de facto* strongly regulated when the regulation of individual dismissals is itself relatively strict.
- Finally, provisions regarding fixed-term contracts and temporary work agencies are also considered. This component of the EPL index is intended to measure the restrictions on the use of temporary employment by firms, with respect to the type of work for which these contracts are allowed and their duration.

Protection of regular contracts against (individual) dismissal constitutes the core component of the overall summary index of EPL strictness presented in this chapter. Indeed, although temporary forms of employment have grown in many OECD countries over the past two decades, regular contracts are still the most common employment arrangement (OECD, 2002a, Chapter 3). Temporary work is sometimes regarded as a way to circumvent rules governing regular contracts. For the component related to collective dismissals, the story is quite different: by construction, it includes only regulation applicable in addition to that applied in cases of individual dismissals and cannot therefore be considered as a stand-alone component of EPL.

Limits of the indicator: the role of contractual provisions and judicial practices

Some potentially important aspects of employment protection are difficult to take into account in the EPL indicator. This is, for instance, the case for trial or probationary periods, which are often not legally required although permitted by law. The length of the trial

period is important because, during this period, regular contracts are not fully covered by employment protection provisions and usually unfair dismissal claims cannot be made during probation. Legislative provisions may set a maximum duration but, in practice, the length of the trial period is provided in either individual employment contracts or collective agreements. Probationary periods exist in most OECD countries and in many cases, the corresponding EPL index refers to these contractual provisions.

To take another example, in some countries, notice periods and/or severance pay are not legally regulated. Instead, they can be provided by collective agreements and individual contractual clauses. Moreover, even in the large number of countries where there are legal requirements, the latter can be extended by contractual provisions (Box 2.1). However, in countries for which data are available, the coverage of such additional provisions is very low compared with legal provisions that usually relate to all workers with regular contracts. Moreover, in many cases there is simply no detailed information available on such contractual practices. As a consequence, the summary measures of EPL strictness developed in this chapter often rely on minimal requirements set by legislative provisions.

For regular contracts, employment protection regulations set rules under which an employee can be dismissed, and the employer can be sanctioned in case of non-respect of these rules. However, these provisions are subject to court interpretations and this may constitute a major (but often hidden) source of variation in EPL strictness both across countries and over time. Recent studies suggest that jurisprudence may be affected by the underlying labour market conditions; for instance, there is some evidence that judge's decisions may tend to be particularly unfavourable to employers when unemployment is high (Ichino *et al.*, 2003; Bertola *et al.*, 1999). Moreover, compensation for unfair dismissal set by courts can deviate widely from the minima set out in legislation, since judges may account in their final decision for damages corresponding to past and expected future financial losses and psychological damage. The related measures of EPL strictness (namely the two first-level indices, "compensation following unfair dismissal" and "extent of reinstatement") reflect to some extent these judicial practices, provided that information was available at the time of writing.

Although court decisions are potentially important to evaluate how binding employment protection regulations are in practice, preliminary statistics on case numbers and conciliation practices suggest that they may play mainly a *threatening role*. Indeed, few cases seem to be brought before the courts each year (Table 2.1).[3] In appeals to the court, workers are not in a particularly favourable situation, despite often benefiting from the assistance of trade unions. In several countries, the judicial procedure may be very long, from six months to more than one year, while the percentage of cases won by workers is often around 50%, adding uncertainty on both the side of the employee and the employer concerning the outcome of any case. The uncertainty over the court ruling and the length of the procedure may be an incentive to reach a bilateral agreement, through mediation and conciliation. In this respect, the most striking fact revealed by Table 2.1 is probably that, in countries where data are available, most labour disputes are resolved by conciliation even before appealing to the court, or an agreement is reached during the court hearing and the dispute is withdrawn before the court ruling. This observation is however difficult to generalise, since the countries in question (Australia, Ireland, Italy, New Zealand, the United Kingdom, and the United States) tend to promote mediation as the primary problem-solving mechanism with adequate institutional or administrative support.

Box 2.1. **The role of contractual provisions: some preliminary evidence**

Contractual provisions are likely to play a key role in countries with low levels of statutory employment protection, in particular with regard to severance pay provisions. In Japan, for instance, although there are no statutory requirements for severance pay, private arrangements provide for it in most cases. According to enterprise surveys, average redundancy pay may reach almost three months after 20 years tenure.* Since this practice is both widespread and well-documented, it has been possible to include it in the related measure of EPL strictness. However, the Japanese case is an exception since in most other countries it is difficult to account for similar individual or collective agreements.

As in Japan, there are no legal provisions for severance pay in New Zealand or in the United States and severance pay is usually governed by the terms of collective bargaining agreements or company policy manuals. However, the share of employees that are covered by such contractual provisions is not sufficient for them to be included in the related EPL index. In the United States, only 20% of all private sector workers were covered by severance pay plans in 2000 (according the US Department of Labor's National Compensation Survey). In New Zealand, almost 90% of all employees covered by collective agreements in the private sector benefit from contractual provisions governing redundancy pay or notice. But the collective bargaining coverage is quite low (about 13% of all private sector workers in 2003, according to Harbridge *et al*., 2003).

Moreover, even in countries where collective bargaining coverage is high, the role of collective agreements in setting severance pay provisions, in lieu of legislative rules, is not necessarily as important as one might expect. For instance, in Germany, where the collective bargaining coverage rate is about 70% and there are no legislative provisions on severance pay, only special collective agreements providing redundancy pay for older workers with long tenure exist. Such special protection agreements have been in place for about 40 years and protect about 35% of all employees covered by collective agreements.

Finally, it is noteworthy that even in the presence of legislative provisions, collective agreements may include more generous severance payments. For instance, in Australia, approximately 24% of all current private sector agreements contain redundancy provisions that are above the standard established by law. All in all, it is estimated that around 20% of all private sector employees (covered by federal awards) would have access to these above-standard redundancy provisions.

Moreover, individual contracts or collective agreements may also include employment protection provisions that go beyond the issue of severance pay. In Germany, special collective agreements may restrict grounds under which firms can dismiss older workers with long tenure. In fact, this kind of additional employment protection is more widespread than contractual provisions for severance pay since it relates to about 46% of all employees covered by collective agreements (against 35% for severance pay provisions).

* This figure refers to the difference in severance pay between lay-offs and voluntary quits. Indeed, severance pay (retirement allowance) is provided to employees in both cases but is somewhat higher in the event of lay-off.

Finally, the Dutch system deserves specific consideration. In the Netherlands, courts intervene at an early stage of the dismissal process and shape employment protection for regular workers more directly. In fact, Dutch dismissal law is governed by a "dual system" where an employer can dismiss a worker either by requesting prior permission from a public administrative body – the Centre for Work and Income (CWI) – or, since the 1970s, by

Table 2.1. **Preliminary evidence on court cases in selected OECD countries**

	Competent body	Assistance	Burden of proof	Number of cases brought before the competent bodies (per cent of layoffs)[a]	Percentage of cases won by workers	Length of the procedure
Australia	Australian Industrial Relations Commission.	Workers can obtain assistance in their applications and in the appeals process from the relevant trade union of which they are a member or from a nominated agent.	Employee.	7 700 (1.1) per year (average 1997-2002).	90% of all claims were resolved by conciliation and only 4.7% by formal arbitration. 57% of all formal arbitrations were resolved in favour of the employee.	Usually 6-7 months.
Finland	Labour court and ordinary court.	In labour courts, trade unions and employers organisations are involved in the process as a judge. Trade unions also assist workers and they are plaintiffs in a case.	Employer.	17 (5.1) in 2002 – labour courts.	30% of all cases heard by courts.	Usually 6-8 months.
France	Labour court.	Trade unions may provide legal assistance and advice to the employee. They may also represent the employee in court.	Employer and employee.	92 000 (25.3) in 2001.	75% of all heard cases (average for all types of dispute).	About 1 year (average for all types of dispute).
Germany	Labour court.	Trade unions may represent the employee in court.	Employer.	265 000 (22.6) cases closed by labour courts, per year (average 1999-2002).	Not available.	3-4 months on average.
Ireland	Rights Commissioner Service (RCS).[b] Employment Appeals Tribunal (EAT).	The employee may appear and be heard in person or may be represented by a representative of a trade union.	Employer.	RCS: 650 (3.5) per year. EAT: 1 000 (4.8) per year (averages 2000-02).	RCS: up to 2/3 of cases may be resolved in favour of the employee. EAT: 17% of all cases disposed (including cases withdrawn prior or during hearing); 53% of all heard cases; almost 70% of all cases disposed are withdrawn prior or during hearing.	RCS: approximately 2-3 months from submitting claim to receiving a written decision. EAT: 5-6 months on average.[c]
Italy	Provincial labour office.[d] Labour court.	Trade unions are entitled to represent employees and may assist employees during the conciliation process.	Employer (mostly).	3 864 (1.6) cases brought before labour courts in 2001.	55% of all cases heard by courts. A majority of cases were settled by the parties themselves, without being brought before courts.	About 2 years (average duration of lawsuits).
New Zealand	Mediation Services[e] (MS). Employment Relations Authority (ERA). Employment court.	Mediation services are available to assist employers, employees and unions in resolving any employment relationship problem, quickly and effectively. Employees may always be represented by their union.	Employer, while employee has to supply prima facie evidence.	First half of 2003: MS: 3 600 (5.8) requests completed; ERA: 1 500 (2.0) applications received.	ERA: in 2002 last quarter, about 50% of claims, for which a determination was issued, were resolved in favour of the employee.	ERA (averages for all application types): mediation applications usually completed in 6 weeks; determinations issued within 8 months of the application being made (usually 2-3 months after the date of the first hearing).
Norway	Ordinary court.	Trade unions may provide legal assistance to their members.	Employer and employee.	170 (n.a.) per year (average over a 12-year calculation period).	51% of all cases brought before courts in 2003.	Not available.

Table 2.1. **Preliminary evidence on court cases in selected OECD countries** *(cont.)*

	Competent body	Assistance	Burden of proof	Number of cases brought before the competent bodies (per cent of layoffs)[a]	Percentage of cases won by workers	Length of the procedure
United Kingdom	Advisory Conciliation and Arbitration Service (ACAS). Employment tribunals (ET).	Both applicants and respondents are allowed to be represented at Tribunals.	Employer (mostly).	42 000 (7.1) per year, including ACAS and ET cases. (average 2001-2003). In 2002/2003, 3 800 (0.8) cases were brought before ET.	In 2002/03: 46% of all cases were settled through the ACAS; 27% were withdrawn; 22% went to an ET hearing and 44% of them were resolved in favour of the employee.	In 2002/03, 86% of Employment Tribunal decisions were issued within 4 weeks of the final hearing.
United States	Equal Employment Opportunity Commission (EEOC). Federal Mediation and Conciliation Service (FMCS). Private Arbitration. National Labour Relations Board (NLRB). Federal tribunals.	Discrimination cases brought to Federal court via the EEOC are assisted by the Office of General Commissioner. EEOC, FMCS, and Private arbitration systems (in private sector collective agreements) provide mechanisms for the parties to reach an agreement without going to court. (EEOC heard 80 000 discrimination cases in 2002 and only 364 went to a federal court).	Employer, while employee has to supply prima facie evidence.	NLRD heard 4 708 (0.03) cases of unfair dismissal related to union activity in 2002. Federal Courts heard 217 (0.0) cases of unfair dismissal related to discrimination (put forward by EEOC).	19.45% of cases heard by NLRD. 83% of cases heard by the Federal court.	Average of 3 years for decisions to be issued by NLRB. Average of 182 days to process an EEOC complaint.

a) These percentages have to be interpreted as proxies only as the numerator (number of cases brought before a court) and the denominator (number of layoffs) are not measured for the same year. In particular, data on layoffs comes from Chapter 5 of this document (EU, average rate 1994-2000), Farber 2003 (US, 1998-2001), Borland *et al.* 1999 (Australia, 1997), Herzog 1996 (New Zealand, 1985-1994). No data was found for Norway.

b) Ireland: The Rights Commissioners operate as a service of the Labour Relations Commission. While Rights Commissioners are appointed by the Minister for Enterprise, Trade and Employment, they are independent in their investigative functions. Rights Commissioners' investigations are mainly carried out in private and the Rights Commissioners issue recommendations or decisions which may be appealed by either side to the Employment Appeals Tribunal.

c) Ireland: EAT: 3-4 months on average up to the date of hearing. An unfair dismissal case can take a significant number of hearing days before it is completed. Once finalised, the Secretary drafts the decision and forwards it to the Chairman for approval and signature. In general, EAT secretaries aim to draft/issue a determination within 6/8 weeks from the date of a determination in the matter.

d) Italy: The worker may bring suit before the labour courts but an attempt at conciliation must first be made before the Provincial Labour Office. In any event the parties may also try to settle the dispute through trade union sponsored procedures or through informal arbitral proceedings. Only a small number of labour disputes actually end up in the courts and even then the parties are obliged to make one last attempt at conciliation before the court itself proceeds with the case.

e) New Zealand: The Employment Relations Act promotes mediation as the primary problem-solving mechanism. The aim of mediation is for the parties to achieve a settlement that is mutually acceptable to them, or alternatively, the parties can agree for the Mediator to make a binding decision on the issue in question. If the parties are unable to resolve an employment relationship problem in mediation, they may take the problem to the Employment Relations Authority. The Authority is an investigative body that operates in an informal way, looking into the facts and making a decision based on the merits of the case, not on the legal technicalities. When an application comes before the Authority, the Authority is required to consider whether the parties should be directed to use mediation, if they have not already attempted to do so. If mediation is unsuccessful, the parties will then return to the Authority. Anyone who is unhappy with the Authority's determination can appeal to the Employment Court for a full judicial hearing.

Source: OECD Secretariat on the basis of direct submissions from national authorities.

requesting a Civil Court to dissolve an employment contract (see also EIRO Observer, 2003). Use of the court method increased greatly in the 1990s and, in 2003, the CWI treated 85 881 requests for approval of dismissals, of which 84% were approved, while Civil Courts received 78 491 requests for dissolution of the employment contract. These two ways of ending an employment relationship are rather different. Civil Courts usually dissolve the employment contract but require relatively high severance pay for the employee. In addition, there is no appeal possible against the decision of the Civil Court to dissolve the employment contract. On the other hand, no severance pay is required if the procedure is conducted via the CWI but the outcome is more uncertain and, after the CWI has approved the dismissal and the notice period has passed, the dismissed employee can still ask court compensation for unfair dismissal and reinstatement. These differences could explain why, in practice, large companies prefer the dismissal procedure via Civil Court despite its higher monetary cost. Conversely, small businesses often prefer the CWI-procedure for providing a preventive judgment on whether the wanted dismissal is fair or not. By doing so, small businesses protect themselves against the risk of having to pay high compensation in case of unfair dismissal.

For temporary employment, there is uncertainty concerning the extent to which regulatory provisions may be enforced in practice. Temporary workers have even less chances of bringing their case to court than their regular counterparts since they probably do not benefit from the same union support in presenting their case. And in a majority of countries, there is no impartial body with the task of randomly visiting and auditing workplaces in order to verify that regulations governing the use of fixed-term contracts and temporary work are respected. Resources are generally directed towards the investigation of cases arising from denouncement by a firm's (ex)employee. Besides, even in countries where there is an active labour inspectorate, it mainly aims at verifying the existence of written contracts, working conditions and salaries, in line with the equal treatment principle. This could result, *de facto*, in a high degree of freedom for employers regarding the respect of the rules that set the type of work for which temporary employment is allowed, at least for the first contract. Case law may, however, play a more relevant role in the case of successive fixed-term contracts: in many countries, successive fixed-term contracts without objective reasons run the risk of a court declaring the contract null and void. The related measure of EPL strictness takes this issue into account in assessing to what extent the number of renewals is actually restricted.

B. Strictness of employment protection regulation in OCDE countries

Summary measures of employment protection regulation are now available for a large number of OECD countries at three points in time, namely the late 1980s, the late 1990s and the year 2003. Since specific requirements for collective dismissals were taken into account as from the late 1990s only, the analysis is based on two overall summary indicators. The first one (version 1) allows changes over time to be studied as from the late 1980s, with the drawback of excluding regulations on collective dismissals. The second one (version 2) provides a broader measure of EPL by including specific requirements for collective dismissals, but gives a limited picture of changes over time.

The current situation: regulation on temporary employment still makes the difference in cross-country comparisons

The overall strictness of employment protection continues to vary widely between countries (Chart 2.1, Panel A). In this respect, specific requirements for collective dismissals do not play a major role. Indeed, taking account of these specific requirements in the overall measure of EPL strictness does not affect cross-country comparisons much (Chart 2.1, Panel C). Conversely, regulation of temporary employment appears to be a key element behind cross-countries differences. France, Greece, Spain, Mexico and Turkey offer, for instance, the strictest employment protection among OECD countries, while not having particularly stringent provisions for regular contracts (Chart 2.1, Panel A). Overall, in cross-country comparisons, there is more dispersion in the strictness of regulation for temporary work than for regular contracts (Chart 2.1, Panel B).[4]

However some complementarities between different components of employment protection regulation remain:

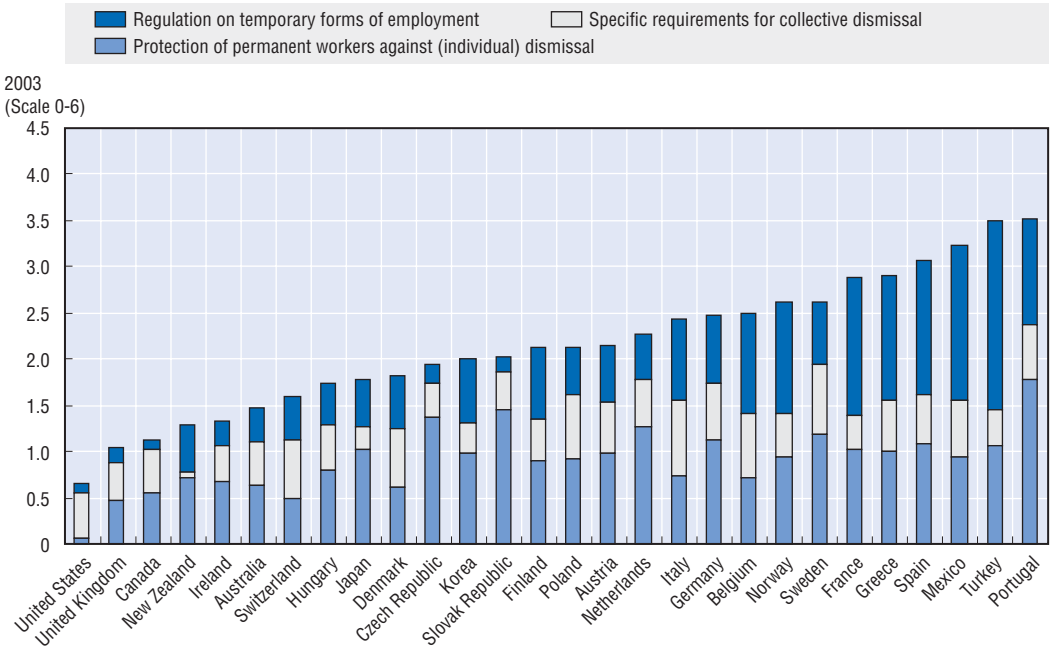
- Despite some notable exceptions, strict regulation for temporary contracts tends to go hand-in-hand with strict regulation for permanent contracts (Chart 2.1, Panel B). Otherwise, employers may have an incentive to substitute regular contracts with temporary work and fixed-term contracts.
- The various provisions that contribute to the strictness of dismissal regulation for permanent contracts appear to be complementary to each other. Stricter rules for notice and severance pay, heavier procedural inconveniences and stronger difficulties of dismissal are all positively correlated to each other (Annex Table 2.A2.5). Effective enforcement of strict rules for notice and severance pay may indeed require closer monitoring of employers' behaviour (which implies more procedures and sanctions). If this was not the case, employers would have an incentive to cheat on the reason for dismissal (for example, invoke fault of the employee) to avoid the monetary costs of layoff.
- The restrictions on the use of fixed-term contracts and those on the recourse to temporary work agency contracts are also highly positively correlated (Annex Table 2.A2.5). This can be easily explained by the fact that, for employers, these two types of contracts are at least partly substitutable. Similarly, for both temporary work agency and fixed-term contracts, restrictions on the types of work for which these contracts are allowed tend to go hand in hand with a shorter permitted duration. The rationale for this is simple: imposing rules that limit the use of these contracts to seasonal or occasional activities is coherent with requiring them to be of relatively short duration.

Changes over time: between convergence and relative inertia

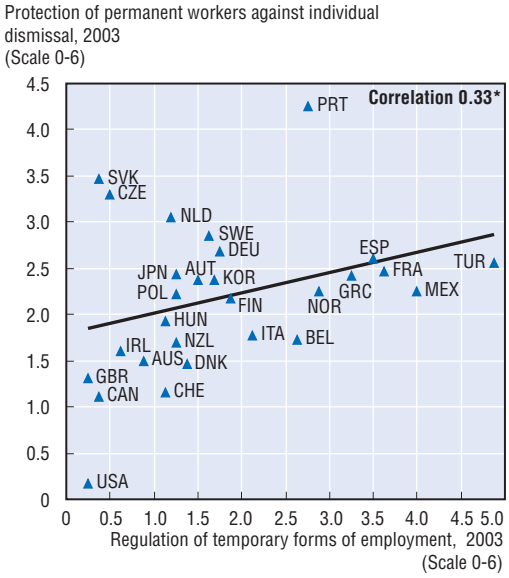
When looking at changes over time in the overall summary indicators, two striking facts emerge.[5] First, over the past 15 years, there has been some convergence in the strictness of EPL between OECD countries, with most of the changes occurring in the 1990s. This is mostly the result of a relaxation of the rules governing EPL in the countries where legislation was particularly strict, *i.e.* the trend has been towards an easing of regulations in high-EPL countries (Chart 2.2, Panels A and B).[6] Second, despite some convergence, the *relative* position of countries across the overall spectrum of EPL strictness has not changed much since the late 1980s (Chart 2.2, Panel A). The United States, the United Kingdom and Canada remain the least regulated countries while stricter employment protection is still a feature of southern European countries.[7] France, and on the opposite side, Italy, are the main exceptions to this general picture. Indeed, Italy had one of the most regulated labour markets

Chart 2.1. **The overall summary index and its three main components**

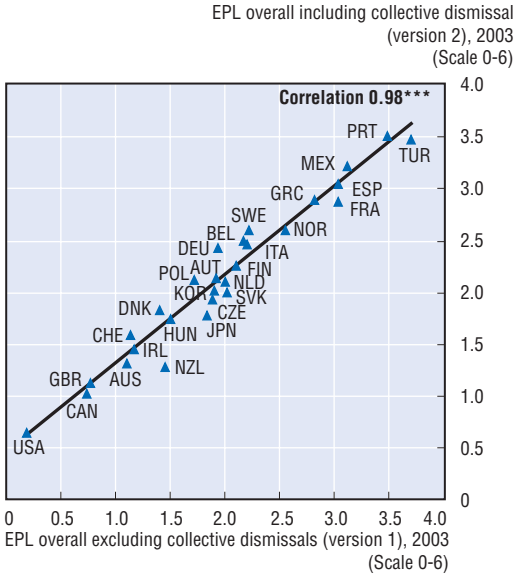
Panel A. Overall strictness of EPL in 2003 (version 2)[a]



Panel B. Protection of permanent workers against individual dismissal and regulation on temporary forms of employment



Panel C. Overall EPL strictness: version 1 versus version 2

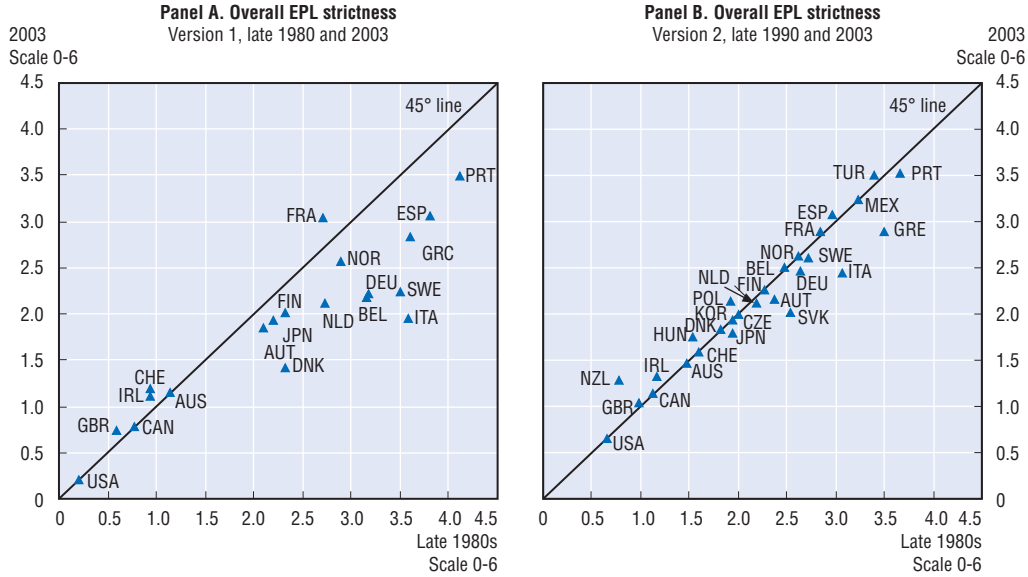


, **, * means statistically significant at 1%, 5% and 10% levels, respectively. Panel B: without Czech Republic, Portugal, Slovak Republic, Pearson correlation coefficient = 0.568.

a) Countries are ranked from left to right in ascending order of the overall summary index.

Source: See Annex Table 2.A2.4.

Chart 2.2. **Changes over time: some convergence but relative inertia in country rankings**



Note: Countries below the 45° line are those where EPL has been eased. Countries above the 45° line have made EPL more stringent.

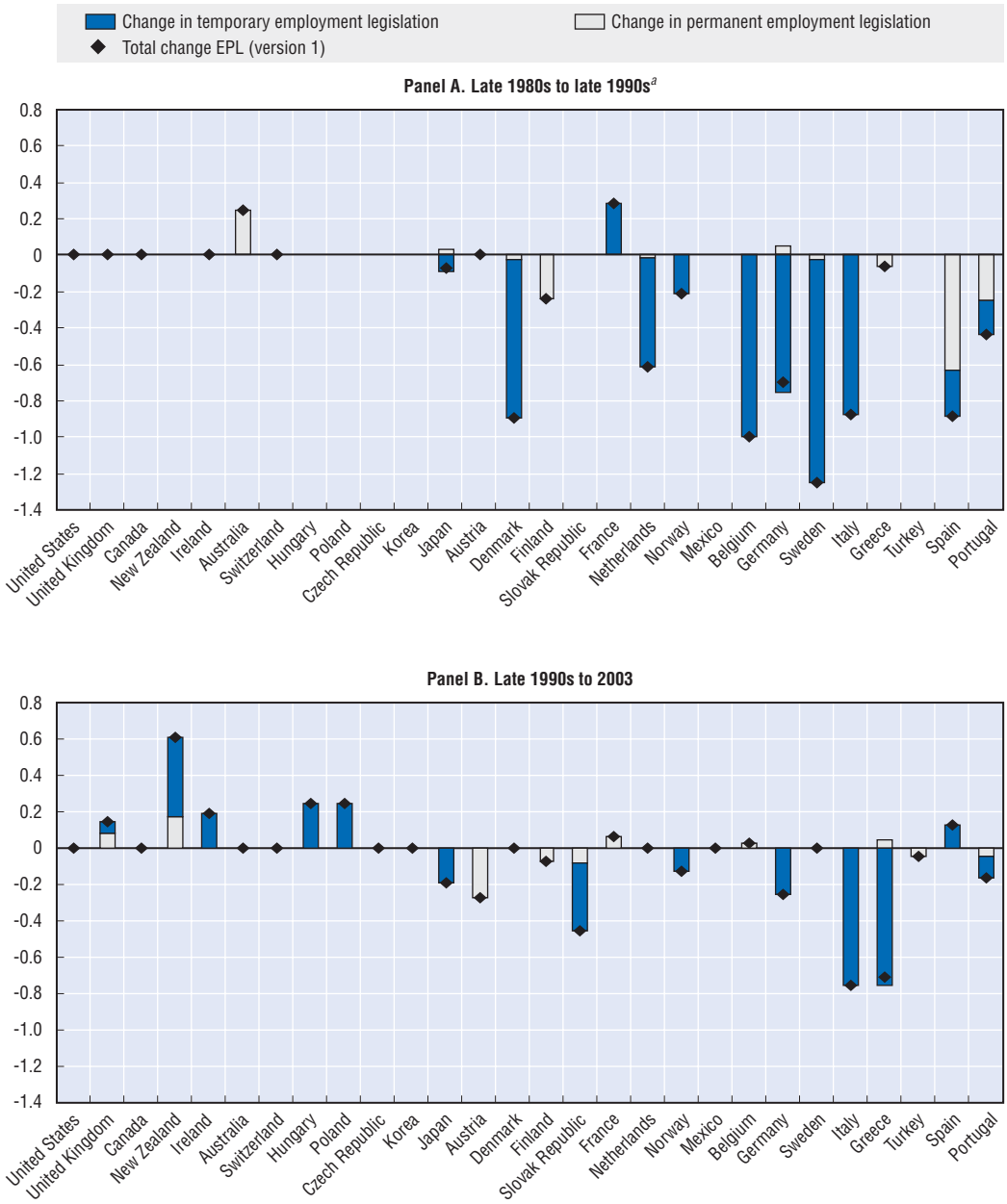
Source: See Annex Table 2.A2.4.

in the late 1980s and is today closer to the middle of the spectrum, while France has moved in the opposite direction.

Chart 2.3 provides a closer look at changes over time in overall employment protection regulation by disentangling changes related to the provisions for regular contracts from changes related to the regulation of temporary contracts. In addition, countries are ranked by increasing degrees of overall EPL strictness in the late 1980s (or late 1990s when the latter data are not available). The convergence process across countries appears even more clearly. Three main points deserve to be underlined:

- Changes that occurred between the late 1980s and the late 1990s were concentrated on deregulation in the countries ranking higher for overall regulation (Chart 2.3, Panel A).
- Reform initiatives since the late 1990s are more mixed. A small number of countries at the bottom of the EPL ranking have increased regulation, whereas some others with more stringent regulation have continued their process of deregulation (Chart 2.3, Panel B).
- In most cases, changes in overall EPL strictness were driven by changes in the regulation of *temporary employment* (see also Annex Table 2.A2.5). The most prevalent path of reform consisted in facilitating the use of fixed-term contracts and/or recourse to workers hired from temporary work agencies. In the 1990s, almost two thirds of countries where changes in overall EPL strictness occurred, had eased regulation of temporary employment. Over recent years, half of the reforms have followed the same path, while a small number of low-regulated countries have added restrictions on the use of temporary employment. Overall, few countries have undertaken significant reforms to the regulation of permanent employment. With the exceptions of Austria and New Zealand (see Box 2.2), these reforms mainly consisted in relaxing procedural requirements and/or reducing difficulties of dismissal.

Chart 2.3. **Deregulation of temporary work as the most prevalent path of EPL reforms**



Note: Countries are ranked from left to right in ascending order of the overall EPL in the late 1980s (late 1990s when 1980s data are not available).

a) Data for the late 1980s are not available for the Czech Republic, Hungary, Korea, Mexico, New Zealand, Poland, the Slovak Republic and Turkey.

Source: See Annex Table 2.A2.4.

In sum, changes in overall EPL strictness since the 1980s have been driven by *partial* reforms. Indeed, reforms have affected either the regulation of temporary employment, or the regulation of permanent employment, but rarely both. In particular, many countries have chosen to enhance workforce flexibility by easing the use of temporary employment while keeping the existing provisions intact for regular or permanent workers (see also

Box 2.2. **EPL reforms in Austria and New Zealand**

Over recent years, several countries have reformed their employment protection legislation, but in most cases, this has been done without reversing the general philosophy of the regulatory provisions already in force. Indeed, these alterations mainly consisted in relaxing or tightening some of the existing regulations. By contrast, the reforms undertaken in Austria and New Zealand have been of a more fundamental nature.

Austria has recently transformed its severance pay legislation into a system of individual savings accounts. Severance pay entitlements were previously based on the *length* of the employment relationship between *one worker* and *one firm*. Legislation stipulated that severance pay had to be paid to private sector employees in the event of termination of the employment contract by the employer, as long as the employee had worked for the employer at least for the previous three years. The payment started with one month's wage per year of tenure exceeding three years, and reached a maximum of one year of pay for workers with 25 years of seniority of more.

Since 2003, employers have to contribute 1.5377% of the payroll to an individual account (managed by a fund that invests the balance in private capital markets), from the first day of employment until contract termination. In the case of dismissal by the employer, an employee with at least three years of job tenure can choose between receiving his/her severance payment from the account at once, or saving the entitlements towards a future pension. The amount will not be paid out if the employee quits or job tenure is shorter than three years. The entitlement, however, remains and the balance is carried over to the next employer. Indeed, the new separation allowance is saved and cumulated by the employee over his/her *entire working life*. From the employer's standpoint, this new system suppresses the specific monetary cost of a dismissal, while it tends to increase labour costs in general. From the employee's standpoint, it reduces the cost of job mobility, in that workers do not lose anymore all of their entitlement to severance payments when taking a new job. In the new system, entitlement starts on the first day of employment and does not depend on the way the employment contract is terminated.

In New Zealand, the Employment Relations Act (ERA), which came into force in 2000, has marked a significant departure from the previous legislation in that it promotes collective bargaining as a positive basis for employment relationships (Forster and McAndrew, 2003). The ERA requires to bargain in "*good faith*" on the basis of a Code of Good Faith. It also requires mediation as a first step in the event of disputes (see Table 2.1). The principle of good faith means that before employers can dismiss an employee, they must give trade-unions and/or the employee in question explicit, reasonable notification of the reasons as well as reasonable notice. But the ERA does not state clearly what *reasonable* means. In addition, all employment agreements must set out, in plain language, the procedure for resolving employment relationship problems, which may include a notification procedure.

By and large, the ERA has set some regulatory provisions for dismissals, while also specifying that heavier procedures have to be set by individual employment agreements or collective bargaining. In that sense, it has tended to increase procedural inconveniences for dismissal. The ERA has also tended to limit the use of fixed-term contracts, by requiring *genuine* reasons based on reasonable grounds to employ a worker under such a contract. Here again, it does not state explicitly what *genuine* reasons based on *reasonable* grounds are. Instead, the ERA provides that excluding or limiting the rights of employees under the Act, or establishing the suitability of the employee for a permanent contract, are not genuine reasons for using a fixed-term contract.

OECD, 1999, Chapter 2). Only four countries have undertaken comprehensive reforms governing both permanent and temporary work: Portugal, Spain, the Slovak Republic and New Zealand. The first three countries have relaxed the regulation of both temporary and permanent employment while New Zealand has moved in the opposite direction.

2. Links between EPL, labour market dynamics and labour market outcomes for different groups

Employment protection regulations are thought by many to be a key factor in generating labour market rigidity. As a result, these regulations are often cited as one cause for the large cross-country differences in labour market performance, notably between the United States and Europe. A rich theoretical and empirical literature has developed over the past decade with the objective of producing results that could support or disprove these views. OECD itself has addressed this issue several times in the past. Despite this, there remain significant differences in the literature on the effects of EPL on labour market outcomes. While some economists argue that worrying about strict labour market regulations may be time wasted (Nickell and Layard, 1999), many others stress that stringent EPL is likely to damage labour market performance (see for example, Heckman and Pagès, 2000).

A. Safer jobs but longer spells

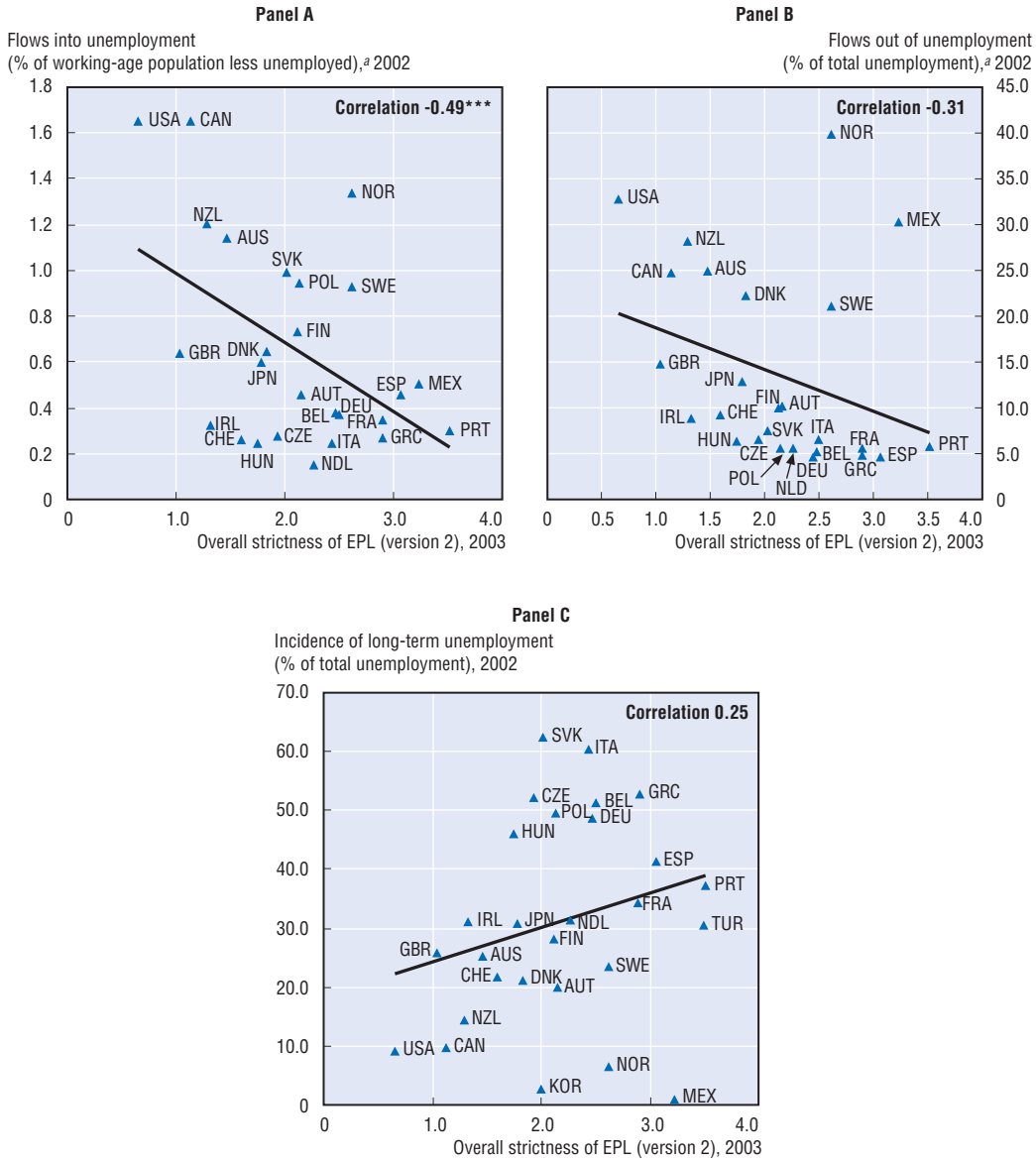
Dismissal legislation and provisions regulating the use of fixed-term contracts and temporary work agencies can all be described as restrictions placed on the ability of the employer to adjust the workforce and to control labour costs. As such, theoretical analyses predict that higher employment protection reduces firings during economic downturns, but may also decrease hiring rates in periods of rising demand (for a recent survey, see Young, 2003). Indeed, in deciding whether to hire new workers, the firm will take into account the likelihood that firing costs will be incurred in the future. Assuming that wages cannot be fully adjusted to compensate for the fact that firms may have to incur firing costs,[8] hiring decisions will be affected. As a consequence, employment protection will tend to reduce employment fluctuations over the cycle while increasing both job stability and the length of unemployment spells.

Although the finding that EPL tends to depress firing and hiring rates is a robust one in the theoretical literature, empirical cross-country work on this relationship is limited, mostly hampered by the availability of comparable data for layoffs and new hires. In addition, the emerging picture is not always as clear cut as in theoretical predictions.[9]

However, some recent studies have demonstrated that, once data comparability issues are dealt with, the empirical validity of theoretical research on the effect of EPL is confirmed. For instance, Blanchard and Portugal (2001) find that controlling for firm size and taking quarterly rather than annual job flows is important when comparing Portugal and the United States. Indeed, their correction allows them to show that quarterly rates of job creation and destruction are significantly lower in Portugal (where EPL is rather strict) than in the US (where EPL is the lowest among OECD countries). Another study that improves on data quality has recently been carried out by the European Central Bank (Gomez-Salvador *et al.*, 2004). Using comparable data on job creation and destruction for EU countries, the authors show that firm and sectoral characteristics are important determinants of job flows and, once these are accounted for, EPL is found to significantly reduce job creation while its effect on job destruction is not statistically significant.

Likewise, there is empirical evidence that strict employment protection reduces flows into and out of unemployment (OECD, 1999, Chapter 2).[10] Chart 2.4 examines the bivariate associations between EPL and some variables measuring flows in and out of unemployment and the incidence of long-term unemployment. These charts provide some indication that EPL may slow down labour market adjustment. Stricter EPL is associated with a lower unemployment inflow rate, while the relationship between EPL and outflows from unemployment is negative, in line with the theory, but the correlation is not statistically

Chart 2.4. **Simple correlations between EPL, labour market dynamics, and the incidence of long term unemployment**



***, **, * means statistically significant at 1%, 5% and 10% levels, respectively.

a) The unemployment inflow rate is defined as persons unemployed for less than one month as a percentage of the source population (the working age population less the unemployed) and the outflow rate as the percentage of the unemployed moving to employment or out of the labour force in an average month.

Source and definition: See Annex Tables 2.A2.4 and 2.A3.1.

significant (Chart 2.4, Panel B). For instance, Nordic countries tend to have relatively high outflow rates despite a moderate to high level of EPL. This may be related to their heavy reliance on active labour market policies that are likely to reduce the possible negative effect of EPL on outflows to employment.[11]

In fact, EPL is only one of a large set of policy instruments and institutional variables that affect the functioning of the labour market. Some, like active labour market policies, could limit any negative effects of EPL on hiring rates. Others, like a passive administration of unemployment benefits, may reduce unemployed individuals' incentives to look for a job. Not taking account of the institutional and policy environment in which EPL operates may bias the estimated relationship between EPL and labour market outcomes. Therefore, the next step is to see whether the simple bivariate associations presented in Chart 2.4 are robust to the inclusion of these additional factors and to the introduction of a measure of EPL that varies over time (see Box 2.3 for methodological issues).

Box 2.3. **Methodological issues**

To estimate the links between EPL and labour market performance, several techniques can be used. The choice of one method over the others depends largely on the type of data that is available and on its variation over time and across countries. With regard to EPL, it is worth noting that most of the variability in the index comes from differences *across* countries, rather than changes in EPL through time. Indeed, although the analysis uses a longer annual time series for EPL, by their own nature, institutional changes do not happen frequently.

While estimating the model with ordinary least squares (OLS) would fully account for cross-country variations, this would leave some information unused as *successive* observations for each country would be treated as *independent*. OLS estimates can be corrected for this in two ways: by assuming that the differences across countries can be entirely explained by a constant country effect (Fixed Effects) or by treating country-specific constant terms as randomly distributed across cross-sectional units (Random Effects). As pointed out by Heckman and Pagès (2000), fixed-effects estimates (FE) are likely to be imprecise because they only use the time-series variation within countries. In other words, FE estimates have the drawback of leaving unused a large part of the information included in the sample, namely the cross-country variation in EPL strictness. Instead, random effects (RE) or pooled OLS estimations, that use both the cross-section and time-series variation included in the sample, are likely to produce estimates that explain a larger share of data variability. However, OLS and RE estimates will be biased if variables included as controls are correlated with country-specific error terms.

Since RE estimates offer a good compromise in exploiting the full potential of the dataset (*i.e.* cross-section and time-series variation), they are chosen as a baseline for the empirical results presented in this section. The results obtained using pooled OLS and FE are also reported, to check whether these different methodologies yield similar point estimates (as underlined above, each methodology has advantages and drawbacks). In addition, the following statistical tests are presented to support the choice of RE estimates as the baseline: *i)* a test for the presence of unobservable country-specific effects (F-test) to check that panel-data models are indeed preferable to OLS; *ii)* a test for the presence of random country-specific effects (Breush and Pagan LM test); *iii)* a test that the random country-specific effects are uncorrelated with the other regressors (Hausman's test).

The analysis uses *annual* data from 1985 to 2002 for 19 OECD countries, and a *time-varying* measure of employment protection. For each country, starting from the values of the EPL index (version 1) in the late 1980s, the late 1990s and the year 2003, the index was recalculated each year when a new legislation was introduced and applied thereafter until a new change intervened (see Annex 2.A2 for the construction of the EPL time-series). Finally, institutional and policy variables other than EPL include: indices of collective bargaining coverage and corporatism in the wage bargaining process, unemployment benefit replacement rates, the expenditure on active labour market policies per unemployed person, the tax-wedge.[12]

Table 2.2 shows that EPL tends to reduce the inflow rate into unemployment as well the rate of exit from unemployment. In addition, EPL is found to increase long-term unemployment. The results also confirm that the effect of active labour market policies facilitate outflows from unemployment and reduce long-term unemployment. The generosity of unemployment benefits increases the incidence of long-term unemployment and the same seems to be true for employment taxes.

Table 2.2. **EPL reduces labour market dynamics**[a]

Random effects, GLS

	Flows into unemployment[b]		Flows out of unemployment[b]		Incidence of long-term unemployment	
EPL	–0.165***	*(0.05)*	–5.030***	*(1.07)*	3.271***	*(1.26)*
Centralisation/co-ordination index	–0.015	*(0.04)*	0.003	*(0.94)*	–0.904	*(1.10)*
Bargaining coverage	0.001	*(0.00)*	–0.053	*(0.06)*	0.105	*(0.08)*
ALMP[c]			0.761**	*(0.31)*	–1.327***	*(0.43)*
Tax wedge	0.002	*(0.01)*	–0.143	*(0.14)*	0.980***	*(0.15)*
Unemployment benefits					0.187**	*(0.09)*
Output gap	–0.037***	*(0.01)*	1.064***	*(0.14)*	–0.574***	*(0.16)*
F-test[d]	36.4***		41.8***		59.8***	
B-P LM test[d]	892.3***		838.8***		1 117.0***	
Hausman test[d]	10.6*		5.6		0.9	
Coefficients on EPL estimated using other methods						
Fixed effects	–0.092*	*(0.05)*	–3.106**	*(1.27)*	1.763	*(1.53)*
Pooled OLS	–0.390***	*(0.03)*	–6.558***	*(0.76)*	5.992***	*(1.04)*
No. of observations	295		276		270	
No. of countries[e]	19		19		19	

***, **, * means statistically significant at 1%, 5% and 10% levels, respectively. All regressions include a constant term; standard errors in italics.

a) As the explanatory variables are not able to fully account for the rapid increase in Finnish and Swedish unemployment rates in the early 1990s (13 and 7.4 percentage points between 1990 and 1993 for Finland and Sweden respectively), data for Finland and Sweden in 1991 and 1992 are not included in the regression. Germany is only included for the post-unification period (1991 onwards). The sign and significance of the coefficients do not change when the output gap is replaced wih time dummies, in the RE specification.

b) The unemployment inflow variable is defined as persons unemployed for less than one month as a percentage of the source population (the working-age population less the unemployed) and the unemployment outflow variable as the percentage of the unemployed moving to employment or out of the labour force in an average month.

c) ALMP is instrumented on its average over the entire estimation period in the RE specification.

d) F-test of the hypothesis of absence of country-specific effects. Breush and Pagan LM test for random effects, distributed as a $\chi^2_{(1)}$. Hausman (1978) specification test, distributed as a χ^2.

e) Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States.

Source and definition: See Annex Table 2.A3.1.

B. Who pays for safer jobs?

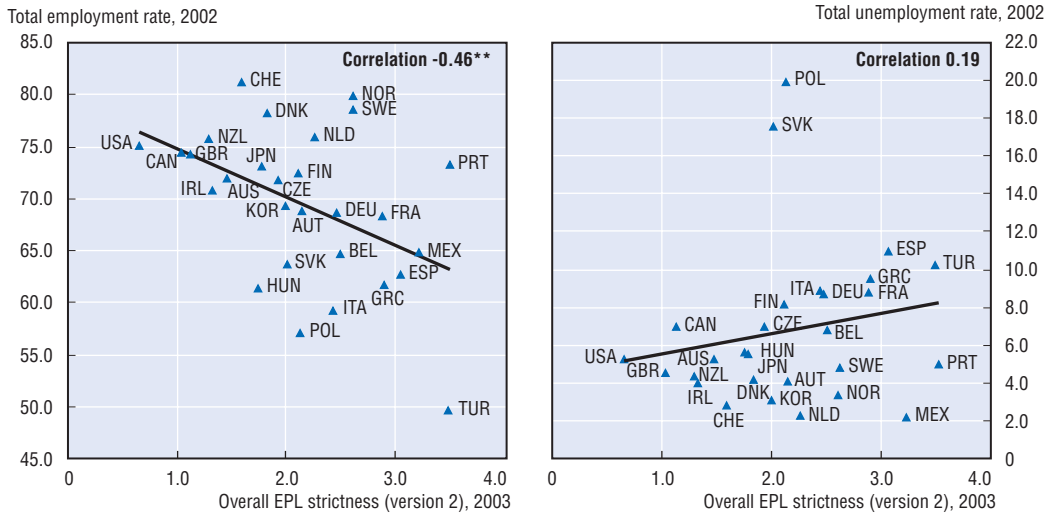
The impact of EPL on overall employment and unemployment *rates* is ambiguous as it depends on whether the effect of employment protection on layoffs is offset by the reduction in hiring rates. However, a more stagnant labour market may prevent the reallocation of resources from declining industries to growing industrial sectors and may have negative implications for economic performance, and ultimately for labour market outcomes (Hopenhayn and Rogerson, 1993). In particular, stringent EPL may be an impediment to the adoption of new technologies and innovation where innovation-driven labour adjustments have to be accommodated through worker turnover (OECD, 2003b).

It is worth noting that EPL may have broader implications for employment relationships than simply governing labour market flows. For instance, it may strengthen the position of protected workers (so called "insiders") in wage bargaining. EPL may thus have negative impacts on employment by raising labour costs indirectly through its effect on bargaining power. Bentolila and Dolado (1994) suggest that this effect could be reinforced by the existence of temporary forms of employment if permanent workers dominate unions and set wages for all workers. Insofar as employment adjustment is likely to fall disproportionately on temporary workers, the bargaining power of insiders under permanent contracts tends to increase with the incidence of temporary work. The consequence would be a widespread rise in wages, damaging labour market performance.[13]

On the other hand, other potential implications of EPL may go in the opposite direction. For instance, by promoting workers' effort and cooperation through stable employment relationships, redundancy payments may increase aggregate employment (Fella, 2004). Employment security may also enhance productivity by encouraging investment in human capital, since longer-lasting employment will increase the expected returns to training. In this regard, Belot *et al.* (2002) suggest that in the absence of employment protection, workers would under-invest in firm-specific human capital because they could be fired on the spot, even after having made an effort to upgrade their skills and borne the corresponding cost. Therefore, introducing layoff costs would encourage employees to invest in firm-specific human capital, which in turn could partly compensate for the depressive effect that these costs might have on job creation. If not too high, firing costs may thus reduce unemployment (and improve economic efficiency). However, insofar as it may be in the individuals' private interest to introduce layoff costs into employment contracts, care should be taken in justifying why government legislation is called for.[14]

Overall, theoretical analysis does not provide clear-cut answers as to the effect of employment protection on overall unemployment and employment. It is thus not surprising that economists have turned increasingly to empirical analyses to try to resolve the question. At first glance, simple cross-country correlations are still partly inconclusive (see Chart 2.5), pointing to a negative relationship between EPL and employment rates, while no clear association can be detected between EPL and unemployment rates. Naturally, it is not possible to draw policy conclusions on the basis of such bivariate associations and several studies have been carried out in search for clearer conclusions from multivariate analysis. There too, however, researchers are not unanimous. In fact, while the bulk of the studies reviewed in Table 2.3 suggest that EPL reduces overall employment rates, there is less consensus about its effect on unemployment. However, as pointed out by Baker *et al.* (2004), both the significance and the magnitude of the estimated effects of EPL on employment and unemployment vary widely across studies.

Chart 2.5. **EPL and labour market performance: simple cross-country correlations**



***, **, * means statistically significant at 1%, 5% and 10% levels, respectively.

Source and definition: See Annex Tables 2.A2.4 and 2.A3.1.

Employment protection is found to have some impact on unemployment in a few studies. For instance, when accounting for potential *interactions* between EPL and other institutions, these studies suggest that stringent employment protection would tend to increase structural unemployment rates in countries with large union coverage and/or intermediate levels of bargaining coordination. This result is consistent with the idea that EPL may damage labour market performance by increasing labour costs indirectly through its effect on the bargaining power of core workers. However, other studies do not find such an effect or show that it is not robust to small changes in the data, estimation methods or equation specification (Baker *et al.*, 2003, 2004).

Some studies investigate the possible interaction between EPL and economic shocks. In this regard, Blanchard and Wolfers (2000) provide an explanation of unemployment shifts which depends on long-run changes in total factor productivity growth, labour demand and the real interest rate, with a bigger impact of these long-run shifts in countries with "rigid" institutional settings. In other words, employment protection may affect unemployment primarily by magnifying the impact of exogenous shocks. In the same spirit, Nickell *et al.* (2001, 2003) attempt to explain actual unemployment by both institutional factors (that impact on equilibrium unemployment) and *temporary* shocks[15] (which cause unemployment to deviate from equilibrium unemployment). They conclude that changes in unemployment across OECD countries are mainly explained by shifts in labour market institutions, while interactions between institutions and shocks appear to make no significant additional contribution to explaining unemployment in the long run. Employment protection is found to have an impact on unemployment, mainly raising unemployment persistence.[16]

By and large, while evidence of the role played by EPL on aggregate employment and unemployment rates remains mixed in both theoretical and empirical studies, the idea that EPL may not affect the employment opportunities of various demographic groups in the same way collects more consensus. While EPL is generally shown to have little or no effects on the employment rates of prime-age men, several studies suggest that stringent employment protection tends to decrease the employment rates of both youth and women (see Table 2.3).

Table 2.3. **A summary of empirical findings**

	Dependent variable	Data frequency	Variation in institutional variables	Cyclical controls shock variables, and institutional controls	Results	Remarks	Estimation methodology
Baker *et al.* (2004)	Unemployment.	Five-year averages.	Time varying institutions.	Change in inflation. EPL, UB replacement rates, UB duration index, union density, union coverage, coordination index, tax wedges.	EPL is found to have no effect on unemployment rates, except for the sub-period 1980-99 when EPL is found to reduce unemployment.	The authors use several different specifications to illustrate the lack of robustness of panel data estimates found in the literature. Some specifications include interactions between UB duration and replacement rates, union density and wage bargaining coordination, tax wedge and coordination.	Random effects and fixed effects.
Belot and van Ours (2000)	Structural unemployment.	Annual.	Time-varying institutions.	Change in inflation. EPL, UB replacement rates, union density, union coverage, coordination index, tax rates.	EPL is found to have no effect on structural unemployment at mean value of union density and coverage, and bargaining coordination. EPL raises structural unemployment when union coverage is higher than average.	The paper includes interactions between institutions. This has a sound theoretical foundation as policy complementarities are likely to play an important role in shaping labour market performance. A drawback of the model is that it is static so that the within-country persistence of unemployment is excluded.	Fixed effects.
Bertola *et al.* (2002)	Unemployment.	Five-year averages.	Constant and time-varying institutions.	TFP growth; labour demand shocks; real interest rate. Plus: share of youth (15-24) in the population. EPL, ALMP, UB replacement rates, UB duration index, union density, union coverage, coordination index, tax wedge.	Constant EPL is found to significantly increase the effect of shocks on unemployment. This is no longer the case when EPL is allowed to change over time.	The authors find that institutional changes raise unemployment slightly more than shocks and demographics do. The interaction between institutions (time-varying or constant) and shocks remains important in explaining the divergence in unemployment rates across countries.	Fixed effects.
Blanchard and Wolfers (2000)	Unemployment.	Five-year averages.	Constant institutions.	TFP growth; labour demand shocks; real interest rate shocks. EPL, ALMP, UB replacement rates, UB duration index, union density, union coverage, coordination index, tax rates.	EPL reinforces the negative effect of shocks on unemployment in the long run.	The paper focuses on explaining long-run shifts in unemployment with the interaction between constant institutional variables and long-run changes in the level of TFP growth, labour demand and the real interest rate.	Fixed effects.
Elmeskov *et al.* (1998)	Structural unemployment.	Annual.	Time-varying institutions.	Output gap. EPL, ALMP, UB replacement rate, union density, coordination index, corporatism index, tax wedge, minimum wages.	EPL is found to increase structural unemployment, with its effect reinforced at intermediate levels of wage bargaining coordination.	The result on EPL is consistent with the idea that when insiders have strong bargaining power, they may more easily resist attempts by employers to lower wages as a result of higher dismissal costs, even if this works to the detriment of outsiders.	Random effects.

Table 2.3. **A summary of empirical findings** *(cont.)*

	Dependent variable	Data frequency	Variation in Institutional variables	Cyclical controls shock variables, and institutional controls	Results	Remarks	Estimation methodology
Heckman and Pagès (2000)	Employment and unemployment (by gender and age) and incidence of long-term unemployment.	Annual.	Time-varying institutions (two periods only).	GDP level, GDP growth. Plus: female participation rates and proportion of the population aged 15-24. Job security index (based on notice periods and severance pay), minimum wages, union centralisation.	EPL is found to have a negative and significant effect on overall employment rates. The effect of EPL on prime-age men employment is smaller than the overall effect, while the effect on youth employment is larger than the overall effect. The effect of EPL on unemployment is not significant in most specifications. No effect is found on long-term unemployment.	The authors use a sample of OECD and Latin American countries and their own measure of EPL. They use RE, FE and OLS and only employment results for men and youth are found robust across methods. The effect of EPL on prime-age women employment vary widely across estimation procedures. Effects on unemployment are nearly always positive and stronger for OECD countries.	Random effects, fixed effects, pooled OLS.
Nickell (1997)	Unemployment, long-term unemployment, employment to population ratio (overall and for prime-age men).	Five-year averages.	Some time-varying institutions (constant EPL).	Change in inflation; dummy for second period. EPL, ALMP, UB replacement rates, UB duration index, union density, union coverage, coordination index, tax wedge.	EPL is found to have no significant effect on total unemployment but it is shown to significantly increase long-term unemployment; EPL is also found to reduce employment to population ratios and participation rates. No effect is found on employment rates of men aged 25 to 54.	The paper uses five-year averages of the data, including averages of some time-varying institutions, in order to smooth out cyclical factors. The result on employment rates is driven by the effect of EPL on the labour market position of under-represented groups.	Random effects.
Nickell *et al.* (2001, 2003)	Structural unemployment and the employment rate (in another paper).	Annual.	Time-varying institutions.	Time dummies, money supply shock, change in TFP growth, labour demand shock, real import price shocks, real interest rates. EPL, UB replacement rates, UB duration index, union density, coordination index, tax wedge, owner occupation rate.	EPL is found to have an impact on structural unemployment, mainly operating via its impact on raising unemployment persistence (captured by the interaction of the EPL variable with lagged unemployment). A twin working paper applies the same structure to the employment rate and finds a non-significant effect of EPL.	The paper estimates a dynamic model with actual unemployment explained by institutional factors that impact on equilibrium unemployment and shocks that cause unemployment to deviate temporarily from equilibrium unemployment. Shifts in labour market institutions are found to explain about 55% of the change in unemployment, while interactions between constant institutions and shocks appear to make no significant additional contribution.	Fixed effects + lagged dependent variable.

Table 2.3. **A summary of empirical findings** *(cont.)*

	Dependent variable	Data frequency	Variation in Institutional variables	Cyclical controls shock variables, and institutional controls	Results	Remarks	Estimation methodology
OECD (1999, Chapter 2)	Unemployment and employment rates (in log and by gender, age and skill).	Six-year averages.	Time-varying institutions.	Output gap. EPL, ALMP, UB replacement rates, UB duration index, union density, union coverage, coordination index, centralisation index, tax wedge.	In most cases, the impact of EPL on both unemployment and employment rates is found to be negative but not statistically significant. Negative and statistically significant effect are found on prime-age men unemployment only. Positive but not statistically significant effect are found on prime prime-age men employment and youth unemployment.	The chapter uses two-period (1985-90 and 1992-97) panel regressions to estimate the effect of EPL on various labour market outcomes. EPL is found to decrease unemployment inflow and outflow rates and to raise mean employment duration. EPL is also found to increase the share of self-employment. All of these effects are statistically significant.	Random effects.
OECD (2002a, Chapter 5)	Employment rate.	Annual.	Time-varying institutions.	Output gap. EPL, UB replacement rates, union density, product market regulation index.	EPL is found to decrease overall employment rates.	The negative and statistically significant effect of EPL is mostly found in countries with intermediary levels of bargaining corporatism.	Fixed effects.
Scarpetta (1996)	Structural unemployment.	Annual.	Time-varying institutions.	Output gap. EPL, ALMP, UB replacement rates, union density, coordination index, corporatism index, tax wedge.	EPL is found to raise structural unemployment and non-employment, with stronger effects for youth and long-term unemployment.	The paper estimates a dynamic model – as well as a static one – and shows that EPL reduces the adjustment speed of unemployment presumably by raising real wage rigidity.	Random effects + lagged dependent variable.

ALMP: active labour market policies; EPL: employment protection legislation; FE: fixed effects; OLS: ordinary least squares; RE: random effects; TFP: Total productivity factor; UB: Unemployment benefit.

Indeed, there are reasons to think that youth, as new entrants into the labour market, and women with intermittent participation spells, will primarily be affected by any reduced hiring caused by EPL, while being less in a position to benefit from reduced firings than other groups. As a consequence, employment protection would damage their employment opportunities. On the other hand, those already in the core labour market, mainly prime-age men, will primarily benefit from any greater job stability induced by EPL. The results presented in Table 2.4 are partly consistent with this view (see Box 2.4 for estimation details). While the results for youth vary in significance, EPL is found to significantly reduce the employment opportunities of prime-age women, probably because they are more likely than men to move between employment and inactivity, in particular when seeking to balance the competing demands of work and family life (OECD, 2002a, Chapter 2). On the other hand, EPL does not appear to play a significant role for employment of prime-age men.

In addition, the mixed results on older workers suggest that the reduction in hiring rates might be compensated by a decrease in firings resulting from EPL. The cost of firing someone with a long tenure is very high and employers tend to retain these workers. On the other hand, the estimated effects of EPL on hiring decisions may not have much effect on older-workers, many of whom are close to retirement age.

Table 2.4. **The employment effects of EPL vary across population groups**[a]

Coefficient on EPL

	Dependent variable: employment rate									
	Prime-age men		Prime-age women		Youth		Older		Low skilled	
Random effects[b]	0.107	*(0.29)*	–1.381**	*(0.60)*	–2.062***	*(0.68)*	–0.296	*(0.54)*	–0.051	*(0.58)*
Fixed effects	0.543	*(0.36)*	–1.498**	*(0.65)*	–0.339	*(0.81)*	–0.066	*(0.54)*	1.183*	*(0.64)*
Pooled OLS	0.662***	*(0.20)*	–3.039***	*(1.11)*	–3.769***	*(0.45)*	4.119***	*(0.63)*	1.955***	*(0.57)*
F-test[c]	45.6***		233.5***		57.3***		208.4***		72.4***	
B-P LM test[c]	838.8***		113.5***		518.4***		308.4***		623.7***	
Hausman test[c]	8.4		0.1		57.0***		52.0***		23.7***	
No. of observations	286		142		278		193		224	
No. of countries[d]	19		16		19		18		19	

***, **, * means statistically significant at 1%, 5% and 10% levels, respectively. Three sets of estimations are shown, corresponding to three different methodologies, namely random effects, fixed effects and pooled OLS (see Box 2.3 for the explanation of these methodologies). All regressions include: output gap, tax wedge, high coordination dummy, low-coordination dummy, expenditure on ALMP per unemployed, unemployment benefits replacement rates. Prime-age women regressions include, in addition: relative tax rate of the second earner, child benefits, public spending on child care and days of paid leave. Youth and Low skilled regressions include, in addition: minimum wages as per cent of average wages. Older workers regressions include, in addition: average retirement age, implicit tax rate on continued work. Detailed results are available on request. Standard errors in italics.

a) As the explanatory variables are not able to fully account for the rapid increase in Finnish and Swedish employment rates in the early 1990s (13 and 10 percentage points between 1990 and 1993 for Finland and Sweden respectively), data for Finland and Sweden in 1991 and 1992 are not included in the regression. Germany is only included for the post-unification period (1991 onwards). Employment regressions for women and youth include a trend to account for the strong rise in female participation and the tendency of youth to stay longer in school and delay entry to the labour market.

b) ALMP is instrumented on its average over the entire estimation period. The sign and significance of the coefficient on EPL for women and youth do not change when the output gap is replaced wih time dummies. The effect of EPL on employment rates of older workers and the low skilled becomes positive and significant when the output gap is replace with time dummies.

c) F-test of the hypothesis of absence of country-specific effects. Breush and Pagan LM test for random effects, distributed as a $\chi^2_{(1)}$. Hausman (1978) specification test, distributed as a χ^2.

d) Australia, Austria, Belgium, Canada, Denmark (not for older), Finland, France, Germany, Italy (not for women), Japan (not for women), Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland (not for women), United Kingdom and United States.

Source: See Annex Table 2.A3.1.

Box 2.4. **EPL and employment performance of selected socio-demographic groups: equation specifications and their limitations**

The specifications used in Table 2.4 differ from those in the previous tables as they include, where appropriate, some additional group-specific variables. These are introduced to account for factors specific to demographic and skill groups that may be crucial determinants of participation decisions and, as a result, of employment rates. For prime-age women, the specification includes the relative tax rate of a second earner, the increase in household disposable income from child benefits for two children, total public expenditure on childcare, and the total number of weeks of paid maternity, parental and childcare leave. For youth and the low skilled, a variable capturing the size of the minimum wage relative to average wages is included. Finally, for older workers some additional controls are used to account for differences in retirement age across countries, and implicit marginal tax rates on continued work (see Duval, 2003; and Jaumotte, 2003 for details on the construction of these variables).

Needless to say, the analysis suffers from several limitations. Besides methodological issues mentioned in Box 2.3, a number of important controls are left out (mainly because an up-to-date time-series of these variables is not yet available). For example, several aspects of product market regulation have been shown to have an effect on labour market outcomes – primarily on employment levels and industry wage premia – but are left out (see Nicoletti and Scarpetta, 2002). Moreover, the baseline specification does not include any interactions between institutions and economic shocks, or between various types of institutions.

For these reasons, the estimation results presented in this section should be considered with caution. In particular, the sign of the estimated coefficients is certainly more reliable than their size (insofar as these coefficients are statistically significant). More tests for the robustness of the results should be carried out before drawing policy conclusions. A more comprehensive study of the links between labour market performance and institutional settings (including EPL) will be carried out as part of the re-assessment of the OECD Jobs Strategy.

For the low-skilled, evidence is also mixed, with some specifications pointing to a positive effect of EPL on employment rates. As the low skilled tend to be employed in low-productivity jobs, they are more likely to be negatively affected by adverse economic developments that reduce labour demand. For this reason, employment protection regulations may play a particularly important role for unskilled workers with permanent or regular contracts, by limiting layoffs in periods of weak economic growth. On the hiring side, OECD (2002a, Chapter 3) shows a strong over-representation of low skilled workers in temporary employment. If employers tend to hire low-skilled workers by way of temporary contracts, particularly where EPL is strict, this may support the employment opportunities for those unskilled workers outside the "core" labour market. This is likely to be reflected in less stable employment histories for unskilled workers.[17]

C. Temporary or regular contracts: who is most protected?

Since the mid-1980s, many countries have eased the use of temporary forms of employment. This may have contributed to the expansion of temporary employment by giving employers the opportunity to circumvent strict rules imposed on permanent contracts.[18] In addition, such partial reforms may reinforce labour market duality. In fact, their main effect may be to produce high turnover in temporary jobs, with many workers

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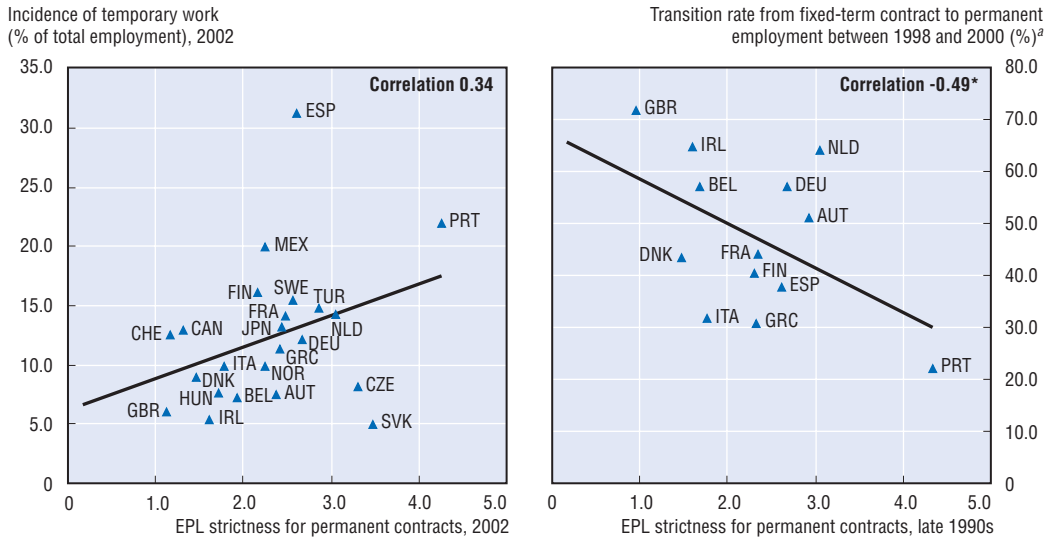
going through several unemployment spells before obtaining a regular job (see Blanchard and Landier, 2002; Cahuc and Postel-Vinay, 2002). The existence of high firing costs for permanent contracts may indeed constitute an incentive for employers to use temporary contracts in sequence rather than converting them to regular contracts. In such circumstances, easing the use of temporary forms of employment would foster both hiring and job separation, the latter effect being strengthened when firing costs for permanent contracts are large. As a result, the implication for overall unemployment is unclear. In this regard, the Spanish experience has been investigated in many empirical studies, providing some support to the view that partial reforms may lead to a segmented/dual labour market while having neutral or limited effects on overall unemployment (see Dolado *et al.*, 2002).

By and large, provided that temporary forms of employment are permitted by law, the extent to which they will be used by employers, as well as the extent to which they could constitute a bridge towards regular employment, would largely depend on the regulation in force for permanent contracts. Chart 2.6 indeed suggests that stricter rules applicable to regular contracts may tend to increase the incidence of temporary work and to limit the extent to which temporary contracts will be converted into permanent ones. In this regard the presence of heavy procedural inconveniences linked to layoffs of regular workers is likely to constitute the main determinant of the choice of fixed-term contracts over permanent ones, as severance pay is in general rather limited for workers with short tenure (see Annex Table 2.A2.1). Along these lines, Autor (2000) suggests that, in the United States, the decline of the "employment at will" doctrine could explain as much as 20% of the growth of temporary help employment between 1973 and 1995.

That said, when considering the relationship between EPL and temporary employment *over time*, changes in the regulation of temporary contracts are likely to play a primary role as provisions for regular contracts have remained mostly unchanged.[19] In this regard, the

Chart 2.6. **Strictness of employment protection and the incidence of temporary work**



***, **, * means statistically significant at 1%, 5% and 10% levels, respectively.

a) Share of workers aged 25 to 64 years with a fixed term contract in 1998 who have a permanent contract in 2000.

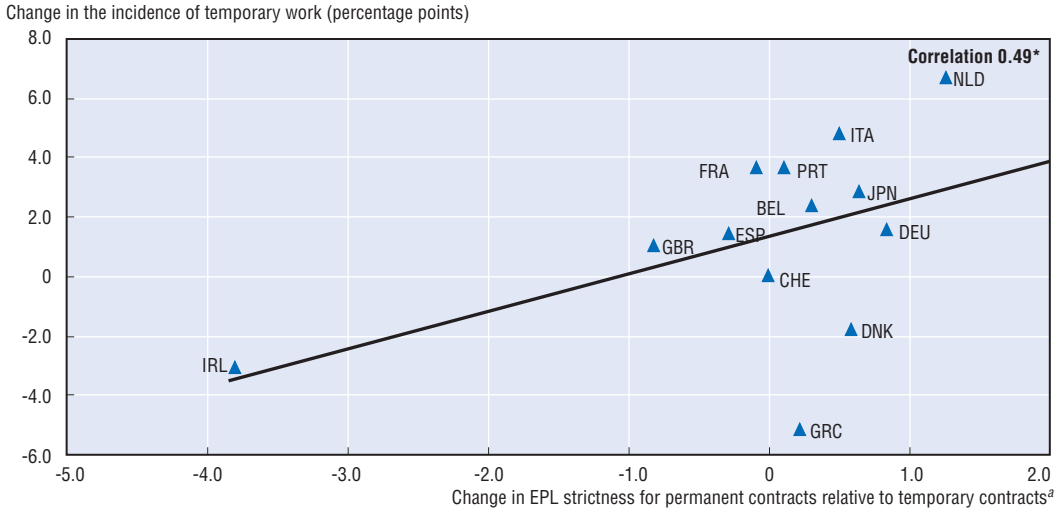
Source and definition: See Annex Tables 2.A2.4 and 2.A3.1; for transition rate, European Community Household Panel, Eurostat, waves 5 and 7.

relative difference in employment protection between regular and temporary contracts could constitute a good measure of the incentive for employers to hire on temporary contracts.[20] Indeed, this measure allows to account for the fact that easing the regulation of temporary contracts would increase the incentive to hire on temporary contracts to a larger extent when permanent contracts are more regulated.[21]

Overall, Chart 2.7 as well as the regression results presented in Table 2.5 tend to confirm that, over the 1990s, the incidence of temporary employment has grown faster in countries where the rules governing the use of temporary contracts have been significantly eased compared with the regulation of permanent contracts. Not many studies have been carried out that look at temporary employment in relation to EPL for OECD countries as a whole. One of the few, Nunziata and Staffolani (2002), finds evidence that firms tend to hire through permanent contracts when legislation on temporary work agencies is stricter. On the other hand, the authors find a limited impact of regulations governing fixed-term contracts on the type of contract used by firms.

In addition, relative differences in EPL between regular and temporary contracts may have specific impacts across groups. As Table 2.5 shows, the larger the relative differences in employment protection between regular and temporary contracts, the higher the incidence of temporary work for youth and the low skilled. On the other hand, this does not seem to be true for prime-age men, women and older workers (*i.e.* the estimated coefficients are insignificant). This result is all the more important as loose regulation on temporary work tends to weaken job attachment, with detrimental effects on training and human capital formation, which is especially important for the employability of youth, and low-skilled workers.

Chart 2.7. **EPL reforms and changes in the incidence of temporary work between 1990 and 2003**



***, **, * means statistically significant at 1%, 5% and 10% levels, respectively. Without Ireland, Pearson correlation coefficient = 0.30.

a) Difference between 2003 and 1990 in the ratio (EPLR-EPLT)/EPLT where EPLR refers to the EPL index for permanent contracts and EPLT is the EPL index for temporary contracts.

Source: See Annex Tables 2.A2.4 and 2.A3.1.

Table 2.5. **Deregulation of temporary work has contributed to labour market duality**[a]

Impact of the relative difference between EPL for regular and temporary contracts on the incidence of temporary work

	Prime-age men		Prime-age women		Youth		Older		Low skilled		Total	
Random effects	0.718	*(0.87)*	0.531	*(0.94)*	7.196***	*(2.32)*	0.296	*(0.62)*	3.341***	*(0.95)*	1.640*	*(0.87)*
Fixed effects	0.951	*(0.93)*	0.748	*(1.00)*	9.261***	*(2.45)*	0.517	*(0.75)*	3.497***	*(0.98)*	2.444**	*(0.97)*
Pooled OLS	–0.764	*(0.77)*	–0.119	*(0.84)*	–4.957**	*(1.97)*	0.101	*(0.39)*	–3.293***	*(1.18)*	–0.361	*(0.70)*
F-test[b]	97.77***		103.77***		91.39***		31.68***		149.45***		96.95***	
B-P LM test[b]	772.86***		749.77***		645.03***		464.93***		472.51***		893.38***	
Hausman test[b]	3.87		57.01***		8.37		4.57		5.52		6.47	
No. of observations	168		168		168		168		122		190	
No. of countries[c]	14		14		14		14		14		16	

***, **, * means statistically significant at 1%, 5% and 10% levels, respectively. The relative difference is the ratio (EPLR-EPLT)/EPLT where EPLR refers to the EPL index for permanent contracts and EPLT is the EPL index for temporary contracts. Three sets of estimations are shown, corresponding to three different methodologies, namely random effects, fixed effects and pooled OLS (see Box 2.3 for the explanation of these methodologies). All regressions include: output gap, tax wedge, high coordination dummy, low-coordination dummy, expenditure on ALMP per unemployed and a constant term. Detailed results are available on request. Standard errors in italics.

a) As the explanatory variables are not able to fully account for the rapid increase in Finnish and Swedish employment rates in the early 1990s (13 and 10 percentage points between 1990 and 1993 for Finland and Sweden respectively), data for Finland and Sweden in 1991 and 1992 are not included in the regression. Germany is only included for the post-unification period (1991 onwards).

b) F-test of the hypothesis of absence of country-specific effects. Breush and Pagan LM test for random effects, distributed as a $\chi^2_{(1)}$. Hausman (1978) specification test, distributed as a χ^2.

c) Austria, Belgium, Canada (total only), Denmark, Finland, France, Germany, Italy, Japan (total only), Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Source and definition: See Annex Table 2.A3.1.

3. Making the most of EPL: preliminary considerations

Employment protection regulation seems to fulfil its stated purpose, namely protecting existing jobs. However, as regards overall labour market outcomes, the rationale for pursuing this objective is not fully obvious. Indeed, although it cushions job destruction, employment protection also restrains job creation, and overall, its effect on employment is ambiguous. Turning to the literature, most analyses of employment protection have been conducted within a framework that does not justify its existence. Exogenous costs of dismissal are introduced into equilibrium models of the labour market where the consequences of those costs on employment are derived. As noted by Pissarides (2001): "In such a framework it is hard to see any beneficial effects of employment protection, beyond the obvious one of making jobs last longer." In this regard, studies that have addressed the question of why EPL exists in the first place usually show that to find an economic justification of EPL, it should be considered within a broader framework that also includes a welfare analysis. In addition, EPL interacts with other policy tools, such as unemployment insurance systems and active labour market policies, which may also contribute to greater security for those who participate in the labour market. Care should thus be devoted to analysing the contribution of EPL with regard to these alternative or complementary policy tools.

A. Why does employment protection exist?

The literature suggests two main economic justifications for the existence of employment protection. The first primarily invokes insurance arguments, showing that employment protection can be welfare-improving by insuring the workers' income against labour market

uncertainty. The second sees employment protection as a means of encouraging firms' social responsibility when they have to adjust their labour force in response to an unfavourable economic situation, which can also be welfare-improving.

According to some studies, employment protection provisions can be justified on the grounds that workers are risk-averse and that they do not have the possibility to privately insure themselves against labour market uncertainty (Pissarides, 2001; Bertola, 2004). These provisions make it possible to smooth income fluctuations due to the possible occurrence of unemployment spells. In this type of framework, both employees and firms may find it beneficial to explicitly introduce into the employment contract provisions that protect workers against the loss of income in the event of dismissal. Assuming that, contrary to the employees, firms are risk-neutral and have perfect access to capital markets, it is optimal for both workers and employers to introduce severance pay into the employment contract (Pissarides, 2001). In such a setting, employers act as bankers and/or insurance companies, while employees trade lower wages for the severance pay that they get in the event of layoff. An optimal degree of employment protection is thus shown to exist, which is different from zero and is set through *private agreements*. In this respect, it is important to note that employment protection does not cause employment relationships to last longer; it primarily makes it possible to smooth workers' income across job and unemployment spells. Notwithstanding severance pay provisions, jobs are destroyed when productivity shocks occur that are sufficiently negative to make job continuation unprofitable. Hence, one loses an important aspect of employment protection, which is increased job stability.[22]

While severance pay can serve to smooth workers' *income* in the face of labour market risks, notice periods have more comprehensive insurance properties (Pissarides, 2001). When jobs are threatened by a negative productivity shock and become unprofitable, the existence of a notice period *de facto* extends their duration.[23] Obviously, notice periods are costly for the employer. In principle, in order for this cost not to affect the hiring behaviour of firms, employees have to accept lower wages. If dismissed workers are entitled to unemployment benefits, there will be an optimal relation between the level of these benefits and the length of the notice period (indeed, the longer the notice period, the lower the wages). In that sense, unemployment insurance and employment protection appear to be substitutable, and the optimal length of the notice period decreases when the unemployment benefits become more generous.

Overall, regardless of the form that it takes (severance pay or notice period), it always seems the case that employees and firms have an incentive to establish some degree of employment protection. The crucial condition for this result to hold is that employees partly pay for the benefits that they receive (in the form of insurance against labour market risk) by accepting lower wages. Workers are willing to do so only if the insurance part of their contract is actually enforceable. In the absence of legal requirements, employers could renege on their engagements and not provide the contractual severance pay at the time of layoff (Pissarides, 2001). The government would thus intervene to guarantee the workers' rights *vis-à-vis* employers. If this enforcement role can justify government intervention, it may also set limits to it. In particular, procedural requirements, such as consultation and authorisation procedures, that are not explicitly targeted at contractual enforcement, should be excluded. While these requirements may avoid some layoffs, their final outcome is often difficult to predict.

It is, however, important to note that the justification of employment protection as a way of insuring workers income against labour market risk mainly relies on arguments that are of a *contractual* nature. Employees as well as employers would have a *private* interest in introducing some form of employment protection into employment contracts. Fundamentally, in this kind of analysis, the government only plays a role of safeguard of private contractual arrangements. A stronger case for government intervention in this area is found in recent studies that show that employment protection could also be socially beneficial by affecting individual decisions that would otherwise be socially inefficient.

The central argument here is that the social value of a job may be higher than its private value. This may reflect a variety of microeconomic distortions and, in particular, the fact that the government uses payroll or income taxes to finance unemployment benefits as well as public goods. A job may thus become unproductive for an employer, while still generating some resources for society. Therefore, without government intervention, there would be too many layoffs compared to what would be socially and economically desirable. In such a setting, the primary purpose of EPL is to give firms the right incentives to internalise the social cost of layoffs in order to enhance economic efficiency. Dismissal costs do not play any direct insurance role and the task of guaranteeing a minimal income in the event of job loss is left to the unemployment insurance (UI) system. Dismissal costs possibly play an indirect insurance role, though, if they partly contribute to the funding of the UI system. In this sense, the layoff tax would tend to increase with the generosity of the unemployment benefits, since the more generous the UI benefits, the larger the fiscal distortions that dismissal costs may correct.

Employment protection may thus have positive effects on welfare, provided that the depressive effects that it tends to have on job creation can be neutralised in one way or another. One possibility suggested in the literature is that the government subsidises hiring while taxing layoffs (Cahuc and Jolivet, 2003; Blanchard and Tirole, 2004). In this respect, the firing tax should take the form of a transfer from the firm to the government and thus contribute to the funding of the hiring subsidy. On the other hand, if job stability induced by the firing tax gives workers the right incentives to invest in firm-specific human capital, the resulting productivity gains could compensate for the depressive effect that the firing cost may have on job creation without requiring any additional government intervention (Belot *et al*., 2002). Here, the optimal design of the firing tax would correspond to a transfer from the firm to the worker since it would give workers an additional incentive to invest in training.

B. Guaranteeing employment and income security: the role of EPL vis-à-vis *other policies*

As seen in the previous section, some analysts attribute to EPL mainly an insurance role against *income risk* with severance payments and/or notice periods guaranteeing a smoother income stream in case of job loss. In this respect, the role of EPL has to be considered together with unemployment insurance (UI) which pursues a similar goal of guaranteeing income security to the unemployed.

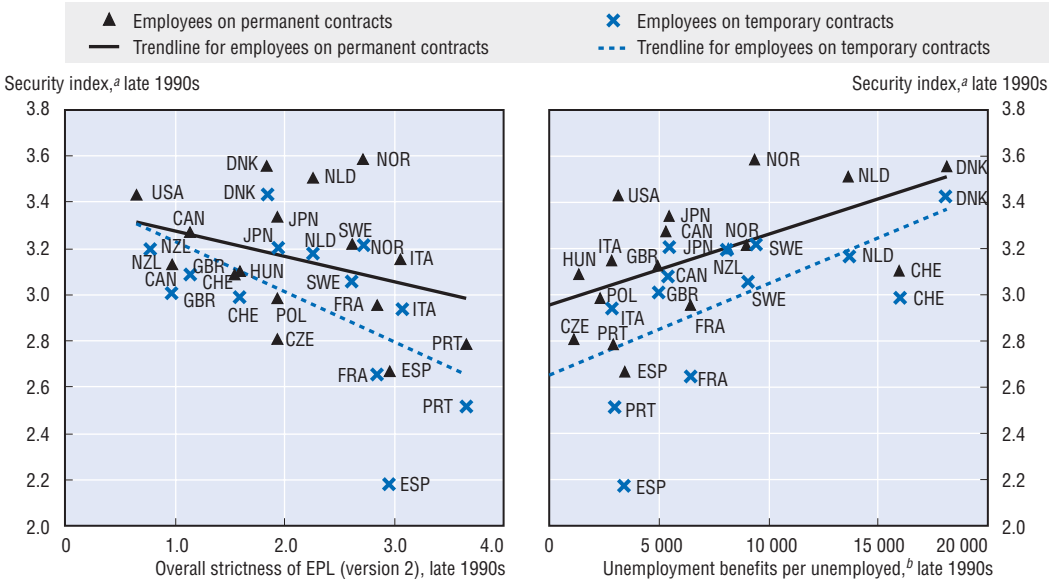
Income security: employment protection vs. unemployment insurance

Although UI benefits and EPL are to a certain extent substitutes, there are important differences in the way they protect individuals against labour market risks.[24] In fact, relying on severance payments may fail to provide adequate income security. At the aggregate level, EPL fails to cover all individuals facing income risk and lacks any redistribution patterns between individuals. Indeed, as an insurance against loss of income due to unemployment

spells, severance payments have the major drawback of not covering those who exit from employment as a result of the end of fixed-term contracts. In addition, the entitlement to severance payments does not consider individual characteristics that are bound to play a key role in determining the degree of income protection needed. Payments may not be sufficient for individuals who are at risk of long-term unemployment, while individuals with more secure labour market status, such as high-educated workers, may be overcompensated. In this respect, a centralised body – such as an unemployment benefit system – may be more efficient in taking individual situations into account as well as assisting and monitoring job search. Finally, another feature of severance payments is that entitlement is closely linked to the *length* of the employment relationship between a worker and a firm. Since workers lose most of their entitlement to severance payments when taking a new job, such schemes of income protection may reduce voluntary workers' job-to-job mobility.

The view that EPL may be less effective than UI in insuring against income risk is supported by Chart 2.8. It emerges that generous unemployment benefits are correlated positively with workers' perceptions of employment security while stricter EPL is correlated negatively with them. As expected, temporary workers fell less secure than their permanent counterparts. Strikingly, not only does more stringent EPL make temporary workers feel less secure but, it seems to have a similar effect on the very workers that it is meant to protect. This could, however, simply mean that stricter EPL is found in countries where workers, on average, tend to be feel more insecure about their jobs (*i.e.* country specificities would explain EPL differences). But it is noteworthy that the above results still hold when using a more

Chart 2.8. **Unemployment benefits re-assure workers while EPL makes them worry**



***, **, * means statistically significant at 1%, 5% and 10% levels, respectively.

Note: Pearson correlation coefficient for the EPL is –0.35 for permanent contracts, –0.57** for temporary contracts. For the unemployment benefits per unemployed, it is 0.58** for permanent contracts and 0.59** for temporary contrats.

a) Average answer, by country, to the following question from ISSP "Do you worry about the possibilities of losing your job?" – Scale from 1 (I worry a great deal) to 4 (I don't worry at all).

b) Expenditure on unemployment compensation divided by LFS unemployment .

Source: Data on security index taken from the International Social Survey Programme 1997 (ISSP); OECD database on Labour Market Programmes; OECD database on Labour Force Statistics.

sophisticated measure of workers' feelings of employment security allowing for observed and unobserved individual heterogeneity (Clark and Postel-Vinay, 2004).

EPL may, however, play some additional role with respect to UI. Notably, it partly puts on employers the responsibility of financing the costs resulting from their layoff decision (and its impact in term of expenditure on unemployment benefits), which may have some benefits in terms of economic efficiency (see Section 3.A). Along this line, the system of Experience Rating (ER) was introduced in the United States to prevent firms from taking advantage of the system of temporary layoffs. Indeed, employers could fire employees temporarily and recall them later on, therefore being implicitly subsidised by the UI system during temporary decreases in workload. In response to that, the current experience-rated system of UI involves more directly employers' social responsibility by asking them to finance the costs resulting from their layoff decision, *i.e.* unemployment benefits paid to displaced workers. Broadly speaking, ER consists in linking employers' social security contributions to the layoff history of the firm and using the amount collected to cover, at least in part, the cost of UI for the laid-off workers (see Box 2.5).

Many studies have been devoted to understanding the consequences that ER may have on unemployment and welfare. Feldstein (1976) was one of the first to offer a theoretical analysis of ER. Accordingly, ER would have a positive effect of shifting workers from high-turnover firms to employers who offer more stable jobs, thus reducing frictional unemployment.[25] Generally, empirical research gives support to the analysis of Feldstein. All studies suggest that UI systems, which are not fully experience-rated, may account for an important share of temporary and permanent layoffs. Topel (1983) estimates that such systems account for more than a quarter of temporary layoffs and other studies put this proportion to between 20 and 30%. For permanent layoffs, the figure is generally smaller and varies between 5 and 20% (see Card and Levine, 1994). Anderson and Meyer (1993, 1994, 2000) shed light on the effect of experience-rating in a broad variety of cases in the United States. The paper by Anderson and Meyer (2000) is of particular interest because the authors provide a detailed analysis of the 1984 Washington State legislation switch from a payroll tax system to an ER system, a natural experiment that provides good evidence of the effects of ER compared to a payroll tax system. The study's results suggest that the change from a payroll system to total ER could lead to a reduction in UI applications by 10 to 30%. The authors also argue that, at the same time, the number of rejections of UI applications would rise from 51 to 66%, mostly due to a higher number of employers challenging dismissal claims.

Although the United States is the only country to have made ER a general feature regulating dismissals and UI financing, other OECD countries have introduced, in addition to "standard" EPL, experience-rated systems for older workers or disabled persons. Firms thus contribute more directly to the social cost of their layoffs, especially when dismissal decisions affect individuals that may experience strong difficulties in finding a new job. In Finland, for instance, disability pensions and unemployment pensions paid to workers over 60 years of age are experience-rated in companies with more than 50 employees (OECD, 2004a). The degree of experience-rating increases with firm size and larger firms (with 800 and more employees) may pay up to 80% of the costs caused by their use of implicit forms of early retirement to adjust their workforce. In order to limit the depressive effect that such a system may have on the recruitment of older workers, employment contracts that have lasted for less than three years and started after the age of 50 incur no experience-rating. Similarly, in France, when dismissing workers over the age of 50 that had been hired

Box 2.5. **The system of Experience Rating in the United States**

The United States is the only OECD country that makes widespread use of a tax on layoffs used to finance UI payments to dismissed workers. Employers' social security contributions are partially "experience rated", *i.e.* they are calculated partly on the basis of the layoff activity of the firm: a firm's tax rate is determined by individual States based on the UI benefits paid to employees it has recently laid off. There is considerable variation across States in terms of how tax rates are precisely assessed. Each year the UI funds in *each* State fix a set of contribution rates based on the situation of their accounts. As a result, rates of employers' contributions vary widely across States, both in terms of the minimum and maximum contribution rates and within these two boundaries. In fact, the only federal rule concerns the maximum contribution rate, which has to be at least equal to 5.4%.

To determine what contribution rate should apply to *each* firm, the vast majority of States follow either a "benefit ratio" approach or a "reserve ratio" method (see Fougère and Margolis, 2000). Under the "benefit ratio" system, firms pay taxes in proportion to the ratio of: 1) benefits charged to their account (paid to its laid-off employees); to 2) taxable wages, both averaged over the preceding three to five years. Under the "reserve ratio" system, firms pay taxes that are a function of the ratio of: 1) their reserves, that is past taxes less benefit payments accumulated over the entire history of the firm; to 2) their taxable payroll averaged over the preceding three years. Each approach yields a measure of how much a firm's laid-off employees have drawn on the UI system over the previous three years. As this amount increases, the firm's tax rate rises.

Over the long life of this system, the contribution rate seems to have followed the economic cycle with some lag. This lag originates from the fact that UI funds fix their set of rates on the basis of the state of their accounts of the previous years. At the beginning of a recession, disbursements from UI funds increase while contribution rates remain unchanged. This continues until the UI funds balances worsen and a new, stricter set of contribution rates is introduced. When the balance of UI funds becomes negative, the government provides a loan. Reimbursing this loan may require contribution rates to remain high for a certain period after the end of the recession.

In all states, experience rating is only partial in that taxes charged to a firm do not rise on a dollar-for-dollar basis with benefits drawn by that firm's laid-off workers. The lack of complete experience rating occurs for three reasons. First, a firm's decision to lay off employees has no impact on its tax payments when it is either already at the maximum tax rate or below the minimum rate. Second, for firms that are between these two extremes, tax rate increases due to a change in the reserve/benefit ratio are typically insufficient to meet the full cost of the benefits resulting from layoffs. Third, in certain states, some UI benefits are not charged to the firm: for example, those paid to short-tenure employees, students who have returned to school, or individuals whose employers have gone bankrupt. In fact, in 2002, employers covered only partially the expense caused by their layoff behaviour, with the remaining implicitly funded by general taxation. Employers coverage varies considerably across States, ranging from 72% in New Hampshire to 14% in Georgia, and does not seem to depend much on the system used to calculate contribution rates.*

* *Source: www.workforcesecurity.doleta.gov/dmstree/uipl/uipl2k3/uipl_2603a1.htm.*

before the age of 45, firms have to pay a special contribution to the unemployment insurance system (the so-called "Delalande" contribution). According to recent empirical studies, this measure would have almost no impact on firings of older workers while its effects on hiring are difficult to evaluate given the existence of various schemes, such as hiring subsidies targeted on older workers (Behaghel *et al.*, 2004; Bommier *et al.*, 2003).

A word of caution is necessary when considering a broader application of ER in countries outside the United States. First, as already noted, ER was introduced in the United States to prevent firms from using the UI system as a subsidy to temporary layoffs. As Feldstein (1976) noted, ER may be a relevant instrument in an environment where temporary layoffs are rather frequent, as is the case in the manufacturing sector in the United States. However, temporary layoffs are less frequent in most European countries and it is not clear that the effects of ER would be similar to those observed in the United States.

Second, the existence of a "dual" labour market, characterised by a high incidence of temporary employment coexisting with relatively well-protected permanent jobs, makes the introduction of ER problematic in certain OECD countries. In such a setting, the introduction of ER would indeed require that termination of temporary contracts be treated in the same manner as termination of permanent employment relationships (as suggested by Blanchard and Tirole, 2003). In practice, this seems difficult to implement since it would imply that it is possible to determine whether a separation is caused by a voluntary departure of a temporary employee (quit) or a refusal of the employer to extend the temporary contract (layoff). To avoid this problem, it is conceivable to exempt temporary contracts from the ER system. However, this could have perverse effects. In particular, ER would create an incentive for employers to hire under temporary contracts – and firms that hire mainly through regular contracts would implicitly subsidise firms that use temporary contracts more intensively.[26]

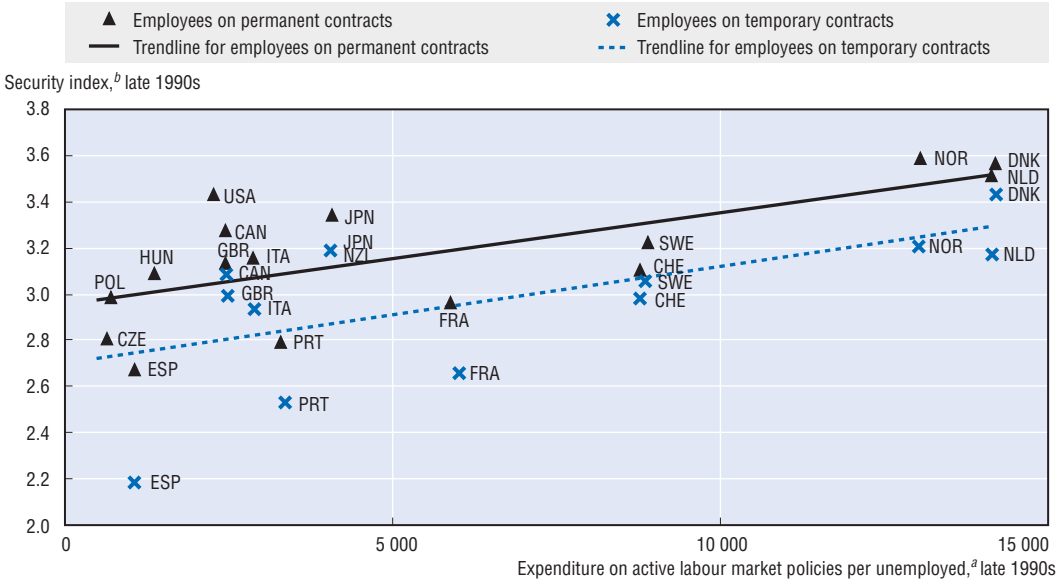
In theory, ER appears to offer some positive improvements on the simple co-existence of UI and EPL. However, more research is needed before one can argue that ER – created to suit the characteristics of the United States labour market – can be successfully applied in countries that have different labour market features.

Employment security: employment protection vs. active labour market policies

Employment security covers two aspects: the continuity of the employment relationship – *i.e.* job security – and, in case of job loss, the possibility of finding another job rapidly – *i.e.* employability. EPL mainly reinforces the former by imposing layoff costs on employers. Active labour market policies (ALMP) facilitate transitions from unemployment to employment in several ways, including: job-placement services, labour market programmes such as job-search assistance, vocational training for the unemployed, hiring subsidies and job-creation schemes. In addition, since ALMP aim at helping those with weaker attachment to employment to find a job, they may play an important role in enhancing the employability aspect of employment security. Chart 2.9 shows that higher expenditure on ALMP tends to increase workers' perceptions of employment security.

At first glance, ALMP and EPL may therefore be seen as complementary policy tools. However, one could also argue that the job security provided by EPL can partly compensate for the lack of employability policies. Conversely, greater emphasis on ALMP could substitute for weaker job protection. In addition, since EPL tends to limit hiring while ALMP are designed to facilitate the transition from unemployment to work, EPL is likely to reduce the potential effectiveness of ALMP. Overall, no clear relationship between these two policy tools stands out.

Chart 2.9. **Active labour market policies raise perceptions of employment security**



***, **, * means statistically significant at 1%, 5% and 10% levels, respectively.

Note: Pearson correlation coefficient is 0.69*** for permanent contracts, 0.58** for temporary contracts.

a) Expenditure on active labour market policies divided by LFS unemployment.

b) Average answer, by country, to the following question from ISSP "Do you worry about the possibilities of losing your job?" – Scale from 1 (I worry a great deal) to 4 (I don't worry at all).

Source: Data on security index taken from the International Social Survey Programme 1997 (ISSP); OECD database on Labour Market Programmes; OECD database on Labour Force Statistics.

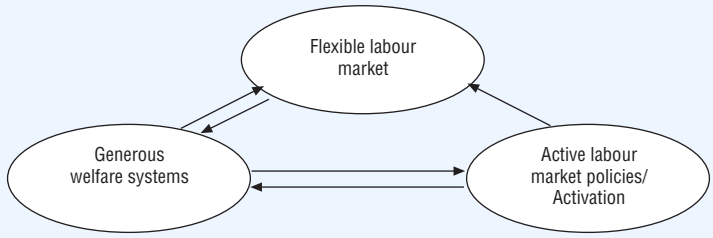
Once again, the coexistence of EPL and ALMP can be analysed along the lines of the arguments developed in the previous sections. As in the case of UI systems, ALMP may entail an implicit tax on low-turnover employers, since all firms contribute to ALMP funding while high-turnover employers create the need for them. The presence of EPL may introduce some degree of responsibility for employers, while its negative impact on hiring rates could be offset by ALMP. In this regard, Denmark is a good example of a country that has chosen to combine a high level of expenditure on ALMP, particularly on activation policies for the unemployed,[27] with a *moderately strict* EPL, the so-called "Flexicurity" approach (see Box 2.6).

Partly due to the relatively liberal regime of EPL found in Denmark, the mobility of workers between jobs and the rates of both job creation and job destruction are relatively high: a recent study found that, on average, the level of worker turnover is about 30% (Bingley *et al.*, 1999).[28] The same study shows that jobs created in new or growing firms (job creation) and jobs destroyed by shrinking or closing firms (job destruction) sum to around 12% of total employment. Finally, Denmark is at the low end of the international scale in terms of average job tenure, along with countries such as the United Kingdom and the United States (OECD, 2001, Chapter 3). One might expect to see such a high level of job mobility and low level of employment protection reflected in a widespread perception of insecurity among Danish employees. In fact, this is not the case, and the measure of security presented in this chapter puts security in Denmark at a considerably higher level than for other countries for which data are available. There are, therefore, no clear indications that Danish workers are reacting to the high level of flexibility with a strong feeling of insecurity.

Box 2.6. **The Danish *flexicurity* approach**

Denmark provides an interesting combination of high labour market dynamism and relatively high social protection – the so-called *flexicurity* approach. Underlying the success of the Danish model is the combination of *flexibility* (a high degree of job mobility thanks to low EPL), *social security* (a generous system of unemployment benefits) and *active labour market programmes*. The Danish model of *flexicurity* thus points to a third way between the flexibility often attributed to deregulated Anglo-Saxon countries and strict job protection characterising southern European countries. The chart presented below describes the Danish model in the form of the so-called golden triangle. The arrows indicate flows of persons between different positions within work, welfare and active labour market programmes (adapted from Arbejdsministeriet, 1999, Figure 1.6). Thus, the two arrows linking the flexible labour market and the generous welfare system indicate that large numbers of workers are affected by unemployment every year, but that most of them return to employment after a short spell of unemployment. Those who do not quickly go back to employment are assisted by active labour market programmes, before re-entering employment.

The "Golden Triangle" of flexicurity



The vast majority of unemployed persons who are members of a UI fund receive UI calculated at the rate of 90% of their previous income from the first day of unemployment and for a maximum of four years, including periods of activation. For low-income groups, this and other income-related benefits, combined with the effects of the rather high level of income tax, result in high net income replacement rates (OECD, 2002b). For an average worker, for example, the net replacement rate varies between 63% and 78%, depending on the family situation. For low-income groups, the net replacement rate is higher, varying between 89% for a single individual to 96% for a lone parent with two children. The potential disincentives deriving from these high income replacement rates are addressed by requiring the unemployed to be actively seeking jobs and by offering mandatory full-time activation programmes. Activation is therefore seen as fulfilling both a qualification and a motivational purpose.

The 1994 labour market reform introduced the obligation to participate in activation programmes after 12 months of unemployment for adults and six months of unemployment for young unemployed persons under the age of 25. After the passive period during which the unemployed only receives UI, the activation period still lasts for three years and may include: private job training, public job training, training in job search and targeted education with support from employment services. If full-time activation during this period does not result in the unemployed person obtaining an ordinary job, she/he loses entitlement to receive unemployment benefit, but may still be eligible for means-tested social assistance. The reform "More people into employment" that came into force in 2003 ended the distinction between

Box 2.6. **The Danish *flexicurity* approach** *(cont.)*

passive and active periods. Unemployment benefits are still available for 4 years, but activation can start from the first day of unemployment. The focus is on job-seeking and placement activities instead of general activation measures, with faster and more direct paths towards employment trough individual action plans and strengthened contacts with the public employment service (see also European Commission, 2003b; OECD, 2003c).

Overall, the Danish model of "flexicurity" has proved to be rather effective in guaranteeing sufficient dynamism in the labour market, while keeping unemployment low and facilitating transitions to employment. It is worth noting that this model rests on more than just the combination of moderately-low EPL with strong emphasis on ALMP: in addition, generous unemployment benefits play a key role in ensuring adequate income security and low unemployment cost for job losers, matched by activation in order to ensure that the unemployed are looking for work actively. However, as Madsen (2002) points out, the Danish "flexicurity" system is the result of a long series of reforms, started in 1994, and has required considerable fine-tuning to reach its present successful format. Initially, the full-time activation period, including training and re-qualification, only started after 4 years of passive measures during which the unemployed person simply received benefits. Since then, the Danish system has undergone a series of further reforms involving manly the shortening of the passive period and the introduction of special provisions for young unskilled unemployed persons. Furthermore, the system in its present format is costly: government expenditure on labour market programmes (on both active and passive measures) totals 5% of Danish GDP.

Conclusions

Based on the findings of this chapter, several observations are in order with respect to the OECD Jobs Strategy recommendations on EPL. The Jobs Strategy advocated reforms in two directions, namely a review of the regulations on permanent or regular contracts, together with wider possibilities to use temporary contracts. Several OECD countries have tended to act on the latter, *i.e.* they have eased the use of temporary forms of employment, while leaving existing regulations on permanent contracts practically unaltered. This chapter has stressed that such partial reforms may aggravate labour market dualities. While a temporary job may be a first step towards a more permanent and stable job, this is not always the case. Certain workers are trapped in situations where they move between temporary work and unemployment, with little chances of getting a permanent job (see also OECD, 2002a, Chapter 3). Moreover, workers on temporary jobs have limited opportunities to upgrade their human capital and build a career. Thus, easing the use of temporary contracts is difficult to reconcile with another recommendation of the Jobs Strategy, namely "improve the incentives for enterprises and workers to invest in continued learning". This is important since, as Chapter 5 of this publication shows, adult training increases the probability of being active and reduces the risk of unemployment.

As to the reform of regulations on permanent contracts *per se*, the findings from this chapter suggest a need for a balanced approach. The Jobs Strategy already suggested that any measures in this area should take into account the financial repercussions on the unemployment insurance system. This is why it was recommended that "employers pay some of the cost of lay-offs through: a requirement that they pay the first months of [unemployment

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insurance] benefit; enforcement of severance pay requirements; or experience-rating of insurance contributions". EPL should thus give firms the right incentives to internalise the *social* cost of their dismissal decisions, and needs to be reconciled with the basic recommendation of less strict EPL. More generally, this chapter highlights the need for ensuring greater coherence between several different policy guidelines of the Jobs Strategy in so far as EPL is concerned.

Indeed, there are several dimensions to the concept of labour market security: stability in employment, the opportunity to find a new job quickly after a spell of unemployment or inactivity, and finally income security for those who participate in the labour market. EPL seems to contribute to the first of these dimensions, namely the stability of employment relationships. Indeed, it tends to reduce the risk of job loss. The flip side is that job protection also has an adverse effect on exit rates from unemployment, thus prolonging the average unemployment spell. As such, it contributes to a certain form of labour market insecurity. Moreover, implementing severance payment schemes is only a very partial solution to the problem of affording a minimum income for the unemployed. EPL has to be considered relative to the generosity of UI benefits and the degree of monitoring of active job search by the unemployed.

Insuring workers against labour market risk should thus rely on more than one instrument, which makes it difficult to analyse the specific role of EPL, taken in isolation. EPL should be considered as one possible component of a comprehensive strategy, which would also include well-designed unemployment insurance benefits and effective activation policies. This chapter suggests that a number of considerations should be taken into account concerning this issue. It argues that a combination of some employment protection provisions, aimed at avoiding those dismissals that would be socially ineffective, with ALMPs and effective re-employment services aimed at enhancing hiring prospects, could contribute to a better functioning of the labour market. Some countries appear to have successfully reduced unemployment rates and maintained high employment to population ratios through the combined use of these instruments. Others seem to have equally enhanced labour market performance by reducing both EPL and unemployment benefits, with little recourse to ALMP. As part of the Jobs Strategy reassessment, further work will be carried out to shed light on the interactions between these policy planks, and how different combinations of policy might achieve similar employment outcomes.

Notes

1. The limitations of the OECD indicator are inherent to most synthetic indices and have been largely highlighted in the literature (Addison and Teixeira, 2003): the fact that its construction obviously suffers from problems of subjectivity, the difficulty of attributing scores on the basis of legal provisions that may be applied differently in practice, and the choice of the weighting scheme used to calculate the summary indicator from the various sub-components.
2. Each of these three components reflects itself several aspects of the regulation in force, which are described in Annex 2.A1 together with methods for scoring and aggregation. In addition, full descriptions of country regulations for each item can be found at: *www.oecd.org/els/employmentoutlook*.
3. There is, however, a wide cross-country variation in the proportion of lay-offs brought before the competent body each year. This is partly due to a lack of comparability of the data in question since countries may report either the total number of cases brought before courts, or the number of cases heard by courts, or the number of cases resolved by courts.

4. While the EPL index for temporary contracts varies between 0.3 and 5.0 across countries, the range for the EPL index for regular contracts is much narrower, 1.0 to 3.5 (Chart 2.1, Panel B, when excluding outliers, namely, Portugal and the United States).

5. While this chapter has focused mainly on updating the OECD indicator of EPL strictness in order to add a new wave of data for 2003, the 1999 index presented here does not correspond exactly to the one published by OECD at the end of the 1990s (OECD, 1999, Chapter 2). In fact, amendments have been made where new or more precise information had become available to help assess the extent of EPL strictness. The detailed description of the most significant changes can be found in Annex 2.A2.

6. This is particularly clear when looking at Chart 2.2, Panel A: apart from some English-speaking countries and Switzerland, all countries are clearly below the 45° line (France being the outlier).

7. Indeed, the correlation between overall EPL strictness in the late 1980s and in 2003 is high and significant (Pearson correlation coefficient stands at 0.91 and is statistically significant at 1% level).

8. The effect of employment protection on the hiring decisions of firms could be undone by wage adjustments (Layard *et al*., 1991). If workers value employment protection provisions, and market imperfections guarantee that these opportunities for arbitrage have not yet been exhausted, wages would adjust accordingly and the effect of employment protection would disappear (as the workers supply curve would shift down at the same time as the labour demand curve).

9. Some studies have been carried out that look at the effect of strict EPL using data on job creation (employment increases in expanding firms) and destruction (employment decreases in contracting firms). Using this type of data, OECD (1999, Chapter 2) and Nickell and Nunziata (2000) find no evidence of a strong effect on job turnover (the sum of job creation and destruction).

10. Flows into and out of unemployment measure something different from job destruction and job creation. Inflows may include individuals coming from outside the labour force, and outflows may also capture discouragement effects with individuals leaving unemployment for inactivity. This means that the estimated effect of EPL on flows out of unemployment is likely to be lower than the impact of EPL on hiring decisions as EPL will reduce the number of new hires but presumably increase the number of discouraged individuals who leave the labour force.

11. The interaction of these series with flows in and out of inactivity makes it difficult to study inflows and outflows by demographic and skill groups, especially for youths, married women with children and older workers.

12. Chapter 1 of the 2003 edition of the OECD *Employment Outlook* (OECD, 2003a) includes a discussion of how these factors are likely to affect equilibrium unemployment. The data on wage-bargaining coverage and corporatism are presented in Chapter 3 of this *Employment Outlook*.

13. However, if firms can pay lower wages for temporary workers, this may partly offset high increases for core workers' wages as the incidence of temporary employment grows.

14. The reason most commonly invoked is that privately-efficient contracts involve the payment of firing costs which are borne by firms only, and are only partly compensated for (from the *firm's* viewpoint) by the increased productivity resulting from the extra investment in specific human capital. Implementation of a privately-efficient contract therefore involves *ex ante* transfers from the worker to the firm (in order to compensate the latter for the *ex post* firing cost), which is arguably unrealistic, particularly if workers have an imperfect access to credit markets.

15. For example, while Blanchard and Wolfers use TFP growth as an explanatory variable, Nickell *et al*. (2001, 2003) use the *change* in total factor productivity growth as they concentrate on shocks that cause unemployment to deviate only temporarily from its equilibrium rate.

16. See Baker *et al*. (2003, 2004) for critiques of the EPL effects reported in the Blanchard and Wolfers, and Nickell *et al*. papers.

17. Another explanation has also been put forward that suggests that EPL may be endogenous to employment rates of low-skilled workers. Boeri *et al*. (2003) show that a high proportion of low-skilled in employment is likely to bias political decisions towards provision of employment security via high levels of EPL. This result follows from the strong assumption that low-skilled workers tend to give more weight to the effect of EPL on their firing probabilities than to the reduction in hiring that EPL may entail, and therefore are more favourable to stringent EPL. The authors find some support for their hypothesis in the distribution of EPL and the share of low-skilled workers in European countries.

18. Of course, other factors besides EPL may be responsible for the rise in the incidence of temporary employment. For example, there is some evidence that temporary jobs have grown in response to protracted recessions which may have increased employers' demand for flexible labour (Holmlund

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and Storrie, 2002). On the other hand, the high share of agricultural employment in some OECD countries – notably Greece, Mexico, and Turkey – could explain part of the cross-country differences in the use of temporary contracts.

19. However, it remains important to account for the fact that easing the use of temporary contracts may have different implications for the incidence of temporary forms of employment depending on the strictness of the regulation applicable to permanent contracts.

20. This measure is defined as the ratio (EPLR-EPLT)/EPLT, where EPLR and EPLT represent the strictness of the regulation for regular and temporary contracts, respectively.

21. Conversely, a tightening of the regulation of regular contracts will increase both this ratio and the incentive to hire on temporary contracts – the effects being larger in cases where temporary contracts are less regulated.

22. It is worth noting that in some countries, reforms of severance pay legislation fit, to some extent, this vision of employment protection. Indeed, the latter may underlie, at least in part, the idea of transforming severance pay into a system of individual unemployment savings accounts. Several Latin American countries have replaced their traditional system of severance payments with individual accounts. A recent study on the Colombian reform shows that it has shifted a significant part of the cost of severance pay contributions onto workers through lower wages (Kugler, 2002). Among OECD countries, only Austria has reformed its severance pay legislation along this line (see Box 2.2). Overall, these reforms correspond to a move from an allowance which is due at the time of dismissal to a regular payment made by the employer and/or the employee into an individual savings account. This tends to reduce job protection provisions, while still permitting income smoothing for the employee.

23. Assuming that employees have the possibility of beginning to search for a new job during their notice period, the latter reduces unemployment incidence. The time spent in unemployment will be shorter and employees will be paid, at least in part, during their job-search period.

24. While Boeri *et al.* (2003) have pointed out that, across continental European countries, the strictness of EPL tends to decrease with the generosity of the unemployment benefits system, such a relationship does not stand out for the OECD as a whole. Indeed, a number of other countries such as Australia, Canada, The United Kingdom and the United States, tend to combine liberal regimes of EPL with lower-than-average expenditure on unemployment benefits.

25. See Baily (1977) and Brechling (1977) for more evidence along these lines.

26. The extent to which ER may be circumvented by firms' use of temporary contracts is not a major issue in the United States – where the employment "at will" principle makes distinctions between temporary and permanent contracts almost irrelevant.

27. Activation measures account for 60 to 70% of all ALMP expenditure, depending on whether public employment services and administration costs are included or not.

28. This means that, in a given year, roughly 30% of all employees are not in the same establishment as the year before (new hires) and separations (quits and layoffs) are approximately at the same level.

ANNEX 2.A1

Calculation of Summary Indicators of EPL Strictness

For each country, employment protection legislation is described along 18 basic items, which can be classified in three main areas: *i)* employment protection of regular workers against individual dismissal; *ii)* specific requirements for collective dismissals; and *iii)* regulation of temporary forms of employment. Starting from these 18 basic pieces of information, a four-step procedure has been developed for constructing cardinal summary indicators of EPL strictness that allow meaningful comparisons to be made, both across countries and between different years (for a detailed description of this procedure, see OECD, 1999, Chapter 2, Annex 2.B).

The 18 first-digit inputs were initially expressed either in units of time (*e.g.* delays before notice can start, or months of notice and severance pay), as a number (*e.g.* maximum number of successive fixed-term contracts allowed), or as a score on an ordinal scale specific to each item (0 to 2, 3, 4 or simply yes/no). The first step of the procedure was therefore to score all of these first-level measures of EPL in comparable units. They were thus converted into cardinal scores that were normalized to range from 0 to 6, with higher scores representing stricter regulation (see Table 2.A1.1). The three remaining steps consisted in forming successive weighted averages, thus constructing three sets of summary indicators that correspond to successively more aggregated measures of EPL strictness (see Table 2.A1.2).

The last step of the procedure involved computing, for each country, an overall summary indicator based on the three subcomponents: strictness of regulation for regular contracts, temporary contracts and collective dismissals. The summary measure for collective dismissals was attributed just 40% of the weight assigned to regular and temporary contracts. The rational for this is that the collective dismissals indicator only reflects *additional* employment protection trigged by the collective nature of the dismissal. In most countries, these additional requirements are quite modest.

Moreover, summary measures for collective dismissals are only available since the late 1990s. An alternative overall index, so-called version 1, has been thus calculated as an unweighted average of the summary measures for regular and temporary contracts only. While more restrictive than the previous one (so-called version 2), this alternative measure of the overall EPL strictness allows comparisons over a longer period of time (from the late 1980s to 2003 compared with the late 1990s to 2003).

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Table 2.A1.1. **First step of the procedure: the 18 basis measures of EPL strictness**

Panel A. Individual dismissals of workers with regular contracts

Original unit and short description			Assignment of numerical strictness scores						
			Assigned scores						
			0	1	2	3	4	5	6
Item 1 Notification procedures	**Scale 0-3** 0 when an oral statement is enough; 1 when a written statement of the reasons for dismissal must be supplied to the employee; 2 when a third party (such as works council or the competent labour authority) must be notified; 3 when the employer cannot proceed to dismissal without authorisation from a third party.		Scale (0 – 3) × 2						
Item 2 Delay involved before notice can start	**Days** Estimated time includes, where relevant, the following assumptions: 6 days are counted in case of required warning procedure, 1 day when dismissal can be notified orally or the notice can be directly handed to the employee, 2 days when a letter needs to be sent by mail and 3 days when this must be a registered letter.		≤2	< 10	< 18	< 26	< 35	< 45	≥ 45
Item 3 Length of the notice period at	9 months tenure	**Months**	0	≤0.4	≤0.8	≤1.2	< 1.6	< 2	≥ 2
	4 years tenure	**Months**	0	≤0.75	≤1.25	< 2	< 2.5	< 3.5	≥ 3.5
	20 years tenure	**Months**	< 1	≤2.75	< 5	< 7	< 9	< 11	≥ 11
Item 4 Severance pay at	9 months tenure	**Months pay**	0	≤0.5	≤1	≤1.75	≤2.5	< 3	≥ 3
	4 years tenure	**Months pay**	0	≤0.5	≤1	≤2	≤3	< 4	≥ 4
	20 years tenure	**Months pay**	0	≤3	≤6	≤10	≤12	≤18	> 18
Item 5 Definition of justified or unfair dismissal	**Scale 0-3** 0 when worker capability or redundancy of the job are adequate and sufficient ground for dismissal; 1 when social considerations, age or job tenure must when possible influence the choice of which worker(s) to dismiss; 2 when a transfer and/or a retraining to adapt the worker to different work must be attempted prior to dismissal; 3 when worker capability cannot be a ground for dismissal.		Scale (0 – 3) × 2						
Item 6 Length of trial period	**Months** Period within which, regular contracts are not fully covered by employment protection provisions and unfair dismissal claims can usually not be made.		≥ 24	> 12	> 9	> 5	> 2.5	≥ 1.5	< 1.5
Item 7 Compensation following unfair dismissal	**Months pay**		≤3	≤8	≤12	≤18	≤24	≤30	> 30
Item 8 Possibility of reinstatement following unfair dismissal	**Scale 0-3** The extend of reinstatement is based upon whether, after finding of unfair dismissal, the employee has the option of reinstatement into his/her previous job, even if this is against the wishes of the employer.		Scale (0 – 3) × 2						

Table 2.A1.1. **First step of the procedure: the 18 basis measures of EPL strictness** *(cont.)*

Panel B. Temporary employment

Original unit and short description		Assignment of numerical strictness scores						
		Assigned scores						
		0	1	2	3	4	5	6
Item 9 Valid cases for use of fixed-term contracts (FTC)	**Scale 0-4** 0 fixed-term contracts are permitted only for "objective" or "material situation", *i.e.* to perform a task which itself is of fixed duration; 1 if specific exemptions apply to situations of employer need (*e.g.* launching a new activity) or employee need (*e.g.* workers in search of their first job); 2 when exemption exist on both the employer and employee sides; 3 when there are no restrictions on the use of fixed-term contracts.	6 – scale (0 – 3) × 2						
Item 10 Maximum number of successive FTC	**Number**	No limit	≥ 5	≥ 4	≥ 3	≥ 2	≥ 1.5	< 1.5
Item 11 Maximum cumulated duration of successive FTC	**Months**	No limit	≥ 36	≥ 30	≥ 24	≥ 18	≥ 12	< 12
Item 12 Types of work for which temporary work agency (TWA) employment is legal	**Scale 0-4** 0 when TWA employment is illegal; 1-3 1 to 3 depending upon the degree of restrictions; 4 when no restrictions apply.	6 – Scale (0 – 4) × 6/4						
Item 13 Restrictions on number of renewals	**Yes/no**	–	–	No	–	Yes	–	–
Item 14 Maximum cumulated duration of TWA contracts	**Months**	No limit	≥ 36	≥ 24	≥ 18	≥ 12	> 6	≤6

Table 2.A1.1. **First step of the procedure: the 18 basis measures of EPL strictness** *(cont.)*

Panel C. Collective dismissals

	Original unit and short description	Assignment of numerical strictness scores						
		Assigned scores						
		0	1	2	3	4	5	6
Item 15 Definition of collective dismissal	**Scale 0-4** 0 if there is no additional regulations for collective dismissals; 1 if specific regulations apply from 50 dismissals upward; 2 if specific regulations apply from 20 dismissals onward; 3 if specific regulations apply at 10 dismissals; 4 if specific regulations start to apply at below 10 dismissals;	Scale (0 0150 4) × 6/4						
Item 16 Additional notification requirements	**Scale 0-2** There can be notification requirements to *works councils* (or employee representatives), and to *government authorities* such as public employment offices. Countries are scored according to whether there are additional notification requirements on top of those requirements applying to individual redundancy dismissal. 0 no additional requirements; 1 when one more actor needs to be notified; 2 when two more actors need to be notified.	Scale (0 – 2) × 3						
Item 17 Additional delays involved before notice can start	**Days**	0	< 25	< 30	< 50	< 70	< 90	≥ 90
Item 18 Other special costs to employers	**Scale 0-2** This refers to whether there are additional *severance pay* requirements and whether *social compensation plans* (detailing measures of reemployment, retraining, outplacement, etc.) are obligatory or common practice 0 no additional requirements; 1 one additional requirement; 2 if both requirements apply.	Scale (0 – 2) × 3						

– Not applicable.

Table 2.A1.2. **EPL summary indicators at four successive levels of aggregation**

And weighting scheme

Level 4 Scale 0-6	**Level 3** Scale 0-6	**Level 2** Scale 0-6	**Level 1** Scale 0-6		
Overall summary indicator	Regular contracts (version 2: **5/12**) (version 1: 1/2)	Procedural inconveniences **(1/3)**	1. Notification procedures		(1/2)
			2. Delay to start a notice		(1/2)
		Notice and severance pay for no-fault individual dismissals **(1/3)**	3. Notice period after	9 months	(1/7)
				4 years	(1/7)
				20 years	(1/7)
			4. Severance pay after	9 months	(4/21)
				4 years	(4/21)
				20 years	(4/21)
		Difficulty of dismissal **(1/3)**	5. Definition of unfair dismissal		(1/4)
			6. Trial period		(1/4)
			7. Compensation		(1/4)
			8. Reinstatement		(1/4)
	Temporary contracts (version 2: 5/12) (version 1: 1/2)	Fixed term contracts **(1/2)**	9. Valid cases for use of fixed-term contracts		(1/2)
			10. Maximum number of successive contracts		(1/4)
			11. Maximum cumulated duration		(1/4)
		Temporary work agency employment **(1/2)**	12. Types of work for which is legal		(1/2)
			13. Restrictions on number of renewals		(1/4)
			14. Maximum cumulated duration		(1/4)
	Collective dismissals (version 2: **2/12**) (version 1: 0)		15. Definition of collective dismissal		(1/4)
			16. Additional notification requirements		(1/4)
			17. Additional delays involved		(1/4)
			18. Other special costs to employers		(1/4)

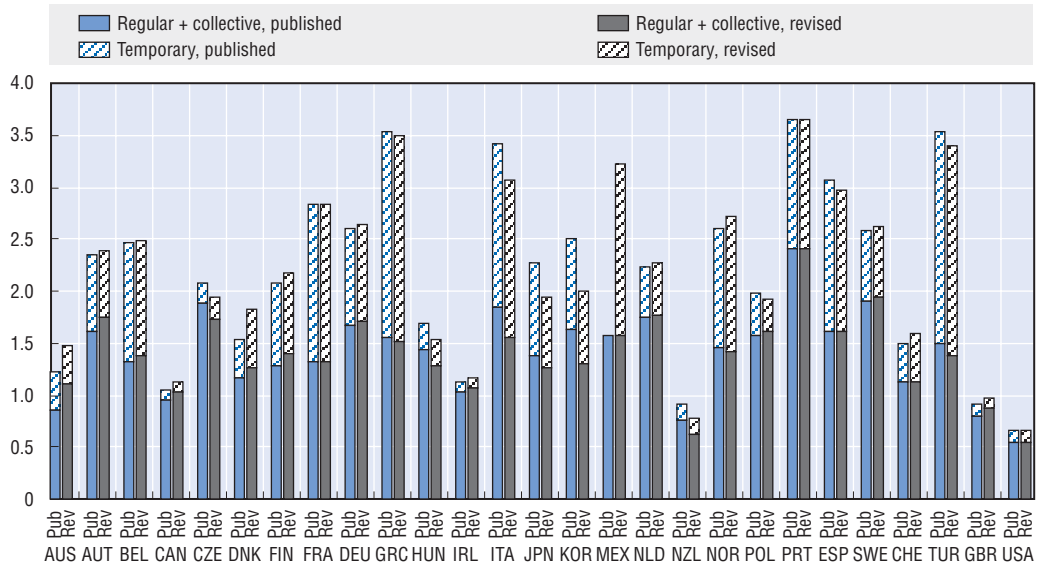
ANNEX 2.A2

Employment Protection Legislation Indices

Updated EPL indicators and amendments made, for some countries, to past values (late 1980s and late 1990s)

The following tables and Chart 2.A2.1 contain the values and scores used to calculate the updated indicators of EPL (2003); they document the amendments made, for some countries, to past values of EPL indicators (late 1980s and late 1990s), with respective explanations; they present the reform dates used to construct the EPL time series used in Section 2 of the chapter. Detailed descriptions of country practices relating to the employment protection items presented in Table 2.A2.1 to Table 2.A2.5 can be found at *www.oecd.org/els/employmentoutlook*.

Chart 2.A2.1. **EPL levels for the end of 1990s (version 2), published and revised**



Source: OECD.

Detailed description of significant amendments to the 1999 EPL index:*

- **Australia:** Notification procedures and delay before notice can start were reviewed. In fact, since the Workplace Relations Act (1996) employees can apply to the Australian Industrial Relations Commission (AIRC) for relief in respect to termination of employment on the ground that the termination was harsh, unjust or unreasonable. The Act also set out factors that the AIRC must have regard to when determining whether a termination is unfair, notably whether the worker has been warned of his unsatisfactory behaviour, whether he was given time to respond, whether there was a valid reason for dismissal. This implicitly lengthened the time before notice period can start by introducing the need for discussion with the employee in cases of individual dismissals for fault. The new provisions also implicitly introduced the need to justify dismissals for redundancy and personal reasons.
- **Austria:** new information has become available that confirms that reinstatement is a right of the employee. If the competent court rules in favour of the employee, the dismissal is retroactively annulled and the employment relationship is resumed. Also, the question on the existence of restrictions for the renewal of TWA contracts was misunderstood and, in fact, no restrictions exist in Austria.
- **Czech Republic:** new information available – notably the English translation of the Czech Labour Code, as amended in 2000 – has been integrated in the EPL indices relating to individual and collective dismissals of regular workers.
- **Denmark:** the question on trial periods was misunderstood in 1999 and has been corrected accordingly. The maximum cumulated duration of fixed-term contracts has also been amended to account for the fact that court rulings suggest that 2-3 years temporary employment entail notification procedures (Danish Confederation of Trade Unions finding).
- **Hungary:** the number of days before notice can start has been amended in line with the values attributed to other countries following similar procedures (advance discussion – 6 days – then letter sent by mail or handed directly to employee – 1 day).
- **Italy:** Trattamento di Fine Rapporto is no longer treated as severance pay, which is now set to zero. The payment is due to every worker who leaves a firm (voluntary and involuntary) and, as a result, cannot be considered as a layoff cost for the employer. Compensation for unfair dismissal has been amended accordingly.
- **Japan:** new information has become available that confirms that reinstatement is a right of the employee. If the court finds that the employer abused of its right to terminate the employment relationship, the dismissal is declared null and void and the employee has the right to return to his job and collect lost wages. Additionally, the court treatment of fixed-term contracts renewal has become clearer and has been amended in line with suggestions from the Japanese authorities: after repeated renewals the employee becomes entitled to expect renewal of his contract and the employer must have just cause to refuse renewal.

* The smallest changes in Chart 2.A2.1 are not documented here. They do not reflect changes in views or law interpretation but rather result from an attempt to use uniform guidelines across the three waves of data in those components that have a more subjective nature.

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- **Korea:** new information has clarified that what was called "severance" pay is in fact a payment made to every worker who leaves the firm (voluntarily or involuntarily) and severance pay has therefore been set to zero. In addition, in order to account for relatively permissive judicial practices, delays before notice periods can start have been reduced from 60 days required by law to 40 days (in case of dismissal for managerial reasons) and the number of successive fixed-term contracts has been increased to "5 or more".
- **Netherlands:** The evolution of the Dutch dismissal system between the late 1980s and the late 1990s has been accounted for in the two sub-components measuring procedural inconveniencies and severance pay. As these cancel each other out, no change is visible in Chart 2.A2.1. Dutch dismissal law is governed by a "dual system" (see EIRO Observer, 5'03, 2003 and Annex Table 2.A2.1). On the one hand, an employer can dismiss a worker without severance payments, provided that the employer has received prior permission from a public administrative body – the Centre for Work and Income (CWI) – to do so. On the other hand, since the 1970s, an employer can request a sub-district court to dissolve an employment contract under the provisions of the Civil Code (referring to "compelling grounds" or "changed circumstances"). The court checks the request's validity and, if the contract is dissolved, the court usually imposes compensation to be paid by the employer. Use of the court method increased greatly in the 1990s and, in 2002, about 50% of the requests for dissolution were submitted to the courts, while this proportion was less than 10% in the late 1980s. Hence, employers seem to have naturally shifted towards a more expensive procedure, at least in terms of severance payments. Accounting for this in the EPL index requires some adjustment: the more frequent use of courts is recognized in calculations of average severance pay (with a 50% weight). With regard to procedural inconveniences, dismissal procedures via Court are simpler and shorter (no notice period) than termination procedures via PES, and this is reflected in procedural inconveniences (with a 50% weight).
- **Mexico:** new information has become available that allowed the construction of the component relating to Temporary Work Agencies and the calculation of a summary indicator of EPL for temporary work and EPL overall.

Finally, in all cases, the values of EPL indices in the late 1980s have been adjusted to the amendments made to the indicators in the late 1990s.

Table 2.A2.1. **Indicators of the strictness of employment protection for regular employment**

Panel A. Values of the indicators

	Regular procedural inconveniences						Difficulty of dismissal											
	Procedures			Delay to start of notice			Definition of unfair dismissal			Trial period before eligibility arises			Unfair dismissal compensation at 20 years of tenure			Extent of reinstatement		
	Scale 0 to 3			Days			Scale 0 to 3			Months						Scale 0 to 3		
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003
Australia	0.5	1	1	1	4	4	0	0	0	. .	3	3	. .	6	6	1.5	1.5	1.5
Austria	2	2	2	9	9	9	1	1	1	1	1	1	15	15	6	3	3	3
Belgium	0.5	0.5	0.5	7	7	7	0	0	0	3.3	3.3	3.3	12.5	13	14	0	0	0
Canada	1	1	1	1	1	1	0	0	0	3	3	3	. .	. .	. .	1	1	1
Czech Republic	. .	2	2	. .	19	19	. .	2	2	. .	3	3	. .	8	8	. .	3	3
Denmark	1	1	1	1	1	1	0	0	0	10.5	10.5	10.5	9	9	9	1	1	1
Finland	1.75	1.75	1.75	56	11	11	0	2	2	4	4	4	14	14	14	0	0	0
France	1.5	1.5	1.5	14	14	14	2	2	2	1.5	1.5	1.5	15	15	16	0	0	0
Germany	2.5	2.5	2.5	15	15	15	2	2	2	6	6	6	18	18	18	1.5	1.5	1.5
Greece	2	2	2	1	1	1	0.5	0.5	0.5	2	3	2	12	12	12	2	2	2
Hungary	. .	1	1	. .	7	7	. .	0	0	. .	3	3	. .	10	10	. .	2	2
Ireland	1.5	1.5	1.5	4.5	4.5	4.5	0	0	0	12	12	12	24	24	24	1	1	1
Italy	1.5	1.5	1.5	1	1	1	0	0	0	0.8	0.8	0.8	15	15	15	2	2	2
Japan	1.5	1.5	1.5	3	3	3	1	1	1	. .	3	3	10	10	9	3	3	3
Korea	. .	1.75	1.75	. .	20	20	. .	1	1	. .	. .	. .	. .	6	6	. .	3	3
Mexico	. .	1	1	. .	1	1	. .	3	3	. .	. .	. .	. .	16	16	. .	1	1
Netherlands	3	2	2	38	31	31	1.5	1.5	1.5	2	2	2	6	18	18	1	1	1
New Zealand	0.8	0.8	1.5	7	7	7	. .	0	0	. .	2	0	. .	. .	. .	. .	1	1
Norway	1	1	1	17	17	17	2.5	2.5	2.5	3	3	3	12	12	12	2	2	2
Poland	. .	2	2	. .	13	13	. .	0	0	. .	1.8	1.8	. .	3	3	. .	2	2
Portugal	2.5	2	2	21	21	20	3	2	2	1	2	3	20	20	20	3	2.5	2
Slovak Republic	. .	2	2	. .	50	50	. .	0	0	. .	1	3	. .	7	10	. .	3	2.5
Spain	2.25	2	2	40	1	1	2	2	2	1.7	2.5	2.5	35	22	22	0	0	0
Sweden	2	2	2	14	14	14	2	2	2	3	3	3	32	32	32	1	1	1
Switzerland	0.5	0.5	0.5	1	1	1	0	0	0	2	2	2	6	6	6	0	0	0
Turkey	2	2	2	1	1	1	. .	0	0	. .	2	3	. .	26	26	. .	0	0
United Kingdom	1	1	1	2	2	2	0	0	0	24	24	12	8	8	8	1	1	1
United States	0	0	0	1	1	1	0	0	0	. .	. .	. .	. .	. .	. .	0.5	0.5	0.5

Table 2.A2.1. **Indicators of the strictness of employment protection for regular employment** *(cont.)*

Panel A. Values of the indicators

	Notice and severance pay for no-fault individual dismissals by tenure categories																	
	Notice period after									Severance pay after								
	9 months			4 years			20 years			9 months			4 years			20 years		
	Months																	
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003
Australia	0.2	0.2	0.2	0.7	0.7	0.7	1.2	1.2	1.2	0	0	0	1	1	1	1	1	1
Austria	1	1	1	1.2	1.2	1.2	2.5	2.5	2.5	0	0	0	2	2	0	9	9	0
Belgium	2	2	2.1	2.7	2.7	2.8	10	10	11	0	0	0	0	0	0	0	0	0
Canada	0.24	0.24	0.24	0.8	0.8	0.8	1.9	1.9	1.9	0	0	0	0.42	0.42	0.42	2.1	2.1	2.1
Czech Republic	. .	2.5	2.5	. .	2.5	2.5	. .	2.5	2.5	. .	1	1	. .	1	1	. .	1	1
Denmark	1.6	1.8	1.8	2.8	3	3	5	4.25	4.25	0	0	0	0	0	0	1.5	1.5	1.5
Finland	2	1	0.5	2	2	1	6	6	6	0	0	0	0	0	0	0	0	0
France	1	1	1	2	2	2	2	2	2	0	0	0	0.4	0.4	0.6	2.7	2.7	4
Germany	1	1	1	1	1	1	4.5	7	7	0	0	0	0	0	0	0	0	0
Greece	0.6	0.5	0.5	1.7	1.5	1.5	9	8	8	0.3	0.3	0.3	0.9	1	1	4.6	5.75	5.9
Hungary	. .	1	1	. .	1.2	1.2	. .	3	3	. .	0	0	. .	1	1	. .	5	5
Ireland	0.2	0.3	0.3	0.5	0.5	0.5	2	2	2	0	0	0	0.18	0.18	0.42	0.74	0.74	1.89
Italy	0.3	0.3	0.3	1.1	1.1	1.1	2.2	2.2	2.2	0	0	0	0	0	0	0	0	0
Japan	1	1	1	1	1	1	1	1	1	0	0	0.4	1.5	1.5	1.4	4	4	2.9
Korea	. .	1	1	. .	1	1	. .	1	1	. .	0	0	. .	0	0	. .	0	0
Mexico	. .	0	0	. .	0	0	. .	0	0	. .	3	3	. .	3	3	. .	3	3
Netherlands	0.6	0.5	0.5	1	0.5	0.5	5.3	1.5	1.5	0	0	0	0	3	3	0	9	9
New Zealand	. .	0.5	0.7	. .	0.5	0.7	. .	0.5	0.7	. .	0	0	. .	0	0	. .	0	0
Norway	1	1	1	1	1	1	3	3	3	0	0	0	0	0	0	0	0	0
Poland	. .	1	1	. .	3	3	. .	3	3	. .	0	0	. .	0	0	. .	0	0
Portugal	2	2	2	2	2	2	2	2	2	3	3	3	4	4	4	20	20	20
Slovak Republic	. .	2.5	2	. .	2.5	2	. .	2.5	3	. .	1	1	. .	1	1	. .	1	1
Spain	1	1	1	3	1	1	3	1	1	0.5	0.5	0.5	2.6	2.6	2.6	12	12	12
Sweden	1	1	1	4	3	3	6	6	6	0	0	0	0	0	0	0	0	0
Switzerland	1	1	1	2	2	2	3	3	3	0	0	0	0	0	0	2.5	2.5	2.5
Turkey	. .	1	1	. .	2	2	. .	2	2	. .	0	0	. .	4	4	. .	20	20
United Kingdom	0.24	0.24	0.24	0.9	0.9	0.9	2.8	2.8	2.8	0	0	0	0.5	0.5	0.5	2.4	2.4	2.4
United States	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2.A2.1. **Indicators of the strictness of employment protection for regular employment** *(cont.)*

Panel B. Summary scores by main area

	Regular procedural inconveniences			Notice and severance pay for no-fault individual dismissals			Difficulty of dismissal			Overall strictness of protection against dismissals		
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003
Australia	0.5	1.5	1.5	1.0	1.0	1.0	1.5	2.0	2.0	1.0	1.5	1.5
Austria	2.5	2.5	2.5	2.0	2.0	0.9	4.3	4.3	3.8	2.9	2.9	2.4
Belgium	1.0	1.0	1.0	2.3	2.3	2.4	1.8	1.8	1.8	1.7	1.7	1.7
Canada	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.3	1.3	1.3
Czech Republic	. .	3.5	3.5	. .	2.7	2.7	. .	3.8	3.8	. .	3.3	3.3
Denmark	1.0	1.0	1.0	2.0	1.9	1.9	1.5	1.5	1.5	1.5	1.5	1.5
Finland	4.8	2.8	2.8	1.9	1.4	1.0	1.8	2.8	2.8	2.8	2.3	2.2
France	2.5	2.5	2.5	1.5	1.5	1.9	3.0	3.0	3.0	2.3	2.3	2.5
Germany	3.5	3.5	3.5	1.0	1.3	1.3	3.3	3.3	3.3	2.6	2.7	2.7
Greece	2.0	2.0	2.0	2.4	2.2	2.2	3.0	2.8	3.0	2.5	2.3	2.4
Hungary	. .	1.5	1.5	. .	1.8	1.8	. .	2.5	2.5	. .	1.9	1.9
Ireland	2.0	2.0	2.0	0.8	0.8	0.8	2.0	2.0	2.0	1.6	1.6	1.6
Italy	1.5	1.5	1.5	0.6	0.6	0.6	3.3	3.3	3.3	1.8	1.8	1.8
Japan	2.0	2.0	2.0	1.8	1.8	1.8	3.3	3.5	3.5	2.4	2.4	2.4
Korea	. .	3.3	3.3	. .	0.9	0.9	. .	3.0	3.0	. .	2.4	2.4
Mexico	. .	1.0	1.0	. .	2.1	2.1	. .	3.7	3.7	. .	2.3	2.3
Netherlands	5.5	4.0	4.0	1.0	1.9	1.9	2.8	3.3	3.3	3.1	3.1	3.1
New Zealand	1.3	1.3	2.0	. .	0.4	0.4	. .	2.3	2.7	. .	1.4	1.7
Norway	2.0	2.0	2.0	1.0	1.0	1.0	3.8	3.8	3.8	2.3	2.3	2.3
Poland	. .	3.0	3.0	. .	1.4	1.4	. .	2.3	2.3	. .	2.2	2.2
Portugal	4.0	3.5	3.5	5.0	5.0	5.0	5.5	4.5	4.0	4.8	4.3	4.2
Slovak Republic	. .	5.0	5.0	. .	2.7	2.7	. .	3.3	2.8	. .	3.6	3.5
Spain	4.8	2.0	2.0	3.1	2.6	2.6	3.8	3.3	3.3	3.9	2.6	2.6
Sweden	3.0	3.0	3.0	1.7	1.6	1.6	4.0	4.0	4.0	2.9	2.9	2.9
Switzerland	0.5	0.5	0.5	1.5	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.2
Turkey	2.0	2.0	2.0	. .	3.4	3.4	. .	2.5	2.3	. .	2.6	2.6
United Kingdom	1.0	1.0	1.0	1.1	1.1	1.1	0.8	0.8	1.3	0.9	0.9	1.1
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.2	0.2	0.2

. . Data not available.

Source: Late 1980s and late 1990s: See *OECD Employment Outlook*, 1999, Chapter 2; 2003: See OECD (2004b) for a detailed description of employment protection regulation and Annex 2.A1 for scoring methodology.

Table 2.A2.2. **Regulation of temporary employment**

Panel A. Values of the indicators

	Fixed-term contracts								
	Valid cases other than the usual *objective reasons*			Maximum number of successive contracts			Maximum cumulated duration		
	Scale 0 to 3			Number			Months		
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003
Australia	3	3	3	1.5	1.5	1.5	No limit	No limit	No limit
Austria	2.5	2.5	2.5	1.5	1.5	1.5	No limit	No limit	No limit
Belgium	0	2.5	2.5	1	4	4	24	30	30
Canada	3	3	3	No limit	No limit	No limit	No limit	No limit	No limit
Czech Republic	. .	2.5	2.5	. .	No limit	No limit	. .	No limit	No limit
Denmark	2.5	2.5	2.5	1.5	1.5	1.5	30	30	30
Finland	1	1	1	1.5	1.5	1.5	No limit	No limit	No limit
France	1	1	1	3	2	2	24	18	18
Germany	2	2.5	2.5	1	4	4	18	24	24
Greece	0	0	0	2.5	2.5	3	No limit	No limit	24
Hungary	. .	2.5	2.5	. .	No limit	2.5	. .	60	60
Ireland	3	3	2.5	No limit	No limit	No limit	No limit	No limit	48
Italy	0.5	1	2	1.5	2	1	9	18	No limit
Japan	2.5	2.5	2.5	No limit	No limit	No limit	No limit	No limit	No limit
Korea	. .	2.5	2.5	. .	5	5	. .	No limit	No limit
Mexico	. .	0.5	0.5	. .	No limit	No limit	. .	No limit	No limit
Netherlands	3	3	3	1	3	3	No limit	No limit	No limit
New Zealand	. .	3	2	. .	5	4	. .	No limit	No limit
Norway	1	1	1	1.5	1.5	1.5	No limit	No limit	No limit
Poland	. .	3	3	. .	2	No limit	. .	No limit	No limit
Portugal	2	2	2	3	3	4	30	30	48
Slovak Republic	. .	2.5	3	. .	2	No limit	. .	44	60
Spain	2	2	1.5	6	3	3	24	24	24
Sweden	2	2.5	2.5	2	No limit	No limit	. .	12	12
Switzerland	3	3	3	1.5	1.5	1.5	No limit	No limit	No limit
Turkey	0	0	0	. .	1.5	1.5	. .	No limit	No limit
United Kingdom	3	3	3	No limit	No limit	No limit	No limit	No limit	48
United States	3	3	3	No limit	No limit	No limit	No limit	No limit	No limit

Table 2.A2.2. **Regulation of temporary employment** *(cont.)*

Panel A. Values of the indicators

	Temporary work agencies (TWAs)								
	Types of work for which TWA employment is legal			Restrictions on number of renewals			Maximum cumulated duration of temporary work contracts		
	Scale 0 to 4			Yes/no			Months		
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003
Australia	4	4	4	No	No	No	No limit	No limit	No limit
Austria	3	3	3	No	No	No	No limit	No limit	No limit
Belgium	2	2	2	Yes	Yes	Yes	2	9	11
Canada	4	4	4	No	No	No	No limit	No limit	No limit
Czech Republic	0	4	4	n.a.	No	No	0	No limit	No limit
Denmark	2	4	4	Yes	No	No	3	No limit	No limit
Finland	4	4	4	. .	No	No	. .	No limit	No limit
France	2.5	2	2	Yes	Yes	Yes	24	18	18
Germany	2	3	3	Yes	Yes	Yes	6	12	No limit
Greece	0	0	4	n.a.	n.a.	Yes	0	0	16
Hungary	0	4	4	n.a.	No	No	0	No limit	No limit
Ireland	4	4	4	No	No	No	No limit	No limit	No limit
Italy	0	1	3	n.a.	Yes	Yes	0	No limit	No limit
Japan	1.5	2	3	Yes	Yes	Yes	36	36	36
Korea	. .	2.5	2.5	. .	Yes	Yes	. .	24	24
Mexico	. .	0	0	. .	n.a.	n.a.	. .	6	6
Netherlands	3	3.5	3.5	Yes	Yes	Yes	6	42	36
New Zealand	. .	4	4	. .	No	Yes	. .	No limit	No limit
Norway	1.5	2	2	Yes	Yes	Yes	. .	24	No limit
Poland	0	4	2	n.a.	No	No	0	No limit	24
Portugal	1	2	2	Yes	Yes	Yes	9	9	9
Slovak Republic	. .	4	4	. .	No	No	. .	No limit	No limit
Spain	0	2	2	n.a.	Yes	Yes	0	6	6
Sweden	0	4	4	n.a.	No	No	0	12	12
Switzerland	4	4	4	Yes	Yes	Yes	No limit	No limit	No limit
Turkey	0	0	0	n.a.	n.a.	n.a.	0	0	0
United Kingdom	4	4	4	No	No	No	No limit	No limit	No limit
United States	4	4	4	No	No	No	No limit	No limit	No limit

Table 2.A2.2. **Regulation of temporary employment** *(cont.)*

Panel B. Summary scores by main area

	Fixed-term contracts			Temporary work agencies (TWAs)			Overall strictness of regulation		
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003
Australia	1.3	1.3	1.3	0.5	0.5	0.5	0.9	0.9	0.9
Austria	1.8	1.8	1.8	1.3	1.3	1.3	1.5	1.5	1.5
Belgium	5.3	1.5	1.5	4.0	3.8	3.8	4.6	2.6	2.6
Canada	0.0	0.0	0.0	0.5	0.5	0.5	0.3	0.3	0.3
Czech Republic	. .	0.5	0.5	5.5	0.5	0.5	. .	0.5	0.5
Denmark	2.3	2.3	2.3	4.0	0.5	0.5	3.1	1.4	1.4
Finland	3.3	3.3	3.3	0.5	0.5	0.5	1.9	1.9	1.9
France	3.5	4.0	4.0	2.6	3.3	3.3	3.1	3.6	3.6
Germany	3.5	1.8	1.8	4.0	2.8	1.8	3.8	2.3	1.8
Greece	4.0	4.0	4.5	5.5	5.5	2.0	4.8	4.8	3.3
Hungary	. .	0.8	1.8	5.5	0.5	0.5	. .	0.6	1.1
Ireland	0.0	0.0	0.8	0.5	0.5	0.5	0.3	0.3	0.6
Italy	5.3	4.0	2.5	5.5	3.3	1.8	5.4	3.6	2.1
Japan	0.5	0.5	0.5	3.1	2.8	2.0	1.8	1.6	1.3
Korea	. .	0.8	0.8	. .	2.6	2.6	. .	1.7	1.7
Mexico	. .	2.5	2.5	. .	5.5	5.5	. .	4.0	4.0
Netherlands	1.5	0.8	0.8	3.3	1.6	1.6	2.4	1.2	1.2
New Zealand	. .	0.3	1.5	. .	0.5	1.0	. .	0.4	1.3
Norway	3.3	3.3	3.3	3.8	3.0	2.5	3.5	3.1	2.9
Poland	. .	1.0	0.0	5.5	0.5	2.5	. .	0.8	1.3
Portugal	2.3	2.3	1.8	4.5	3.8	3.8	3.4	3.0	2.8
Slovak Republic	. .	1.8	0.3	. .	0.5	0.5	. .	1.1	0.4
Spain	2.0	2.5	3.0	5.5	4.0	4.0	3.8	3.3	3.5
Sweden	2.7	1.8	1.8	5.5	1.5	1.5	4.1	1.6	1.6
Switzerland	1.3	1.3	1.3	1.0	1.0	1.0	1.1	1.1	1.1
Turkey	. .	4.3	4.3	5.5	5.5	5.5	. .	4.9	4.9
United Kingdom	0.0	0.0	0.3	0.5	0.5	0.5	0.3	0.3	0.4
United States	0.0	0.0	0.0	0.5	0.5	0.5	0.3	0.3	0.3

. . Data not available.
n.a. Not applicable.

Source: Late 1980s and late 1990s: See *OECD Employment Outlook*, 1999, Chapter 2; 2003: See OECD (2004b) for a detailed description of employment protection regulation and Annex 2.A1 for scoring methodology.

Table 2.A2.3. **Regulation of collective dismissal**

Requirements over and above those applying to individual dismissals

	Definition of collective dismissal		Additional notification requirements		Additional delays involved (in days)		Other special costs to employers		Overall strictness of collective dismissals	
	Late 1990s	2003	Late 1990s	2003	Late 1990s	2003	Late 1990s	2003	Late 1990s	2003
Australia	3	3	2	2	5	5	0	0	2.9	2.9
Austria	4	4	1	1	21	21	1	1	3.3	3.3
Belgium	3	3	2	2	38	38	1	1	4.1	4.1
Canada	1	1	2	2	69	69	0	0	2.9	2.9
Czech Republic	3	3	1	1	8	8	0	0	2.1	2.1
Denmark	3	3	2	2	29	29	1	1	3.9	3.9
Finland	3	3	1	1	32	32	0	0	2.6	2.6
France	3	3	0	0	20	20	1	1	2.1	2.1
Germany	4	4	1	1	28	31	1	1	3.5	3.8
Greece	4	4	1	1	19	19	1	1	3.3	3.3
Hungary	3	3	2	2	23	23	0	0	2.9	2.9
Ireland	3	3	1	1	29	29	0	0	2.4	2.4
Italy	4	4	1.5	1.5	44	44	2	2	4.9	4.9
Japan	2	2	1	1	0	0	0	0	1.5	1.5
Korea	3	3	1	1	0	0	0	0	1.9	1.9
Mexico	4	4	2	2	0	0	1	1	3.8	3.8
Netherlands	2	2	1	1	30	30	1	1	3.0	3.0
New Zealand	0	0	0.5	0.5	0	0	0	0	0.4	0.4
Norway	3	3	2	2	13	13	0	0	2.9	2.9
Poland	3	3	1	1	32	32	2	2	4.1	4.1
Portugal	4	4	0.5	0.5	62	62	1	1	3.6	3.6
Slovak Republic	2	2	1	1	55	24	1	1	3.3	2.5
Spain	3	3	1	1	29	29	1	1	3.1	3.1
Sweden	4	4	2	2	113	113	0	0	4.5	4.5
Switzerland	3	3	2	2	29	29	1	1	3.9	3.9
Turkey	3	3	0	0	29	29	0	1	1.6	2.4
United Kingdom	2	2	1.5	1.5	57	57	0	0	2.9	2.9
United States	1	1	2	2	59	59	0	0	2.9	2.9

Source: Late 1980s and late 1990s: See *OECD Employment Outlook* (1999, Chapter 2); 2003: See OECD (2004b) for a detailed description of employment protection regulation and Annex 2.A1 for scoring methodology.

Table 2.A2.4. **Summary indicators of the strictness of employment protection legislation**

	Regular employment			Temporary employment			Collective dismissals		Overall EPL				
									Version 1			Version 2	
	Late 1980s	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1990s	2003	Late 1980s	Late 1990s	2003	Late 1990s	2003
Australia	1.0	1.5	1.5	0.9	0.9	0.9	2.9	2.9	0.9	1.2	1.2	1.5	1.5
Austria	2.9	2.9	2.4	1.5	1.5	1.5	3.3	3.3	2.2	2.2	1.9	2.4	2.2
Belgium	1.7	1.7	1.7	4.6	2.6	2.6	4.1	4.1	3.2	2.2	2.2	2.5	2.5
Canada	1.3	1.3	1.3	0.3	0.3	0.3	2.9	2.9	0.8	0.8	0.8	1.1	1.1
Czech Republic	. .	3.3	3.3	. .	0.5	0.5	2.1	2.1	. .	1.9	1.9	1.9	1.9
Denmark	1.5	1.5	1.5	3.1	1.4	1.4	3.9	3.9	2.3	1.4	1.4	1.8	1.8
Finland	2.8	2.3	2.2	1.9	1.9	1.9	2.6	2.6	2.3	2.1	2.0	2.2	2.1
France	2.3	2.3	2.5	3.1	3.6	3.6	2.1	2.1	2.7	3.0	3.0	2.8	2.9
Germany	2.6	2.7	2.7	3.8	2.3	1.8	3.5	3.8	3.2	2.5	2.2	2.6	2.5
Greece	2.5	2.3	2.4	4.8	4.8	3.3	3.3	3.3	3.6	3.5	2.8	3.5	2.9
Hungary	. .	1.9	1.9	. .	0.6	1.1	2.9	2.9	. .	1.3	1.5	1.5	1.7
Ireland	1.6	1.6	1.6	0.3	0.3	0.6	2.4	2.4	0.9	0.9	1.1	1.2	1.3
Italy	1.8	1.8	1.8	5.4	3.6	2.1	4.9	4.9	3.6	2.7	1.9	3.1	2.4
Japan	2.4	2.4	2.4	1.8	1.6	1.3	1.5	1.5	2.1	2.0	1.8	1.9	1.8
Korea	. .	2.4	2.4	. .	1.7	1.7	1.9	1.9	. .	2.0	2.0	2.0	2.0
Mexico	. .	2.3	2.3	. .	4.0	4.0	3.8	3.8	. .	3.1	3.1	3.2	3.2
Netherlands	3.1	3.1	3.1	2.4	1.2	1.2	3.0	3.0	2.7	2.1	2.1	2.3	2.3
New Zealand	. .	1.4	1.7	. .	0.4	1.3	0.4	0.4	. .	0.9	1.5	0.8	1.3
Norway	2.3	2.3	2.3	3.5	3.1	2.9	2.9	2.9	2.9	2.7	2.6	2.7	2.6
Poland	. .	2.2	2.2	. .	0.8	1.3	4.1	4.1	. .	1.5	1.7	1.9	2.1
Portugal	4.8	4.3	4.3	3.4	3.0	2.8	3.6	3.6	4.1	3.7	3.5	3.7	3.5
Slovak Republic	. .	3.6	3.5	. .	1.1	0.4	3.3	2.5	. .	2.4	1.9	2.5	2.0
Spain	3.9	2.6	2.6	3.8	3.3	3.5	3.1	3.1	3.8	2.9	3.1	3.0	3.1
Sweden	2.9	2.9	2.9	4.1	1.6	1.6	4.5	4.5	3.5	2.2	2.2	2.6	2.6
Switzerland	1.2	1.2	1.2	1.1	1.1	1.1	3.9	3.9	1.1	1.1	1.1	1.6	1.6
Turkey	. .	2.6	2.6	. .	4.9	4.9	1.6	2.4	. .	3.8	3.7	3.4	3.5
United Kingdom	0.9	0.9	1.1	0.3	0.3	0.4	2.9	2.9	0.6	0.6	0.7	1.0	1.1
United States	0.2	0.2	0.2	0.3	0.3	0.3	2.9	2.9	0.2	0.2	0.2	0.7	0.7

. . Data not available.

Source: Late 1980s and late 1990s: See *OECD Employment Outlook* (1999, Chapter 2); 2003: See OECD (2004b) for a detailed description of employment protection regulation and Annex 2.A1 for scoring methodology.

Table 2.A2.5. **Regulatory provisions are often complementary to each other**

Correlation coefficients

Protection of regular employment against individual dismissal			Regulation on temporary forms of employment	
	Notice and severance pay	Difficulty of dismissal		Temporary work agencies (TWA)
Notification procedure	0.37**	0.61***	Fixed-term contracts (FTC)	0.55***
Notice and severance pay[a]		0.40**		
				Max. duration allowed[c]
			Valid cases for use of FTC or TWA[b]	0.68***

***, **, * means statistically significant at 1%, 5% and 10% levels, respectively.

a) Average of the scores for the three lengths of service considered.

b) Average of the scores given to the description of valid cases for use of fixed-term contracts (item 9) and the type of work for which temporary work agency employment is legal (item 12).

c) Average of scores measuring the number and the duration of fixed-term contracts and temporary work agency employment (items 10, 12, 13, 14).

Source: See Annex Tables 2.A2.1and 2.A2.2.

A time series of EPL changes: construction details

The table below gives the years when new legislation was introduced in each country. At each of these break points the value of the EPL index is recalculated and applied thereafter until a new change intervenes to obtain the time-series used in this chapter.

Table 2.A2.6. **EPL time series: breaking points**[a, b]

Version 1 of the EPL indicator

		Reform description	EPL overall	EPL regular contracts	EPL temp. contracts
Australia	1996	Workplace Relations Act 1996 set out factors that Australian Industrial Relations Commission must have regard to when determining whether a termination is unfair	+	+	=
	2004	The scale for employers with 15 or more employers has also increased in March 2004 (the small business exemption to severance pay has been removed, now requiring employers with less than 15 employees to pay).	+	+	=
Austria	2003	Employees Income Provision Act eliminated severance paid and integrated into individual savings accounts accessible during unemployment spells	–	–	=
Belgium	1997	Restrictions on TWA were reduced and FTC were made renewable	–	=	–
	2000	Tightening of rule concerning notice period and compensation in case of unjustified dismissal for blue-collar workers	=	=	=
	2002	The maximum total duration of TWA was lengthened for contracts justified by temporary increase in work-load (Dec. 2001)	=	=	=
Canada		No changes			
Czech Republic		No changes			
Denmark	1995	Since the mid-1990s the role of TWA has been recognized by social partners and their scope increased	–	=	–
Finland	1991	The delay before notice can start was shortened from 2 months (as set in the Act on the Dismissal Procedure) to 1-2 weeks (as set in the Act of Employment Contracts)	–	–	=
	1996	Notice period was halved for workers with tenure less than 1 year	–	–	=
	2001	The new employment contract act came into force reducing notice periods further	–	–	=
France	1986	Prior administrative authorization for dismissals for economic reasons was abolished	–	–	=
	1990	The list limiting the circumstances in which the use of FTC and TWA is permissible is restored and the maximum total duration of FTC and TWA was reduced	+	=	+
	2001	Severance pay entitlements were increased	=	+	=
Germany	1985	FTC were allowed without specifying an objective reason			
	1993	Notice period for blue collar workers was extended and aligned with that of white-collar workers	=	+	=
	1994	TWA legislation was loosened	–	=	–
	1996	The renewal period for FTC and TWA and admissible frequency of renewals were increased	–	=	–
	2002	Maximum total duration of TWA was brought to 24 months	–	=	–
	2004	The limit on the maximum total duration of TWA was lifted. (from 1 Jan. 2004)	–	=	–
Greece	1990	Notice period or severance pay entitlements were reduced (law 1989 amending law 3198/55 of 1955)	–	–	=
	2003	National General Collective Labour Agreement (2002-2003) changes dismissal rules and raises slightly entitlements to severance pay	–	–	=
	2003	PD 81/2003 changes FTC and TWA	–	=	–
Hungary	2003	The amended labour code introduced stricter regulations on renewal of fixed term contracts	+	=	+
Ireland	2003	The Protection of Employees act tightened regulation on valid cases for FTC and limited their maximum overall duration to 4 years	+	=	+
	2003	The Redundancy Payments Bill (dismissal laws) raised severance pay entitlements	=	=	=
Italy	1987	Fixed term contracts use was widened through collective agreements specifying target groups and employment shares	=	=	=
	1997	Treu package on FTC widened the number of valid cases for the use of FTC	–	=	–
	1998	TWA were permitted	–	=	–
	2000	Reform of TWA 2000 extended the use of TWA and removed the restrictions concerning unskilled workers	–	=	–
	2001	Legislative Decree no. 368/2001 expanded valid cases for the use of FTC	–	=	–
	2003	Reform of TWA 2003 (Law no. 30/2003) extended further the use of TWA	–	=	–

Table 2.A2.6. **EPL time series: breaking points**[a, b] *(cont.)*

Version 1 of the EPL indicator

		Reform description	EPL overall	EPL regular contracts	EPL temp. contracts
Japan	1985	TWA were permitted for 13 occupations only			
	1996	The use of TWA was extended to 26 occupations	–	=	–
	1999	The use of TWA was extended to all occupations with some exclusions	–	=	–
Korea	1998	TWA were liberalized	–	=	–
	1998	Dismissals for managerial reasons are allowed (*i.e.* redundancy and economic restructuring). Whereas this new law may be used for dismissing a single person for urgent business needs, it was mainly introduced with collective dismissals in mind	–	–	=
Mexico		No changes			
Netherlands	1999	The flexibility and security law increased the maximum possible number of FCT and lengthened the maximum total duration of contracts with TWA	–	=	–
	2001	The EU directive on fixed-term work came into effect reducing the maximum total duration of TWA contracts	=	=	=
New Zealand	2000	Employment relations act tightened the legislation on individual and collective dismissals	+	+	=
	2000	Employment relations act also tightened the legislation on FTC and TWA	+	=	+
Norway	1995	TWA legislation was eased	–	=	–
	2000	TWA legislation was further eased	–	=	–
Poland	2002	The new labour code lifted some restrictions in the use of FTC (from 2 renewals permitted to unlimited – until accession)	–	=	–
	2003	A new law tightened regulations on temporary work agencies limiting the cases when TWA contracts are allowed and reducing their maximum total duration	+	=	+
Portugal	1989	Firing restrictions were eased (dismissals for individual redundancy were authorised)			
	1991	Firing restrictions were eased further (dismissals for unsuitability were authorised)	–	–	=
	1996	A strategic social plan between social partners was agreed to widen the use of FTC and TWA	–	=	–
	2004	New Labour Code came into force in December 2003	–	=	–
Slovak Republic	2003	A new Labour code was approved that relaxed regulations on dismissal of regular contract employees and collective dismissals	–	–	=
	2003	The new Labour code also increased valid cases for FTC, raised the number of possible renewals and the maximum overall duration of FTC	–	=	–
Spain	1984	Restrictions for FTC were substantially relaxed			
	1994	Procedural requirements for dismissals for economic reasons were relaxed, notice periods shortened	–	–	=
	1994	Rules governing renewals of FTC were tightened and temporary work agencies permitted	–	=	–
	1997	Maximum compensation for unfair dismissal was reduced and some changes were made to the definition of fair dismissal	–	–	=
	2001	Law 12/2001 tightened the rules governing valid cases for the use of FTC	+	=	+
Sweden	1993	TWA were permitted	–	=	–
	1997	FTC were made possible without objective reason	–	=	–
Switzerland		No changes			
Turkey		No changes			
Great Britain	1985	The period of service to claim unfair dismissal increased to 2 years			
	2000	Trial period was halved	+	+	=
	2002	Maximum total duration of FTC was reduced to 4 years (from unlimited)	=	=	+
United States		No changes			

a) Index starts in 1985 for all countries except Hungary, Korea, Mexico, New Zealand, Poland, Turkey (1990), and the Czech Republic and the Slovak Republic (1993).

b) The equal sign does not mean that the change has not been accounted for but indicates that the change in a sub-item was not large enough to be visible in the overall score (total, regular or temporary work EPL).

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ANNEX 2.A3

Data Description

Table 2.A3.1. **Variables description**

Variable name	Description	Source	Countries	Years
	Control variables			
Wage bargaining centralisation/ coordination	Degree of centralisation/ coordination in wage bargaining.	OECD (2004), *Employment Outlook*, Chapter 3.	OECD.	1970-2002 (constant after 2000).
Wage bargaining coverage	Degree of coverage of wage bargaining agreements.	OECD (2004), *Employment Outlook*, Chapter 3.	OECD except ISL, LUX.	1970-2002 (constant after 2000).
Tax wedge	Ratio between employers' and employees' contributions, plus personal income tax, and average gross earnings.	OECD (2004), *Taxing wages*.	OECD.	1985-2002 except (starting year): CZE (93), HUN (91), POL (90).
Active labour market policies	Expenditure on active labour market programmes per unemployed person ('000) (constant US$ PPP for GDP).	OECD database on Labour Market Programmes.	OECD less ISL, TUR.	1985-2002 except (starting year): CZE, HUN (92), ITA (98), JPN (87), KOR, MEX (90), POL (93), PRT (86), SVK (94).
Unemployment benefits replacement rates	Gross replacement rates averaged across 2 earnings levels, 3 family types, and 3 unemployment duration categories.	OECD (2004), *Benefits and wages* (annual publication).	OECD less CZE, HUN, ISL, KOR, LUX, MEX, POL, SVK, TUR.	1985-2002 odd years only (even years interpolated) 2002 equal to 2001.
Output gap	Percentage difference between actual and long-run trend output.	OECD (2003), Economics Department Analytical Database.	OECD less CZE, HUN, KOR, LUX, MEX, POL, SVK, TUR.	1985-2002.
Relative tax rate of the second earner	Ratio of tax rate of second earner to tax rate of single individual.	OECD (2003), Economics Department working paper No. 376.	OECD less ISL, LUX.	1981-2001 except (starting year) AUT, BEL, CZE, GRC, HUN, IRL, JPN, MEX, NZL, POL, PRT, CHE, TUR (95), KOR (96), SVK (00).
Child benefits	Increase in household disposable income from child benefits for two children.	OECD (2003), Economics Department working paper No. 376.	OECD less ISL, LUX.	1981-2001 except (starting year) AUT, BEL, CZE, GCR, HUN, IRL, JPN, MEX, NZL, POL, PRT, CHE, TUR (95), KOR (96), SVK (00).
Public spending on childcare	Public childcare spending per child (formal day-care and pre-primary school).	OECD (2003), Economics Department working paper No. 376.	OECD less ISL, LUX, GCR, HUN, JPN, POL.	1985-1999 except (starting year) IRL (87), NLD (98), AUT (90), CHE (91), CAN, DEU, KOR, MEX (93), FRA (95), TUR (96), CZE (97), FIN (98).
Paid leave	Total number of weeks of paid maternity, parental, and childcare leave.	OECD (2003), Economics Department working paper No. 376.	OECD less ISL, LUX, KOR, CHE.	1981-1999 except (starting year) AUT (88), CZE, HUN, MEX, POL, SVK, TUR, (95).

Table 2.A3.1. **Variables description** *(cont.)*

Variable name	Description	Source	Countries	Years
		Control variables		
Minimum wage	Minimum wage as a percentage of average wage (0 where no minimum age exists).	OECD minimum wages database.	OECD less SVK.	1981-2002 except (start-end year) HUN (91-02), POL (91-99), TUR (81-98).
Average retirement age	Average of retirement age of men and women.	OECD (2003), Economics Department working paper No. 370.	OECD less ISL, LUX, CZE, DNK, GCR, HUN, MEX, POL, SVK, TUR.	1967-1999 except (starting date) NZL (84), KOR (87), CHE (89), BEL (95), AUT (99), JPN (93).
Implicit tax rate on continued work	Implicit marginal tax rate on continued work (average of rate at 55 and rate at 60 with weights 0.8 and 0.2 respectively).	OECD (2003), Economics Department working paper No. 370.	OECD less ISL, LUX, CZE, DNK, GCR, HUN, KOR, MEX, POL, SVK, TUR.	1967-1999 except (starting year) CHE (89), BEL (95), AUT (99), JPN (93).
		Outcome variable		
Employment rate	Ratio of employment to population.	OECD database on Labour Force Statistics.	OECD.	1985-2002 except (starting year): CHE , MEX (91), CZE (93), HUN,POL (92), KOR (89), NZL (86), TUR (88), SVK (94).[a]
Employment rate of low skilled[b]	Ratio of employment to population for low educated.	OECD database on Labour Force Statistics.	OECD (less LUX, ISL).	1989-2002 except CAN, DEU, ESP, FRA, IRL, KOR, TUR (91), DNK, NZL (92), CZE, GRC, SVK (94), MEX, POL (95), HUN (96), JPN (97), TUR (91).
Unemployment rate	Ratio of unemployment to labour force.	OECD database on Labour Force Statistics.	OECD.	1985-2002 except (starting year): CHE , MEX (91), CZE (93), HUN,POL (92), KOR (89), NZL (86), TUR (88), SVK (94).
Incidence of long-term unemployment	Incidence of long term unemployment (1 year or longer).	OECD database on Labour Force Statistics.	OECD.	1985-2002 except (starting year): AUT, SVK (94), CZE (93), FIN (95), HUN, POL (92), NOR, TUR (88), CHE, KOR (91), MEX (96), NZL, PRT (86).
Incidence of temporary work	Share of employees with a temporary contract.	OECD database on temporary workers.	AUT, BEL, CAN, DNK, FIN, FRA, DEU, ITA, JPN, NLD, NOR, PRT, ESP, SWE, CHE, GBR.	1985-2002[c] except (starting year): AUT, FIN, NOR, SWE (95), CZE, POL (97), ESP, PRT (86), HUN, CHE (96), SVK (98).
Unemployment inflow rate	Number of people unemployed for less than a month divided by total population less unemployment.	OECD database on unemployment by duration.	OECD less KOR, TUR.	1985-2002 except (starting year): AUT, SVK (94), CZE (93), HUN, POL (92), MEX (95), NZL, PRT (86), POL (92), CHE (91).
Unemployment outflow rate	Difference between the average monthly level of inflows and the monthly average change in unemployment over one year, divided by total unemployment.	OECD database on unemployment by duration.	OECD less KOR, TUR.	1985-2002 except (starting year): AUT, SVK (95), CZE (94), HUN, POL (93), MEX (96), NZL, PRT (87), POL (93), CHE (92).

a) Data for Switzerland are missing for young workers before 1999.
b) Low skilled group includes those with educational attainment corresponding to less than upper secondary degree.
c) For low-educated workers, data are from 1992 only at the earliest, 1993 for France and 1996 for the Netherlands and Norway.

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