Chapter 2

EMPLOYMENT PROTECTION AND LABOUR MARKET PERFORMANCE

Summary

The potential incompatibility of employment protection legislation (EPL) with labour market flexibility has occasioned much debate and a growing body of research. The central question has been whether excessively strict EPL has been an important contributor to the persistently high unemployment experienced in many OECD countries since the early 1980s. But empirical research to date has not provided a clear-cut answer to this question. Part of the reason for this is that most of the cross-country research has used data on EPL at one point in time and this data base is now increasingly outdated.

New data are presented here that describe the EPL legislation and practices currently prevailing in 27 OECD countries. The resulting portrait shows that such legislation and practices differ substantially across countries, with EPL being most strict in southern Europe, France, and Germany, and least restrictive in English-speaking countries. When these data for the late 1990s are compared with analogous data for the late 1980s, it is shown that there generally have not been large shifts in overall EPL strictness. However, a number of countries have liberalised significantly the regulation of temporary employment in the past ten years, while a smaller number have liberalised EPL for regular employment or tightened specific components of EPL.

These new data provide the basis for a reassessment of the links between EPL and labour market performance. Consistent with prior studies, there appears to be little or no association between EPL strictness and overall unemployment. However, EPL may be more strongly associated with the level of employment and the demographic composition of employment and unemployment. Simple bivariate associations suggest that stricter EPL raises employment for prime-age men but lowers employment for youths and women, with the overall effect being a net reduction. Similarly, youths and perhaps women appear to bear a larger share of the burden of unemployment. However, these associations tend to be weaker or entirely absent when multivariate techniques are used to control for other factors that influence employment and unemployment levels. The evidence is more robust for EPL tending to increase self-employment and lower turnover rates in the labour market. The latter result implies that fewer individuals become unemployed in those countries where employment protection is stricter but once unemployed, they have a higher risk of remaining unemployed for a long period of time.

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Introduction

Employment protection regulation raises especially difficult questions in a period of rapid and pervasive economic change. Some features of the current economic environment, including rapid shifts in technology, innovative forms of business organisation, flexible workplace practices (see Chapter 4) and intense competitive pressures, have resulted in a heightened perception of job insecurity in many OECD countries. Even as fears of job loss reinforce the demand for public and private measures to enhance job security, it is sometimes asserted that it may be difficult to reconcile such protection with the flexibility required for firms and national economies to prosper today.

The potential incompatibility of employment protection legislation (EPL) with labour market flexibility has motivated a large body of research.[1] The central question has been whether excessively strict EPL has been an important contributor to the persistently high unemployment experienced in many OECD countries since the early 1980s. The OECD has previously reviewed this issue several times [OECD (1993, 1994*a*, 1997*a*)]. Robust estimates of the impact of EPL on employment and unemployment have proven elusive, but the international comparisons presented in these and related studies have documented statistical associations between stricter EPL and several measures of labour market performance, including greater prevalence of long-duration unemployment and temporary jobs. The OECD *Jobs Study* included a recommendation that governments assess whether employment protection regulation should be relaxed [OECD (1994*a*)]. A certain number of OECD countries have initiated reforms along these lines [OECD (1998*a*)], but an overall assessment of the resulting shifts in EPL strictness and their impact on labour market performance has been lacking to date.

This chapter reassesses employment protection regulation in OECD countries and its links to labour market performance. It extends prior research in two ways. First, it presents new data describing EPL in the late 1990s. Until now, much analysis of this topic has relied on the comparative data first developed by Grubb and Wells (1993) and then extended for the OECD *Jobs Study* [OECD (1994*a)*]. These data are now increasingly out of date, since they describe EPL in the late 1980s. The new data update this information to reflect conditions in the late 1990s and are used to assess the extent to which policy reforms during the past decade have changed employment protection practices. The EPL data for the late 1990s also cover more OECD countries than the earlier data and incorporate regulations relating to collective dismissals which were not previously covered.

Secondly, the chapter uses this new, richer data base to reassess the relationship between employment protection and labour market performance. The main question examined is whether a greater degree of EPL strictness affects employment and unemployment outcomes averaged over a number of years. However, two aspects of the potential impact of EPL on labour market performance that previously have not received much attention are also addressed. First, the chapter attempts to identify those aspects of employment protection (*e.g.* procedural requirements, notification periods or severance pay) that are most important in accounting for any identifiable associations between overall measures of EPL strictness and labour market performance. Second, the newly assembled data are used to examine possible links between changes in EPL and changes in labour market performance.

Main findings

The main findings of the chapter are:

- There is significant international variation in employment protection, both with respect to the overall level of EPL strictness and with respect to the

1. This chapter follows the literature in using EPL as a compact acronym for employment protection regulation generally. It must be emphasised, however, that this is intended to refer to all types of employment protection measures, whether grounded primarily in legislation, court rulings, collectively bargained conditions of employment or customary practice.

relative emphasis placed on the different components of regulation.

- The southern European countries stand out for having relatively strict employment protection, along with France and Germany. At the other extreme, regulation is least restrictive in the United States, the United Kingdom, New Zealand and Canada.
- Between the late 1980s and the late 1990s, there was considerable continuity in EPL practices in most countries. The major exception to this picture of continuity is that a number of countries liberalised significantly the regulation of employers' use of fixed-term contracts and the operation of temporary work agencies.
- Although the most common patterns were either stable EPL strictness or some easing, several countries tightened specific aspects of their regulations. For example, Spain tightened restrictions on the use of fixed-term contracts, but simultaneously loosened EPL for regular contracts and temporary agency work. Only in France does overall EPL strictness appear to have increased somewhat since the late 1980s, mainly due to additional restrictions in the areas of fixed-term contracts and temporary agency work.
- Practically all countries enforce additional requirements on employers in the case of collective dismissals. In most countries, these provisions represent a modest increment to the protection already afforded workers in the case of individual dismissals. However, the added requirements are quite important in Belgium, the Czech Republic, Italy, Mexico, Poland and Switzerland.
- Simple, cross-country comparisons suggest that EPL has little or no effect on overall unemployment, but may affect its demographic composition. In countries where EPL is stricter, unemployment tends to be lower for prime-age men but higher for other groups, especially younger workers. However, this latter finding must be regarded as tentative, since it is not supported by the evidence from the multivariate regressions, except in the case of stricter EPL having a negative impact on the unemployment of prime-age men.
- The employment-to-population ratio for the working-age population tends to be lower in countries with stricter EPL, but this pattern reverses for prime-age men, suggesting that any negative effects of EPL on overall employment are concentrated among prime-age women, youths and older workers. Regression analysis confirms that EPL may have a positive effect on the employment rate for prime-age men, but provides only weak evidence for a negative effect on other groups.
- Stricter EPL is strongly associated with higher rates of self-employment, even when other factors are controlled for. However, the new data do not support earlier findings that the combination of strict EPL for regular employment together with unrestrictive EPL for temporary employment encourages an expansion in temporary employment. This finding is contrary to expectations and may indicate that too little time has passed since a number of countries have liberalised the regulation of temporary employment for these changes to be reflected in a higher share of temporary contracts in total employment.
- Stricter EPL is associated with lower turnover in the labour market, with both jobs and unemployment spells tending to last longer. Fewer workers experience unemployment in any given year in countries with stricter EPL, but those becoming unemployed have a greater probability of remaining unemployed for a year or more.

I. Employment protection regulation in OECD countries

A. Definitions and historical context

Employment protection refers both to regulations concerning hiring (*e.g.* rules favouring disadvantaged groups, conditions for using temporary or fixed-term contracts, training requirements) and firing (*e.g.* redundancy procedures, mandated prenotification periods and severance payments, special requirements for collective dismissals and short-time work schemes). Various institutional arrangements can provide employment protection: the private market, labour legislation, collective bargaining agreements and, not the least, court interpretations of legislative and contractual provisions. Some forms of *de facto* regulations are likely to be adopted even in the absence of legislation, simply because both workers and firms derive advantages from long-term employment relations.[2] Accordingly, the collection and use of available data in this chapter go beyond a narrow concept of employment protection *legislation* and follows a broader definition of *regulation* which aims to

2. In fact, on certain aspects of EPL, employers in countries with few formal legislative requirements may *de facto* face as many constraints as those in countries with strict legislation.

incorporate prevailing protective standards whatever their origin.

For example, any comparative analysis of the structure of employment protection regulation has to consider that legislation and collective bargaining are linked in various ways. Legislation may set only minimum standards which are extended by collective agreements. National administrations, in turn, may make collective agreements, including those with more stringent employment protection provisions than originally set through legislation, generally binding by extending them throughout a particular sector or the total economy, thus giving their provisions a quasi-legal character.[3] Similar links exist between legislation and judicial practices (*e.g.* compensation for unfair dismissal set by the courts can deviate widely from minima set out in legislation).[4] While they refer mainly to legislative provisions, the short descriptions of country practices in Annex 2.A show to what extent collective agreements and judicial practices have been taken into account in constructing the data base. However, it is important to keep in mind that non-legislated employment protection tends to be more difficult to measure and may therefore be underweighted in the information presented. [5]

Although foundations were sometimes laid before the Second World War (*e.g.* legislated notice periods in Germany, bargained seniority rules in the United States, strong government supervision of employment relationships in Portugal and Spain), much of the currently prevailing employment protection regulation was introduced between the 1950s and 1970s. The recession following the 1973 oil shock gave an additional impetus to governments and labour relations systems to adopt various protective measures, including in the area of collective dismissals (see, for example, the 1975 EC Directive on collective redundancies, which subsequently shaped EC Member states' legislation). Since then, the broad evolution has been towards de-regulation [see OECD (1986) and Büchtemann (1993*a*) for an historical overview].

However, countries have chosen quite different deregulatory paths, with some focusing on the relaxation of procedural requirements and others allowing more variety in employment contracts. An important development over the past two decades was the spread of fixed-term and temporary or "casual" employment contracts, which are extensively used in such countries as Spain, Australia and Finland. In addition, in recent years most countries have either legalised or eased remaining restrictions (for example on sectoral scope or contract duration) for temporary work agencies (TWAs). By contrast, a few countries have continued to tighten specific components of EPL. Table 2.1 gives some illustrations of major initiatives undertaken by selected countries to either tighten or ease their employment protection regulations since the mid-1980s.

Sources of information and methodology

The analysis of EPL in this chapter follows, to some extent, the method chosen by Grubb and Wells (1993) who used a large number of indicators to attribute scores and ranks to a subset of (European) OECD countries, based on the situation in the late 1980s. That analysis was later expanded in the OECD *Jobs Study* [OECD (1994*a*)]. The chapter uses many of the same indicators to measure the strictness of employment protection in the late 1990s, thereby allowing comparisons over time. The indicators refer to the protection of regular workers against dismissal and the regulation of temporary work. In addition, a number of new indicators for the regulation of *collective* dismissals were developed, thus allowing an even broader basis for positioning countries along an overall "strictness" criterion.

Due to the multi-dimensional nature of employment regulation and the sometimes ambiguous information available, the construction of current EPL indicators and attribution of country scores faces many of the same difficulties encountered by prior research. Tables 2.2 to 2.5 and Chart 2.1 present summary information for 27 countries and 22 indicators that aims to be as representative of current standards as possible, taking into account available multi-country surveys of regulatory provisions, as well as information made available by OECD member governments. The analysis therefore relies upon almost 1 200 data points, although for certain countries, information gaps could not be filled satisfactorily. Variables are expressed either in units of time (*e.g.* delays before notice becomes effective, or months of severance pay as differentiated by

3. As OECD (1994*a*) has shown, such extension practices are particularly pervasive in Austria, Belgium, France and Portugal, while they are practically non-existent in Japan, Norway, Sweden, the United Kingdom and the United States.
4. For example, in Belgium certain formulae have been developed by the judicial system to determine compensation awards for white-collar employees which take into account previous salary, age and length of service.
5. For example, the indicators presented in this chapter can take little account of the subtleties of actual enforcement of EPL. Although a country may have legislated strong protective standards, these may be unevenly enforced because workers are not informed about them or because they may feel intimidated or lack the necessary resources to take judicial action in cases of perceived violation. The increasing role of jurisprudence in EPL matters may also lead to regional disparities in enforcement. In addition, at least in some countries, court rulings may be affected by underlying labour market conditions, for example when taking into account the difficulty of finding new jobs in high unemployment areas or cyclical downswings [see Bertola *et al*. (forthcoming)].

Table 2.1. Employment protection legislation: illustrative changes since the mid-1980s

		Tightening of EPL	Relaxation of EPL
Permanent workers			
Finland	1991		Procedural delays before notice can become effective were shortened from about 2 months to 1-2 weeks.
	1996		Period of notice was shortened from 2 to 1 month for workers with tenure below one year.
France	1986		Prior administrative authorisation for dismissals for economic reasons was abolished.
	1989	Legislation required that collective redundancies be accompanied by "social plans".	
	1993	Statutory requirements about the contents of "social plans".	
Germany	1993	Statutory notice periods for blue-collar and white-collar workers were equalised. This increased average notice periods for workers with over 10 years tenure.	
	1996		The employment threshold at which protection against unfair dismissal applies, was raised from 5 to 10 full-time employees per establishment.
	1999	Employment threshold for unfair dismissal protection was lowered again to 5 employees per establishment.	
Korea	1998		Legal permission granted for dismissal "for managerial reasons", *i.e.* redundancy and economic restructuring.
Portugal	1989/1991		Firing restrictions eased through a wider range of admissible lay-off motivations and the abolition of prior authorisation of collective dismissals.
Spain	1994		Prior administrative authorisation for dismissals for economic reasons was abolished. Objective grounds for collective redundancies extended and procedural requirements made less time-consuming.
	1997		Maximum compensation pay for unfair dismissal was reduced from 45 to 33 days per year of service.
Sweden	1993		The "last-in-first-out" rule was relaxed: employers may retain two workers of their own choice in redundancy situations.
	1995/1997	Employers were again bound by "last-in-first-out" rule, but possibilities to modify the order of dismissals through collective bargaining were strengthened.	
United Kingdom	1985		The period of service to claim unfair dismissal increased to two years.
United States	1988	Employees in firms with more than 100 workers affected by plant closures or mass lay-offs must be given 60 days' notice.	

Table 2.1. **Employment protection legislation: illustrative changes since the mid-1980s** *(cont.)*

		Tightening of EPL	Relaxation of EPL
Temporary workers			
Belgium	Early 1990s		Fixed-term contracts possible without specifying an objective reason.
			Number of permissible renewals as well as overall duration of fixed-term and temporary agency contracts were progressively widened.
France	1985/1986		Substantial relaxation of restrictions for fixed-term contracts.
	1990	Tightening of reasons under which temporary agency work and fixed-term contracts are allowed, and reduced time limits for overall duration.	
Germany	1985		Fixed-term contracts possible without specifying an objective reason.
	1990s		Number of permissible renewals as well as overall duration of fixed-term and temporary agency contracts were progressively widened.
Italy	1987		Fixed-term contracts could be used more widely through collective agreements specifying target groups and employment shares.
	1997		Temporary work agencies were admitted on an experimental basis.
Korea	1998		Temporary work agencies were widely liberalised.
Spain	1984		Substantial relaxation of restrictions for fixed-term contracts.
	1994	Tightening of reasons under which fixed-term contracts are allowed.	Temporary work agencies permitted.
Sweden	1993		Temporary work agencies permitted.
	1997		Fixed-term contracts possible without specifying an objective reason, where no more than five employees are covered by such contracts simultaneously.

Source: See Annex 2.A.

employee tenure), or as scores on ordinal scales devised specifically for each indicator (0 to 2, 3, 4 or simply yes/no). The reader is referred to Annex Tables 2.A.1 to 2.A.9 for a fuller overview of the data and methods employed.[6] In the process of updating and expanding the OECD *Jobs Study* tabulations, a certain number of revisions were made to the original values attributed for the late 1980s.[7] In addition, a different technique was used in calculating summary measures of EPL strictness.[8]

First, as shown in Table 2.2 Panel A, values and scores were attributed for 12 indicators referring to the strictness of dismissal regulation for *regular* or *permanent workers* where either quantitative information was available or valid qualitative assessments of regulatory constraints could be made. Strictness of regulation is broken down by procedural requirements, notice and severance pay and unfair dismissal provisions. Next, Table 2.3, Panel A shows the values and scores attributed to countries for six indicators referring to the regulation of *fixed-term contracts and temporary agency work*. The indicators refer to the restrictions on the use of such "non-standard" work arrangements, both as regards the definition of cases and sectors where they are allowed, and their use over time, as measured by the possibility for renewals and overall duration. Table 2.4 presents four measures for the strictness of *collective dismissal* regulation, to the extent that the requirements for employers (such as notification of employee representatives, additional delays, social compensation plans, etc.) go beyond those conditions laid down for individual redundancy dismissal. This latter table, therefore, is meant to highlight only incremental requirements triggered by the "collective" nature of dismissal (as defined by countries in various ways).

Finally, all three tables provide the inputs for the construction of an overall EPL indicator in the right-hand columns of Table 2.5. Two versions of an overall indicator are presented: one combining the indicators for regular employment and temporary contracts; and a second one adding the measures in Table 2.4 for collective dismissal regulation. While the former allows a comparison of the late 1990s with the late 1980s, the latter refers only to the current situation. The scatter plots in both tables of Chart 2.1 further illustrates the changes in countries' EPL strictness over time.

B. Current standards in employment protection regulation

Protection of regular workers against dismissal

Table 2.2 provides a closer look at the extent of protection against individual dismissal for a regular employee. Protection provisions vary widely between countries and often vary within them, as well, by length of service, firm size, employee status (blue-collar/white-collar) and the existence or not of an employee representative body.

Three broad areas were identified as being indicative of the strictness of dismissal protection: procedural inconveniences which the employer faces when trying to dismiss employees; notice and severance pay provisions; and prevailing standards of and penalties for unfair dismissal. First, employers' ability to dismiss may be restricted by certain *procedural requirements* that must be followed from the decision to dismiss up to the actual termination of the contract. Countries are scored according to the delay involved before notice can start (for example, because there has to be a sequence of previous warnings, or because an interview has to be scheduled with the employee), according to whether a written statement of the reasons for dismissal must be supplied to the worker in question, whether a third party (such as a works council or the competent labour authority) must be notified or consulted and whether dismissal cannot proceed without the approval of a third party.

The country ranking (figures in brackets in Panel B) shows that the Netherlands is the most restrictive country on

6. The values and scores for the 22 EPL indicators used in this chapter are based on a variety of national sources as well as multi-country surveys by Watson Wyatt Data Services [Watson Wyatt (1997, 1998)], Incomes Data Services [see IDS (1995, 1996, 1997)], and the European Commission (1997*a*). OECD governments provided additional information, based on a request for information from the OECD Secretariat.
7. In some cases, where information had previously not been available, values were attributed retroactively; in others, previously attributed values were based on inaccurate or incomplete information and were revised; in yet other cases, certain regulatory features were more stringently defined, and the resulting assumptions also applied retroactively. For example, a delay of six days was assumed when a warning procedure prior to notice was required by legislation or jurisprudence. Similarly, the indicator used in the OECD *Jobs Study* specifying whether in the case of temporary agency work the "final user" can terminate the employment relationship at any moment, was abandoned due to the legal complexities involved, in particular where there is a triangular relationship between the worker, the temporary agency and the user company.
8. The OECD *Jobs Study* ranked countries on each individual indicator and constructed a summary ranking by taking an arithmetic average across rank positions and then ranking the averages themselves (so-called "rank of averaged ranks" technique). This approach has not been considered appropriate for making comparisons over time. Therefore, a different technique is used in this chapter to calculate summary measures. First, countries were assigned scores from 0 to 6 on each of the 22 indicators, with higher values representing more strict regulation. Next, summary scores by main area (3 areas for individual dismissal, 2 for temporary work, and 1 for collective dismissal) were established by taking the average of individual scores per indicator. Finally, in Table 2.5 summary scores by main area were combined into comprehensive summary scores from which rankings of countries' overall EPL strictness have been derived. For a more detailed explanation of the construction of summary scores, including the weights attributed to different indicators, see Annex 2.B.

Table 2.2. Indicators of the strictness of employment protection for regular employment

Panel A: Values of the indicators [a]

	Regular procedural inconveniences [b]				Notice and severance pay for no-fault individual dismissals by tenure categories [c]												Difficulty of dismissal							
	Procedures [d]		Delay to start of notice [e]		Notice period after						Severance pay after						Definition of unfair dismissal [f]		Trial period before eligibility arises		Unfair dismissal compensation at 20 years of tenure [g]		Extent of reinstatement [h]	
					9 months		4 years		20 years		9 months		4 years		20 years									
	Scale 0 to 3		Days		Months												Scale 0 to 3		Months				Scale 0 to 3	
	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s
Central and Western Europe																								
Austria	2.0	2.0	9.0	9.0	1.0	1.0	1.2	1.2	2.5	2.5	0.0	0.0	2.0	2.0	9.0	9.0	1.0	1.0	1.0	1.0	15.0	15.0	1.0	1.0
Belgium	0.5	0.5	1.5	1.5	2.0	2.0	2.8	2.8	9.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.3	12.5	15.0	0.0	0.0
France	1.5	1.8	12.0	12.0	1.0	1.0	2.0	2.0	2.0	2.0	0.0	0.0	0.4	0.4	2.7	2.7	1.5	1.5	1.6	1.6	15.0	15.0	0.0	0.0
Germany	2.5	2.5	17.0	17.0	1.0	1.0	1.0	1.0	4.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	6.0	6.0	24.0	24.0	1.5	1.5
Ireland	1.5	1.5	4.5	4.5	0.2	0.3	0.5	0.5	2.0	2.0	0.0	0.0	0.2	0.2	2.2	2.2	0.0	0.0	12.0	12.0	24.0	24.0	1.0	1.0
Netherlands	3.0	3.0	38.0	31.0	0.6	1.0	1.0	1.0	5.3	3.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	2.0	2.0	6.0	18.0	1.0	1.0
Switzerland	0.5	0.5	1.0	1.0	1.0	1.0	2.0	2.0	3.0	3.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	6.0	6.0	0.0	0.0
United Kingdom	1.0	1.0	2.0	2.0	0.2	0.2	0.9	0.9	2.8	2.8	0.0	0.0	0.5	0.5	2.4	2.4	0.0	0.0	24.0	24.0	8.0	8.0	0.0	0.0
Southern Europe																								
Greece	2.0	2.0	1.0	1.0	0.6	0.5	1.7	1.5	9.0	8.0	0.3	0.3	0.9	1.0	4.6	5.8	0.5	0.5	2.0	3.0	15.0	15.8	2.0	2.0
Italy	1.5	1.5	1.0	1.0	0.3	0.3	1.1	1.1	2.2	2.2	0.7	0.7	3.5	3.5	18.0	18.0	0.0	0.0	0.8	0.8	32.5	32.5	2.0	2.0
Portugal	2.5	2.0	21.0	21.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0	20.0	20.0	3.0	2.0	1.0	2.0	20.0	20.0	3.0	2.5
Spain	2.3	2.0	40.0	1.0	1.0	1.0	3.0	1.0	3.0	1.0	0.5	0.5	2.6	2.6	12.0	12.0	2.0	2.0	1.7	2.5	35.0	22.0	0.0	0.0
Turkey	2.0	2.0	1.0	1.0	..	1.0	..	2.0	..	2.0	..	0.0	..	4.0	..	20.0	..	0.0	..	2.0	..	26.0	..	0.0
Nordic countries																								
Denmark	0.5	0.5	1.0	1.0	1.6	1.8	2.8	3.0	5.0	4.3	0.0	0.0	0.0	0.0	1.5	1.5	0.0	0.0	1.5	1.5	9.0	12.0	1.0	1.0
Finland	1.8	1.8	56.0	11.0	2.0	1.0	2.0	2.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	4.0	4.0	12.0	12.0	0.0	0.0
Norway	1.5	1.5	2.0	2.0	1.0	1.0	1.0	1.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5	1.0	1.0	15.0	15.0	2.0	2.0
Sweden	2.0	2.0	15.0	15.0	1.0	1.0	4.0	3.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	6.0	6.0	32.0	32.0	1.0	1.0
Transition economies																								
Czech Republic	..	2.0	..	7.0	..	2.0	..	2.5	..	2.5	..	1.0	..	1.0	..	1.0	..	2.0	..	3.0	..	8.0	..	2.0
Hungary	..	1.0	..	13.0	..	1.0	..	1.2	..	3.0	..	0.0	..	1.0	..	5.0	..	0.0	..	3.0	..	10.0	..	2.0
Poland	..	2.0	..	13.0	..	1.0	..	3.0	..	3.0	..	0.0	..	0.0	..	0.0	..	0.0	..	1.8	..	3.0	..	2.0
North America																								
Canada	0.0	0.0	1.0	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.2	0.2	1.3	1.3	0.0	0.0	3.0	3.0	..	..	1.0	1.0
Mexico	..	1.0	..	1.0	..	0.0	..	0.0	..	0.0	..	3.0	..	3.0	..	3.0	..	3.0	..	..	..	16.0	..	1.0
United States	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	..	..	..	0.5	0.5
Asia and Oceania																								
Australia	0.5	0.5	1.0	1.0	0.2	0.2	0.7	0.7	1.2	1.2	0.0	0.0	1.0	1.0	1.0	1.0	0.0	0.0	..	..	..	..	1.5	1.5
Japan	1.5	1.5	3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	1.5	1.5	4.0	4.0	2.0	2.0	..	..	26.0	26.0	2.0	2.0
Korea	2.5	1.8	..	32.0	..	1.0	..	1.0	..	1.0	0.0	0.0	2.0	2.0	6.0	6.0	..	2.0	..	..	..	..	..	2.0
New Zealand	0.8	0.8	7.0	7.0	..	0.5	..	0.5	..	0.5	..	0.0	..	1.5	..	5.0	..	0.0	..	2.0	..	..	..	1.0

Table 2.2. **Indicators of the strictness of employment protection for regular employment** *(cont.)*

Panel A: Values of the indicators [a]

.. Data not available.

a) In addition to the notes below, see the further explanation of the indicators in Tables 2.A.1 to 2.A.9.

b) Procedures may be legislated, set through collective bargaining or generally considered necessary because without them the employer's case will be weakened before the courts, if a claim for unfair dismissal is made.

c) Information based mainly on legal regulation, but also, where relevant, on averages found in collective agreements or employment contracts. Where relevant, calculations assume that the worker was 35 years old at the start of employment. Averages are taken where different situations apply (*e.g.* blue-collar and white-collar workers; or dismissals for personal reasons and for redundancy).

d) Procedures are scored according to the scale 1 when a written statement of the reasons for dismissal must be supplied to the employee; 2 when a third party (such as a works council or the competent labour authority) must be notified; and 3 when the employer cannot proceed to dismissal without authorisation from a third party.

e) Estimated time includes an assumption of 6 days in case of required warning procedure prior to dismissal (although such time periods can be very diverse and may range from a few days to several months). One day is counted when dismissal can be notified orally or the notice can be directly handed to the employee, 2 when a letter needs to be sent by mail, and 3 when a registered letter needs to be sent.

f) Scored 0 when worker capability or redundancy of the job are adequate and sufficient grounds 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 retraining to adapt the worker to different work must be attempted prior to dismissal; and 3 when worker capability cannot be a ground for dismissal.

g) Where relevant, calculations assume that the worker was 35 years old at the start of employment and that a court case takes 6 months on average. Averages are taken where different situations apply (*e.g.* blue-collar and white-collar workers).

h) The extent of reinstatement is based upon whether, after a finding of unfair dismissal, the employee has the option of reinstatement into his/her previous job even when this is against the wishes of the employer. The indicator is 1 where this option is rarely made available to the employee, 2 where it is fairly often made available, and 3 where it is always made available.

Sources: See Annex 2.A.

Table 2.2. **Indicators of the strictness of employment protection for regular employment**

Panel B: Summary scores by main area [a, b]

	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	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s
Central and Western Europe								
Austria	2.5 *(15)*	2.5 *(18)*	2.0 *(14)*	2.0 *(19)*	3.3 *(12)*	3.3 *(16)*	2.6 *(12)*	2.6 *(17)*
Belgium	0.5 *(3)*	0.5 *(3)*	2.3 *(16)*	2.3 *(22)*	1.8 *(6)*	1.8 *(5)*	1.5 *(6)*	1.5 *(6)*
France	2.5 *(15)*	2.8 *(20)*	1.5 *(10)*	1.5 *(13)*	2.8 *(10)*	2.8 *(14)*	2.3 *(9)*	2.3 *(14)*
Germany	3.5 *(18)*	3.5 *(24)*	1.0 *(4)*	1.3 *(8)*	3.5 *(14)*	3.5 *(20)*	2.7 *(13)*	2.8 *(21)*
Ireland	2.0 *(11)*	2.0 *(12)*	0.8 *(2)*	0.8 *(2)*	2.0 *(7)*	2.0 *(6)*	1.6 *(8)*	1.6 *(8)*
Netherlands	5.5 *(22)*	5.0 *(27)*	1.0 *(4)*	1.0 *(4)*	2.8 *(10)*	3.3 *(16)*	3.1 *(18)*	3.1 *(25)*
Switzerland	0.5 *(3)*	0.5 *(3)*	1.5 *(9)*	1.5 *(12)*	1.5 *(3)*	1.5 *(3)*	1.2 *(5)*	1.2 *(5)*
United Kingdom	1.0 *(7)*	1.0 *(7)*	1.1 *(7)*	1.1 *(6)*	0.3 *(1)*	0.3 *(1)*	0.8 *(2)*	0.8 *(2)*
Southern Europe								
Greece	2.0 *(11)*	2.0 *(12)*	2.4 *(17)*	2.2 *(21)*	3.3 *(12)*	3.0 *(15)*	2.5 *(11)*	2.4 *(16)*
Italy	1.5 *(9)*	1.5 *(10)*	2.9 *(18)*	2.9 *(25)*	4.0 *(17)*	4.0 *(23)*	2.8 *(16)*	2.8 *(23)*
Portugal	4.0 *(19)*	3.5 *(24)*	5.0 *(20)*	5.0 *(27)*	5.5 *(20)*	4.5 *(26)*	4.8 *(20)*	4.3 *(27)*
Spain	4.8 *(20)*	2.0 *(12)*	3.1 *(19)*	2.6 *(23)*	3.8 *(15)*	3.3 *(16)*	3.9 *(19)*	2.6 *(18)*
Turkey	2.0 *(11)*	2.0 *(12)*	..	3.4 *(26)*	..	2.5 *(12)*	..	2.6 *(19)*
Nordic countries								
Denmark	0.5 *(3)*	0.5 *(3)*	2.0 *(15)*	1.9 *(18)*	2.3 *(9)*	2.3 *(8)*	1.6 *(7)*	1.6 *(7)*
Finland	4.8 *(20)*	2.8 *(20)*	1.9 *(13)*	1.4 *(11)*	1.5 *(3)*	2.3 *(8)*	2.7 *(14)*	2.1 *(11)*
Norway	1.5 *(9)*	1.5 *(10)*	1.1 *(8)*	1.1 *(7)*	4.5 *(19)*	4.5 *(26)*	2.4 *(10)*	2.4 *(15)*
Sweden	3.0 *(17)*	3.0 *(22)*	1.7 *(11)*	1.6 *(14)*	3.8 *(15)*	3.8 *(22)*	2.8 *(17)*	2.8 *(22)*
Transition economies								
Czech Republic	..	2.5 *(18)*	..	2.7 *(24)*	..	3.3 *(16)*	..	2.8 *(24)*
Hungary	..	2.0 *(12)*	..	1.8 *(15)*	..	2.5 *(12)*	..	2.1 *(10)*
Poland	..	3.0 *(22)*	..	1.4 *(10)*	..	2.3 *(8)*	..	2.2 *(12)*
North America								
Canada	0.0 *(1)*	0.0 *(1)*	0.8 *(2)*	0.8 *(2)*	2.0 *(7)*	2.0 *(6)*	0.9 *(3)*	0.9 *(3)*
Mexico	..	1.0 *(7)*	..	2.1 *(20)*	..	3.7 *(21)*	..	2.3 *(13)*
United States	0.0 *(1)*	0.0 *(1)*	0.0 *(1)*	0.0 *(1)*	0.5 *(2)*	0.5 *(2)*	0.2 *(1)*	0.2 *(1)*
Asia and Oceania								
Australia	0.5 *(3)*	0.5 *(3)*	1.0 *(4)*	1.0 *(4)*	1.5 *(3)*	1.5 *(3)*	1.0 *(4)*	1.0 *(4)*
Japan	2.0 *(11)*	2.0 *(12)*	1.8 *(12)*	1.8 *(16)*	4.3 *(18)*	4.3 *(25)*	2.7 *(15)*	2.7 *(20)*
Korea	..	3.8 *(26)*	..	1.8 *(16)*	..	4.0 *(23)*	..	3.2 *(26)*
New Zealand	1.3 *(8)*	1.3 *(9)*	..	1.4 *(9)*	..	2.3 *(11)*	..	1.7 *(9)*

.. Data not available.

a) The summary scores can range from 0 to 6, with higher values representing stricter regulation. Their calculation is explained in Annex 2.B.

b) Figures in brackets show country rankings. All rankings increase with the strictness of employment protection.

Source: See Table 2.2, Panel A.

the indicator of regular procedural inconveniences, followed by Korea, Germany and Portugal, while Canada and the United States are the least restrictive. In the Netherlands, a long-established dismissal procedure requires authorisation by the public employment service; not only does this procedure tend to be lengthy, but a certain number of requests are turned down annually.[9] The Korean score is affected by the long consultation period with employee representatives in case of dismissal for economic reasons, a feature introduced into Korean law in early 1998 when economic redundancy was first recognised as a valid reason for dismissal.

The Netherlands also had the most restrictive rank in the late 1980s, followed by Finland and Spain. The latter two countries have considerably eased restrictions since then, particularly in terms of the delays required for consultation before notice can start. Chart 2.1, Panel A, provides a further illustration of the easing of regulations by these two countries concerning procedural inconveniences.

Consider next *notice* and *severance pay* requirements in Table 2.2. Many entries in Panel A are composite values of different situations, *e.g.* for blue-collar and white-collar workers, or for dismissals for personal reasons and for economic redundancy (see Annex 2.A, Tables 2.A.2 and 2.A.3 for details). Where there are differences between these categories, termination costs tend to be higher for white-collar workers and for redundancies. All countries, apart from the United States, apply regular notice periods, but only two-thirds provide for severance pay for long-service employees. With few exceptions, there is also a tendency for countries with high severance pay requirements to offer little in terms of notice periods, and vice versa.

Turning to country rankings, the southern European countries tend to have the highest requirements (Portugal, followed by Turkey and Italy), while the United States, Canada and Ireland are among the least restrictive.[10] The Netherlands also ranks low on this indicator, which is in stark contrast to its comparative strictness concerning procedural inconveniences. Chart 2.1 illustrates that country values and relative ranks have not changed much in comparison with the situation in the late 1980s. Germany stands out somewhat as having further increased its regulation in the area since, in the process of harmonising notice periods for blue-collar and white-collar workers, it increased the length of notice for long-tenure workers. By contrast, mandated notice periods seem to have decreased in Spain and Finland, while the Netherlands increased its minimum and decreased its maximum periods.

Further requirements may be faced by employers in cases of "unjustified" or "unfair" dismissal. Practically all OECD countries have legislated remedies for *unfair dismissal*.[11] The third summary area in Table 2.2, entitled "difficulty of dismissal", shows the constraints which arise. The length of the trial period is important because, within this period, unfair dismissal claims can usually not be made.[12] Next, many countries consider a dismissal as unfair if the employer cannot demonstrate appropriate previous efforts to avoid it (*e.g.* through in-house transfers or re-training) or when social considerations, age or job tenure (*e.g.* the *last-in, first-out* rule) have not been followed. Courts may also order reinstatement after a finding of unfair dismissal, or award high compensation payments in excess of regular severance pay. Maximum compensation payments are particularly high in Italy and Sweden, although in the United States damages awarded by some courts in wrongful termination cases have exceeded corresponding payments in other OECD countries.[13]

Norway, Portugal and Japan stand out as offering the highest employment protection on the summary indicator "difficulty of dismissal", with the United States and the United Kingdom at the opposite end of the spectrum. Norwegian courts have restricted dismissal for personal reasons mainly to cases of material breach of the employment contract (disloyalty, persistent absenteeism, etc.), while dismissals for economic reasons are automatically unfair where the employee could have been retained in another capacity.

Compared with the late 1980s, Portugal has become less restrictive since, at the turn of the decade, it started allowing dismissal for lack of performance and economic redundancy (previously the only grounds for dismissal were disciplinary). Spain also registered a decrease, mainly due to

9. This figure stood at 7 per cent in 1997-1998. An increasing number of Dutch employers currently turn to the cantonal labour court, to avoid such uncertainties and get speedier permission for dismissal. While there seems to be less risk involved of the courts turning down proposed dismissals, they nevertheless tend to increase employers' termination costs by often determining generous severance pay.
10. Despite the complete absence of legal requirements, it is worth noting that in the United States, according to a 1992 survey, a minority (between 15 and 35 per cent) of employees, depending on company size, are covered by company severance pay plans [OECD (1996*a*)].
11. The United States is a partial exception, but even there, legally enforceable collective agreements, civil rights principles and special legislation for the public sector have somewhat eroded the traditional "employment at will" doctrine [Büchtemann (1993*a*); Mendelsohn (1990)].
12. For example, to ease restrictions on employers, the government in the United Kingdom raised the qualifying period for unfair dismissal claims from 26 to 52 weeks in 1979, and to 104 weeks in 1985.
13. Most countries have legislation in place which makes dismissal for certain reasons or of certain categories of employees automatically unjust. This refers mainly to discrimination based on race, gender, religion, etc., and to special protection for pregnant women, disabled workers and trade union representatives.

a cap on damage awards. As Chart 2.1 illustrates, for most other countries the summary indicator for "difficulty of dismissal" has remained essentially unchanged since the late 1980s. The overall EPL indicator of strictness for regular employment also has remained comparatively stable over the 1990s (see Chart 2.1, Panel A, lower right-hand corner). The major exception is Spain which appears as the only country to have eased restrictions on all three summary indicators (procedures, notice and severance pay, unfair dismissal regulation), while Portugal and Finland relaxed EPL restrictions in two of the three areas.

Regulation of temporary forms of employment

Countries can change the overall strictness of their employment protection regulation by keeping existing provisions intact for regular or permanent workers, but facilitating other options to enhance work-force flexibility. Publicly subsidised short-time work is one such administrative option which has been identified by Houseman and Abraham (1995) as accounting for much of the difference between some European countries and the United States in terms of employment adjustment. Another way to ease employers' termination costs is to facilitate the use of fixed-term contracts with a specific termination date and recourse to workers hired from temporary work agencies (TWAs). In general, no notice and severance pay are foreseen in these cases and it will usually be difficult for the employee to file an unfair dismissal claim.

Table 2.3, Panel A throws some light on existing restrictions on the use of temporary employment, broken down by regulations governing fixed-term contracts and those governing the operations of TWAs. In both areas, one indicator refers to the types of work that are allowed under such contractual arrangements, while two other indicators provide measures of their maximum allowable duration.

All countries recognise the validity of fixed-term contracts in the case of so-called "objective" reasons or time-limited situations, referring to specific projects, seasonal work or the replacement of employees who are absent temporarily. Indeed, in the past many countries, particularly in Europe, restricted temporary contracts exclusively to such objective reasons. However, currently the majority of the countries in the table have either lifted or relaxed significantly this requirement. Most Anglo-Saxon countries have always allowed the use of temporary contracts without any significant restrictions. Currently, some countries continue to list specific situations which may, however, go beyond "objective", time-limited tasks (*e.g.* business start-ups or workers in search of their first job).

Concerning duration, contracts can be renewed at will in Canada, Ireland, the United Kingdom and the United States. In a number of other countries, this is only the case if separate valid objective reasons can be given for each new contract. In these cases, after successive renewals (often starting with the first renewal), courts can be called upon to examine the validity of the reason given and may declare the fixed term unjustified, judging that its main purpose is to circumvent termination laws. To facilitate hiring under fixed-term contracts without such judicial interference, countries like Belgium, Germany and Sweden have specified in law the maximum number of successive contracts which are permitted without the presence of an objective reason, and their maximum cumulated duration.

As is the case for fixed-term contracts, there has been a general trend throughout the 1980s and 1990s to liberalise the use of TWAs [Delsen (1991)]. In the late 1980s, for example, 9 of the 27 countries shown in Table 2.3 had banned their operation (with some *de facto* tolerance), while today only Greece and Turkey continue to do so. A number of countries have expanded the types of work or the range of economic sectors where TWAs can operate or increased the maximum permitted length of employment. Germany, which as a general rule had previously required TWAs to give their employees an indefinite contract independently of any demand by potential user companies, has recently lifted this requirement, at least for the initial contract.

Chart 2.1. Evolution of the EPL summary indicators, from the late 1980s to the late 1990s

Panel A: Employment protection for regular employment

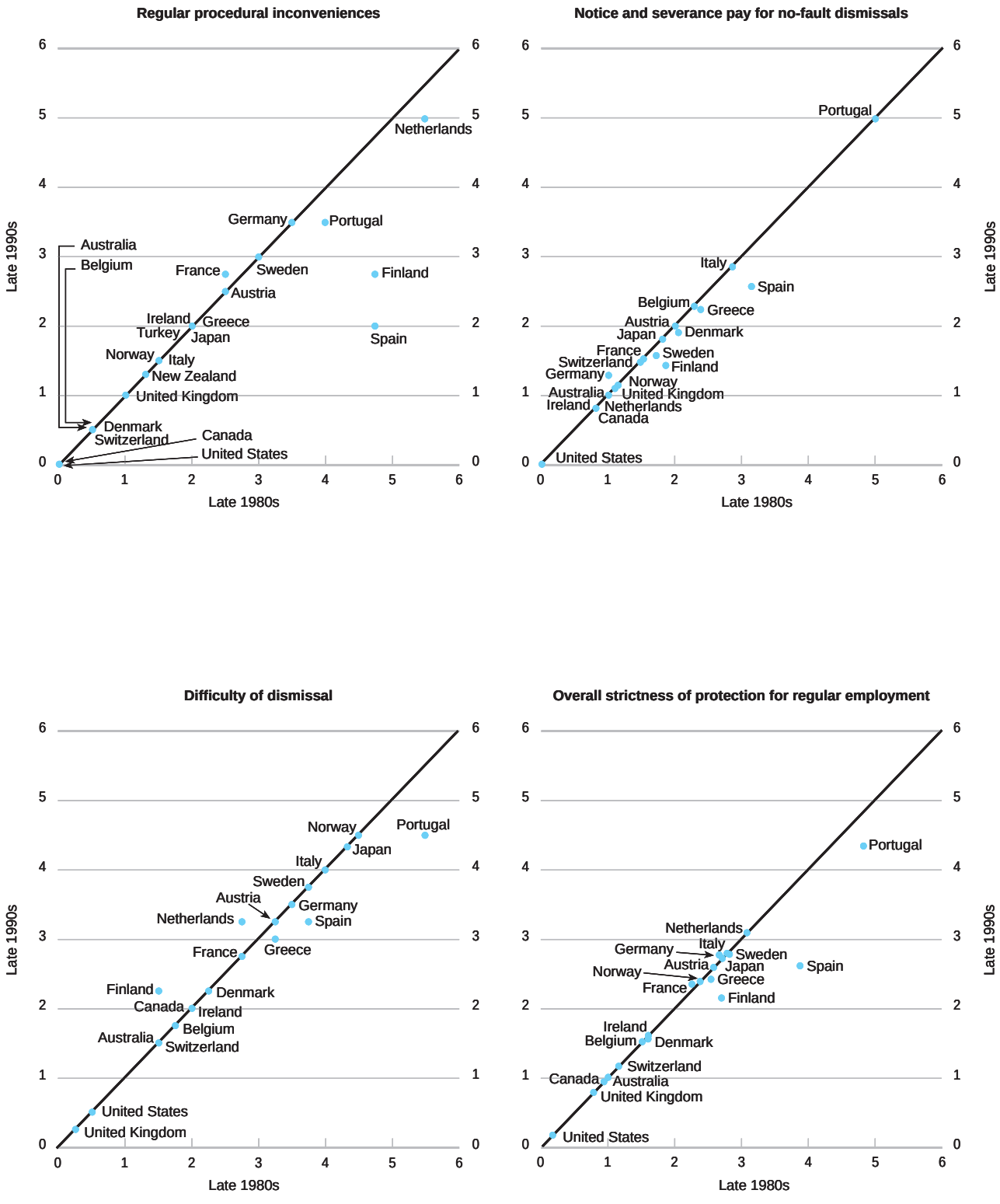
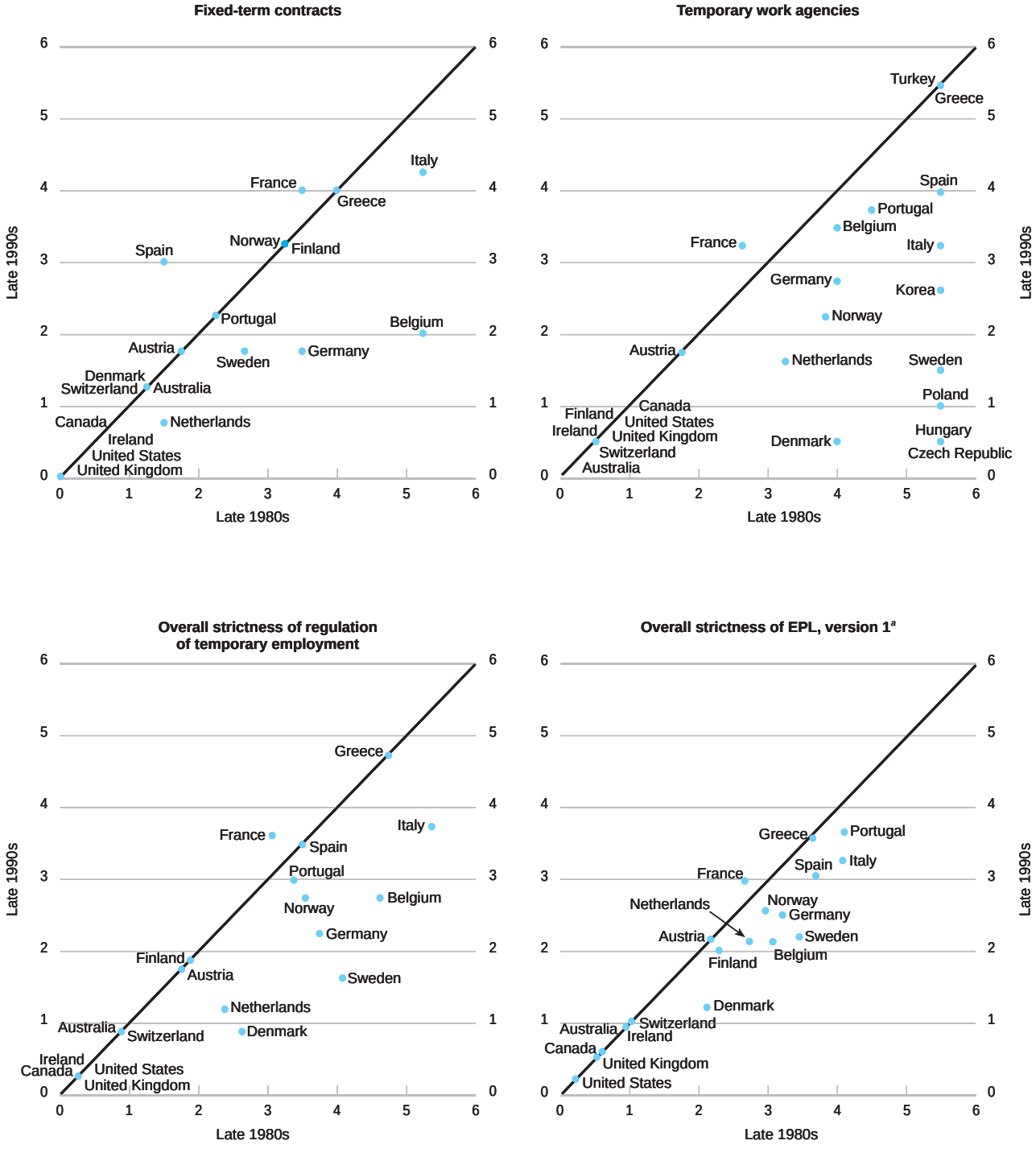


Chart 2.1. **Evolution of the EPL summary indicators, from the late 1980s to the late 1990s** *(cont.)*

Panel B: Temporary employment and overall EPL



a) Average of indicators for regular contracts and temporary contracts.
Sources: See Table 2.2, Panel B, Table 2.3, Panel B and Table 2.5.

Table 2.3. **Regulation of temporary employment**

Panel A: Values of the indicators

	Fixed-term contracts						Temporary work agencies (TWAs)					
	Valid cases other than the usual *objective reasons* [a]		Maximum number of successive contracts [b]		Maximum cumulated duration		Types of work for which TWA employment is legal		Restrictions on number of renewals		Maximum cumulated duration of temporary work contracts	
	Scale 0 to 3 [c]		Number		Months		Scale 0 to 4 [d]		Yes/No		Months	
	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s
Central and Western Europe												
Austria	2.5	2.5	1.5	1.5	No limit	No limit	3.0	3.0	Yes	Yes	No limit	No limit
Belgium	0.0	2.0	1.0	4.0	24.0	30.0	2.0	2.0	Yes	Yes	2.0	15.0
France	1.0	1.0	3.0	2.0	24.0	18.0	2.5	2.0	Yes	Yes	24.0	18.0
Germany	2.0	2.5	1.0	4.0	18.0	24.0	2.0	3.0	Yes	Yes	6.0	12.0
Ireland	3.0	3.0	No limit	No limit	No limit	No limit	4.0	4.0	No	No	No limit	No limit
Netherlands	3.0	3.0	1.0	3.0	No limit	No limit	3.0	3.5	Yes	Yes	6.0	42.0
Switzerland	3.0	3.0	1.5	1.5	No limit	No limit	4.0	4.0	No	No	No limit	No limit
United Kingdom	3.0	3.0	No limit	No limit	No limit	No limit	4.0	4.0	No	No	No limit	No limit
Southern Europe												
Greece	0.0	0.0	2.5	2.5	No limit	No limit	0.0	0.0	–	–	–	–
Italy	0.5	1.0	1.5	2.0	9.0	15.0	0.0	1.0	–	Yes	–	No limit
Portugal	2.0	2.0	3.0	3.0	30.0	30.0	1.0	2.0	Yes	Yes	9.0	9.0
Spain	2.0	1.0	6.0	3.0	36.0	36.0	0.0	2.0	–	Yes	–	6.0
Turkey	0.0	0.0	..	1.5	..	No limit	0.0	0.0	–	–	–	–
Nordic countries												
Denmark	3.0	3.0	1.5	1.5	No limit	No limit	2.0	4.0	Yes	No	3.0	No limit
Finland	1.0	1.0	1.5	1.5	No limit	No limit	4.0	4.0	..	No	..	No limit
Norway	1.0	1.0	1.5	1.5	No limit	No limit	1.5	3.0	Yes	Yes	..	24.0
Sweden	2.0	2.5	2.0	No limit	..	12.0	0.0	4.0	–	No	–	12.0
Transition economies												
Czech Republic	..	2.5	..	No limit	..	No limit	0.0	4.0	–	No	–	No limit
Hungary	..	2.5	..	No limit	..	60.0	0.0	4.0	–	No	–	No limit
Poland	..	3.0	..	2.0	..	No limit	0.0	4.0	–	Yes	–	No limit
North America												
Canada	3.0	3.0	No limit	No limit	No limit	No limit	4.0	4.0	No	No	No limit	No limit
Mexico	..	0.5	..	No limit	..	No limit	..	..	..	..	..	..
United States	3.0	3.0	No limit	No limit	No limit	No limit	4.0	4.0	No	No	No limit	No limit
Asia and Oceania												
Australia	3.0	3.0	1.5	1.5	No limit	No limit	4.0	4.0	No	No	No limit	No limit
Japan	..	2.5	2.5	2.5	..	No limit	2.0	2.0	..	Yes	..	36.0
Korea	..	2.5	..	2.5	..	No limit	0.0	2.5	–	Yes	–	24.0
New Zealand	..	3.0	..	5.0	..	No limit	..	4.0	..	No	..	No limit

.. Data not available.
– Not applicable.

a) All countries recognise the validity of fixed-term contracts in "objective" situations, a term which typically refers to specific projects, seasonal work, replacement of temporarily absent permanent workers (on sickness or maternity leave), and exceptional workload.

b) The law in most countries does not specify any limits to the number of fixed-term contracts if separate valid objective reasons for each new contract can be given. However, after successive renewals (often at the first such renewal) courts may examine the validity of the reason given and may declare the fixed term unjustified.

c) Scored 0 if fixed-term contracts are permitted only for "objective" or "material" reasons (*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 exemptions exist on both the employer and the employee side; 3 when there are no restrictions on the use of fixed-term contracts.

d) Scored 0 if TWA employment is illegal, 1 to 3 depending upon the degree of restrictions, and 4 where no restrictions apply.

Source: See Annex 2.A.

Table 2.3. **Regulation of temporary employment**

Panel B: Summary scores by main area [a, b]

	Fixed-term contracts		Temporary work agencies (TWAs)		Overall strictness of regulation	
	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1980s	Late 1990s
Central and Western Europe						
Austria	1.8 *(10)*	1.8 *(15)*	1.8 *(8)*	1.8 *(15)*	1.8 *(7)*	1.8 *(14)*
Belgium	5.3 *(18)*	2.0 *(18)*	4.0 *(12)*	3.5 *(22)*	4.6 *(17)*	2.8 *(19)*
France	3.5 *(15)*	4.0 *(24)*	2.6 *(9)*	3.3 *(20)*	3.1 *(11)*	3.6 *(23)*
Germany	3.5 *(15)*	1.8 *(15)*	4.0 *(12)*	2.8 *(18)*	3.8 *(15)*	2.3 *(18)*
Ireland	0.0 *(1)*	0.0 *(1)*	0.5 *(1)*	0.5 *(1)*	0.3 *(1)*	0.3 *(1)*
Netherlands	1.5 *(8)*	0.8 *(7)*	3.3 *(10)*	1.6 *(14)*	2.4 *(9)*	1.2 *(12)*
Switzerland	1.3 *(5)*	1.3 *(10)*	0.5 *(1)*	0.5 *(1)*	0.9 *(5)*	0.9 *(8)*
United Kingdom	0.0 *(1)*	0.0 *(1)*	0.5 *(1)*	0.5 *(1)*	0.3 *(1)*	0.3 *(1)*
Southern Europe						
Greece	4.0 *(17)*	4.0 *(24)*	5.5 *(16)*	5.5 *(25)*	4.8 *(18)*	4.8 *(25)*
Italy	5.3 *(18)*	4.3 *(26)*	5.5 *(16)*	3.3 *(20)*	5.4 *(19)*	3.8 *(24)*
Portugal	2.3 *(11)*	2.3 *(19)*	4.5 *(15)*	3.8 *(23)*	3.4 *(12)*	3.0 *(21)*
Spain	1.5 *(8)*	3.0 *(21)*	5.5 *(16)*	4.0 *(24)*	3.5 *(13)*	3.5 *(22)*
Turkey	..	4.3 *(26)*	5.5 *(16)*	5.5 *(25)*	..	4.9 *(26)*
Nordic countries						
Denmark	1.3 *(5)*	1.3 *(10)*	4.0 *(12)*	0.5 *(1)*	2.6 *(10)*	0.9 *(8)*
Finland	3.3 *(13)*	3.3 *(22)*	0.5 *(1)*	0.5 *(1)*	1.9 *(8)*	1.9 *(15)*
Norway	3.3 *(13)*	3.3 *(22)*	3.8 *(11)*	2.3 *(16)*	3.5 *(14)*	2.8 *(19)*
Sweden	2.7 *(12)*	1.8 *(15)*	5.5 *(16)*	1.5 *(13)*	4.1 *(16)*	1.6 *(13)*
Transition economies						
Czech Republic	..	0.5 *(6)*	5.5 *(16)*	0.5 *(1)*	..	0.5 *(6)*
Hungary	..	0.8 *(7)*	5.5 *(16)*	0.5 *(1)*	..	0.6 *(7)*
Poland	..	1.0 *(9)*	5.5 *(16)*	1.0 *(12)*	..	1.0 *(11)*
North America						
Canada	0.0 *(1)*	0.0 *(1)*	0.5 *(1)*	0.5 *(1)*	0.3 *(1)*	0.3 *(1)*
Mexico	..	2.5 *(20)*	..	..	..	..
United States	0.0 *(1)*	0.0 *(1)*	0.5 *(1)*	0.5 *(1)*	0.3 *(1)*	0.3 *(1)*
Asia and Oceania						
Australia	1.3 *(5)*	1.3 *(10)*	0.5 *(1)*	0.5 *(1)*	0.9 *(5)*	0.9 *(8)*
Japan	..	1.5 *(13)*	..	2.8 *(18)*	..	2.1 *(17)*
Korea	..	1.5 *(13)*	5.5 *(16)*	2.6 *(17)*	..	2.1 *(16)*
New Zealand	..	0.3 *(5)*	..	0.5 *(1)*	..	0.4 *(5)*

.. Data not available.

Source and notes: See Table 2.2, Panel B.

Table 2.3, Panel B and Chart 2.1 further illustrate the liberalising trend in both areas of temporary work regulation. Turkey, Greece and Italy currently rank highest on overall strictness, while Canada, Ireland, the United Kingdom and the United States again are the least restrictive. Compared with the late 1980s, Sweden, Belgium, Denmark and Italy come out as having moved furthest away from the previous situation. France alternated between liberalisation and restriction during the sequence of governments in the 1980s, and is currently more legally restrictive, requiring proof of an objective reason and allowing only one prolongation of a temporary contract. This, however, does not seem to have prevented French companies from making strong use of temporary workers, as shown by the available statistics on the share of both fixed-term and temporary-agency employees in the labour market [DARES (1998*a*, *b*)].[14] Spain liberalised temporary work agencies, but tightened somewhat its criteria for the use of fixed-term contracts in the mid-1990s which had become very widespread after liberalisation in 1984 – they accounted for up to one-third of total employment and 90 per cent of new hires in the mid-1990s.

A comparison of the overall strictness of employment protection regulation for temporary work with that for regular employment in Panels A and B of Chart 2.1 suggests that most countries have concentrated their effort in the 1990s on easing the restrictions for temporary work, while there has been comparatively less movement on the protection of regular employment. Taking both summary indicators together, Sweden, Belgium, Denmark and Italy have moved most in the direction of easing employment protection, a result heavily influenced by the temporary work indicator (Chart 2.1, Panel B, lower right-hand corner).

Specific requirements for collective dismissals

Tables 2.4 and 2.5 provide evidence as to whether country scores and ranks change when the regulation of *collective dismissal* is added as a third summary measure. Four separate indicators were used to measure the strictness of protection against collective dismissal. The left-hand column of Table 2.4 scores countries by the size of the redundancy which is required to trigger the application of the collective dismissal regulation. The next three columns refer to any additional delays and procedures required which go beyond those applicable for individual dismissal.

It is interesting to note that, on this measure, the ranking of countries seems quite different from that based on the other indicators, with New Zealand, Japan, Korea and France being scored as having the least, and Sweden, the Czech Republic, Italy and Belgium as having the most additional requirements. Canada, the United Kingdom and the United States occupy a middle position, since they have legislated considerable waiting periods and notification requirements in the event of collective dismissals, in contrast to their stance on protection of individual dismissal.

Indicators of overall EPL strictness

The summary indicators for the three main components of EPL are consolidated in Table 2.5 along with two versions of an overall indicator of strictness. Version 1 allows changes over time to be studied and is most comparable to prior work by the OECD, while Version 2 provides the most comprehensive measure of EPL in the late 1990s, since it incorporates the indicators for collective dismissal. There are some changes in overall scores and country ranks depending on whether a measure for collective dismissal is included or not, even though incremental provisions for collective dismissal are weighted less heavily than measures for the protection of regular and temporary employment when entered into Version 2 of the overall indicator. Although country ranks differ by up to three positions, on both definitions the same countries tend to appear at the opposite ends of the spectrum, with the United States and the United Kingdom as the least regulated countries while the strictest employment protection is offered by the countries of southern Europe.

The method used in Tables 2.2 to 2.5 is only one among several possibilities for assessing the strictness of employment protection. Table 2.6 shows various rankings that have been used by earlier studies to compare the strictness of EPL across countries. The rankings from the International Organisation of employers (IOE) and the EC *ad hoc* surveys are based on employers' assessments of the restrictions they face in dismissing workers, while the rankings of Lazear, Bertola and the OECD *Jobs Study* are closer to the method adopted here, being based on a compilation of legislative requirement or common practices. With the exception of the EC *ad hoc* surveys – which give quite a different assessment of relative strictness – rank

14. In search of an equilibrium between the flexibility needs of enterprises, employee protection and economic efficiency, the reform of 1985 abolished a previous list of references to "objective reasons" as preconditions for time-limited contracts, while the reform of 1990 reintroduced this list in modified form and reduced the maximum number of successive contracts and the maximum allowable duration. The 1990 reform also sought to close the gap in contractual status between fixed-term and temporary agency employees. While it may be argued that these legal changes contributed to some decline in the recourse to such forms of temporary employment after 1990, their use has increased again strongly since the mid-1990s. The effects of the 1990 change in legislation seem therefore to have been of little significance in practice [see Michon and Ramaux (1993); OECD (1996*b*), Chapter 1].

Table 2.4. **Regulation of collective dismissal, late 1990s**

Requirements over and above those applying to individual dismissals

	Definition of collective dismissal [a]	Additional notification requirements [b]	Additional delays involved (in days) [c]	Other special costs to employers [d]	Overall strictness relative to individual dismissals [e]
Central and Western Europe					
Austria	4	1	21	1	3.3 *(16)*
Belgium	3	2	44	1	4.1 *(24)*
France	3	0	22	1	2.1 *(4)*
Germany	3	1	28	1	3.1 *(13)*
Ireland	3	1	18	0	2.1 *(4)*
Netherlands	2	1	30	1	2.8 *(9)*
Switzerland	3	2	29	1	3.9 *(22)*
United Kingdom	2	1.5	57	0	2.9 *(11)*
Southern Europe					
Greece	4	1	19	1	3.3 *(16)*
Italy	4	1.5	44	1	4.1 *(24)*
Portugal	4	0.5	65	1	3.6 *(20)*
Spain	3	1	29	1	3.1 *(13)*
Turkey	3	1	29	0	2.4 *(6)*
Nordic countries					
Denmark	3	2	29	0	3.1 *(13)*
Finland	3	1	32	0	2.4 *(6)*
Norway	3	1.5	28	0	2.8 *(9)*
Sweden	4	2	113	0	4.5 *(27)*
Transition economies					
Czech Republic	4	2	83	0	4.3 *(26)*
Hungary	3	2	47	0	3.4 *(18)*
Poland	3	1	32	2	3.9 *(22)*
North America					
Canada	1	2	111	0	3.4 *(18)*
Mexico	4	2	0	1	3.8 *(21)*
United States	1	2	59	0	2.9 *(11)*
Asia and Oceania					
Australia	3	2	0	0	2.6 *(8)*
Japan	2	1	0	0	1.5 *(2)*
Korea	3	1	0	0	1.9 *(3)*
New Zealand	0	0.5	0	0	0.4 *(1)*

a) The score is 0 if there are no special regulations on collective dismissal; 1 if regulations apply from 50 dismissals upward; 2 if they apply from 20 onward; 3 if they start at 10 dismissals; and 4 if regulations start to apply at below 10 dismissals.

b) There can be notification requirements to employee representatives/works councils, 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. The score is 0 if there are no additional requirements; 1 if one more actor, and 2 if two more actors need to be notified.

c) This column lists delays required on top of delays before the start of notice for economic redundancy listed under Table 2.2. Averages are taken if separate delays apply to different types of situations.

d) This column refers to whether there are additional severance pay requirements in case of collective dismissal and whether social compensation plans (detailing measures for redeployment, retraining, outplacement or severance pay) are obligatory or common practice. The score is 2 if both requirements apply.

e) The summary scores can range from 0 to 6, with higher values representing stricter regulation (see Annex 2.B). Figures in brackets show country rankings. All rankings increase with the strictness of employment protection.

Source: See Annex 2.A.

Table 2.5. Summary indicators of the strictness of employment protection legislation

	Regular employment [a]		Temporary employment [b]		Collective dismissals [c]	Overall EPL strictness [d]					
						Version 1 [e]				Version 2 [f]	
	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1990s	Late 1980s		Late 1990s		Late 1990s	
Central and Western Europe											
Austria	2.6	2.6	1.8	1.8	3.3	2.2	*(8)*	*2.2*	*(15)*	*2.3*	*(15)*
Belgium	1.5	1.5	4.6	2.8	4.1	3.1	*(13)*	*2.1*	*(13)*	*2.5*	*(16)*
France	2.3	2.3	3.1	3.6	2.1	2.7	*(10)*	*3.0*	*(21)*	*2.8*	*(21)*
Germany	2.7	2.8	3.8	2.3	3.1	3.2	*(14)*	*2.5*	*(18)*	*2.6*	*(20)*
Ireland	1.6	1.6	0.3	0.3	2.1	0.9	*(4)*	*0.9*	*(4)*	*1.1*	*(5)*
Netherlands	3.1	3.1	2.4	1.2	2.8	2.7	*(11)*	*2.1*	*(14)*	*2.2*	*(13)*
Switzerland	1.2	1.2	0.9	0.9	3.9	1.0	*(6)*	*1.0*	*(6)*	*1.5*	*(7)*
United Kingdom	0.8	0.8	0.3	0.3	2.9	0.5	*(2)*	*0.5*	*(2)*	*0.9*	*(2)*
Southern Europe											
Greece	2.5	2.4	4.8	4.8	3.3	3.6	*(16)*	*3.6*	*(24)*	*3.5*	*(24)*
Italy	2.8	2.8	5.4	3.8	4.1	4.1	*(18)*	*3.3*	*(23)*	*3.4*	*(23)*
Portugal	4.8	4.3	3.4	3.0	3.6	4.1	*(19)*	*3.7*	*(25)*	*3.7*	*(26)*
Spain	3.9	2.6	3.5	3.5	3.1	3.7	*(17)*	*3.1*	*(22)*	*3.1*	*(22)*
Turkey	..	2.6	..	4.9	2.4	..		3.8	*(26)*	*3.5*	*(25)*
Nordic countries											
Denmark	1.6	1.6	2.6	0.9	3.1	2.1	*(7)*	*1.2*	*(8)*	*1.5*	*(8)*
Finland	2.7	2.1	1.9	1.9	2.4	2.3	*(9)*	*2.0*	*(12)*	*2.1*	*(11)*
Norway	2.4	2.4	3.5	2.8	2.8	3.0	*(12)*	*2.6*	*(19)*	*2.6*	*(19)*
Sweden	2.8	2.8	4.1	1.6	4.5	3.5	*(15)*	*2.2*	*(16)*	*2.6*	*(18)*
Transition economies											
Czech Republic	..	2.8	..	0.5	4.3	..		1.7	*(11)*	*2.1*	*(12)*
Hungary	..	2.1	..	0.6	3.4	..		1.4	*(9)*	*1.7*	*(9)*
Poland	..	2.2	..	1.0	3.9	..		1.6	*(10)*	*2.0*	*(10)*
North America											
Canada	0.9	0.9	0.3	0.3	3.4	0.6	*(3)*	*0.6*	*(3)*	*1.1*	*(4)*
Mexico	..	2.3	..	..	3.8	..		..		..	
United States	0.2	0.2	0.3	0.3	2.9	0.2	*(1)*	*0.2*	*(1)*	*0.7*	*(1)*
Asia and Oceania											
Australia	1.0	1.0	0.9	0.9	2.6	0.9	*(5)*	*0.9*	*(5)*	*1.2*	*(6)*
Japan	2.7	2.7	..	2.1	1.5	..		2.4	*(17)*	*2.3*	*(14)*
Korea	..	3.2	..	2.1	1.9	..		2.6	*(20)*	*2.5*	*(17)*
New Zealand	..	1.7	..	0.4	0.4	..		1.0	*(7)*	*0.9*	*(3)*

.. Data not available.
a) From Table 2.2, Panel B.
b) From Table 2.3, Panel B.
c) From Table 2.4.
d) Figures in brackets show country rankings. All rankings increase with the strictness of employment protection.
e) Average of indicators for regular contracts and temporary contracts.
f) Weighted average of indicators for regular contracts, temporary contracts and collective dismissals. See Annex 2.B for explanation of the weighting scheme.
Source: See Annex 2.A.

Table 2.6. **Comparing EPL indicators in selected studies with new OECD data**

All indicators converted into rankings (increasing with the strictness of EPL)

	International Organisation of Employers (IOE) [a]	EC *ad hoc* surveys [b]		Lazear (1990) [c]	Bertola (1990) [d]	OECD Jobs Study [e]	OECD (1999) [f]		
	1985	1989	1994	1956-84	1988	Late 1980s	Late 1980s (version 1)	Late 1990s (version 1)	Late 1990s (version 2)
Central and Western Europe									
Austria	4	..	..	12	..	7	8	15	15
Belgium	9	5	10	10	9	10	13	13	16
France	9	6	5	15	8	8	10	21	21
Germany	9	7	7	11	6	14	14	18	20
Ireland	4	2	7	1	..	3	4	4	5
Netherlands	9	9	3	9	3	5	11	14	13
Switzerland	..	..	..	8	..	1	6	6	7
United Kingdom	1	1	1	7	4	2	2	2	2
Southern Europe									
Greece	..	4	5	16	..	12	16	24	24
Italy	13	10	4	19	10	16	18	23	23
Portugal	7	3	2	13	..	15	19	25	26
Spain	13	8	9	17	..	13	17	22	22
Turkey	..	..	..	..	..	..	..	26	25
Nordic countries									
Denmark	2	..	..	14	2	4	7	8	8
Finland	2	..	..	..	..	10	9	12	11
Norway	4	..	..	18	..	9	12	19	19
Sweden	7	..	..	6	7	6	15	16	18
Transition economies									
Czech Republic	..	..	..	..	..	..	..	11	12
Hungary	..	..	..	..	..	..	..	9	9
Poland	..	..	..	..	..	..	..	10	10
North America									
Canada	..	..	..	..	..	..	3	3	4
Mexico	..	..	..	..	..	..	..	..	..
United States	..	..	..	1	1	..	1	1	1
Asia and Oceania									
Australia	..	..	..	1	..	..	5	5	6
Japan	..	..	..	1	5.0	..	..	17	14
Korea	..	..	..	..	..	..	..	20	17
New Zealand	..	..	..	1	..	..	..	7	3
Spearman rank correlation with OECD late-1990s (version 2) measure	**0.74**	**0.27**	**–0.03**	**0.78**	**0.88**	**0.86**	**0.95**	**0.98**	**1.00**

.. Data not available.
a) Ranks based on the average of the IOE scorings of obstacles to dismissal and to the use of regular and fixed-term contract workers.
b) Ranks based on the share of employer respondents claiming that hiring/firing restrictions are very important or important.
c) Ranks based on combination of legal notice period and severance pay, as averaged for the period from 1956 to 1984.
d) Author's compilation from the rankings in Emerson (1988).
e) Ranks based on the average of overall rankings for regular and temporary work in OECD (1994*a*), Tables 6.5 and 6.6.
f) Ranks in versions 1 and 2 were taken from Table 2.5.
Sources: Bertola (1990); European Commission (1991, 1995); IOE (1985); Lazear (1990); OECD (1994*a*).

correlations between previous summary indicators and that developed here range from 0.74 to 0.88, indicating considerable consistency. Furthermore, some of the differences with earlier rankings simply reflect changes in employment protection since the 1980s.

II. Exploring the Link between EPL and Labour Market Performance

A. Theoretical predictions and prior empirical evidence

The links between employment regulation and the performance of the labour market have occasioned both extensive public debate and much economic research. This section surveys the latter, so as to provide a context for the empirical analysis reported in Sections II.B and II.C.

Potential benefits and costs

There are a number of potential benefits and costs from EPL. Starting with the benefits:

- *For the worker.* The key intent of EPL is to reduce economic uncertainty by enhancing job and income security. Advance notice, for example, is a means to give workers ample warning of future layoffs and thus facilitate job search; seniority clauses are a means to protect older workers against dismissal; redundancy payments compensate workers for job loss. Employment protection may also enhance worker satisfaction and longer-term attachment to the job. Finally, if EPL implies longer-lasting employment relationships, this may provide positive incentives (to both the employer and the employee) to augment the worker's skills, especially those specific to the firm. Greater investment in training may, in turn, enhance productivity on the current job as well as re-employment prospects in case of a layoff.
- *For the firm*. Stable employment relationships can be a positive asset for firms insofar as they provide one of the preconditions for more trust, loyalty to the firm and co-operation on the part of the workforce [Akerloff (1984)]. For example, workers who feel secure may be less likely to resist the introduction of new technologies in the workplace and the re-organisation of working practices. Since a firm's decision to invest in training depends partly on the degree of its workers' attachment, EPL may enhance skill formation and, hence, internal flexibility [Piore (1986)].
- *For the collectivity.* If stable employment relations, trust and co-operation are important preconditions for enterprise adaptation, technological progress and skill upgrading, as many empirical studies suggest, EPL may enhance aggregate productivity, living standards and growth [Ichniowski *et al.* (1997); Nickell and Layard (1998); Levine and Tyson (1990)]. Employment protection is also a way to internalise the social costs of dismissals [Lindbeck and Snower (1988)]. EPL may discourage employers from dismissing workers when it would be socially preferable to redeploy them within the firm, thereby bringing the profitability criterion into closer correspondence with social efficiency. Also, legislated worker protection may correct asymmetries of power between employees and firms, especially in situations of monopsony [Gregg and Manning (1997)].

On the side of potential costs:

- *For the worker.* Even if EPL has the desired effects of improving the access of some workers to stable jobs that provide ample training opportunities, it may simultaneously disadvantage workers who fail to gain access to these sorts of jobs. In other words, EPL may enhance the dualism between protected workers (so-called "insiders") and jobseekers and temporary workers (so-called "outsiders"). But even workers in jobs that are covered by EPL rules face significant trade-offs. While EPL may reduce the probability that "insiders" will become unemployed due to redundancies, it may increase the chance of long-duration unemployment for the smaller number of workers continuing to be laid off by their employers. To the extent that EPL reduces overall hiring in the economy, it may also tend to lock protected workers into relatively poor job matches by making it more difficult for them to obtain a new position. Finally, employers may try to off-set some of their costs of complying with EPL by negotiating lower wages.
- *For the firm.* Employment protection may raise labour costs since it is, in effect, a tax on work-force adjustments, obliging firms to pay severance payments and comply with other regulatory requirements. To some extent, firms can reduce these explicit costs by "smoothing" employment. However, doing so may result in significant implicit costs, such as the costs of keeping non-productive workers in the firm or of remaining overstaffed for significant periods of time following reductions in demand.
- *For the collectivity.* Employment protection may produce two major types of costs for the collectivity.

First, if EPL tends to trap a portion of the population in long-duration unemployment or a pattern of cycling between unemployment and temporary jobs, it could worsen the problems of labour market inequality and social exclusion. Second, EPL may result in a more sclerotic labour market, unable to achieve quickly the volume of workforce adjustment that is required in response to rapid changes in technologies and product market competition. Any such diminished ability to reallocate labour in a flexible manner would tend to lower aggregate productivity levels and growth prospects. It is also possible that rigidities caused by EPL could raise the overall level of unemployment, although the likely tendency for unemployment durations to increase will tend to be offset by a reduction in the number of workers experiencing redundancies (see below).

Overview of prior results

Economic theorists have constructed formal models assessing how EPL is likely to affect labour market performance [for a recent survey, see Bertola (1999)]. These models conceptualise EPL as a firing cost (*i.e.* a "tax" facing firms who want to layoff workers) and the analysis typically proceeds in three basic stages. First, it assesses how the hiring and firing policies of firms adjust to the incentive to "smooth" employment, for a given wage structure. Second, it reviews how EPL may affect wage bargaining, where the effect could be either to restrain wages (*e.g.* as employers attempt to shift some of the costs of EPL back to workers in the form of lower wages) or to increase them (*e.g.* if stricter EPL serves to raise the bargaining powers of "insiders"). The final stage seeks to place these changes in workers' and firms' behaviour into a general equilibrium model of the determination of labour market outcomes, such as employment and unemployment.[15]

Although much of the theoretical analysis of EPL is quite sophisticated, it is not yet possible to incorporate all of the potentially important effects of EPL into existing economic models. For example, many of the potential benefits from encouraging more stable employment patterns (*e.g.* more co-operative labour relations and greater on-the-job training) are rarely considered. More generally, this literature has tended to focus on the potential costs of reducing external flexibility in the employment of labour, while largely ignoring potential enhancements to internal flexibility or economic security that may offset some of the negative effects of EPL.

The following provides a summary of the main findings from selected recent empirical studies of the impact of EPL on the performance of the labour market (see Annex 2.C for a more extensive survey):

- Some studies find that employment and labour force levels are lower when EPL is strict. Nickell (1997) and Nickell and Layard (1998) argue that these results might be biased, since there is a "spurious" correlation between low female participation and strict EPL, both of which are typical in southern European countries. Consistent with this interpretation, the effect disappears when the comparison is confined to adult male employment rates. Another possibility is that the result is driven by youth employment, since youth transitions into employment may become more difficult when EPL is stricter.
- Concerning overall unemployment levels, the theoretical analysis is inconclusive. The higher firing costs resulting from EPL reduce hirings during upswings (because employers become more hesitant about taking on additional workers, as they are aware of the costs of dismissals), but also reduce firings during downswings, so that the net impact on the unemployment stock is indeterminate. In practice, most of the studies surveyed in Annex 2.C find no effect.
- The empirical evidence is stronger, however, for EPL causing changes in the dynamics of unemployment. The unemployment pool becomes more stagnant, due to the lower inflows and outflows, and longer durations [Bentolila and Bertola (1990); Büchtemann (1993*a*); Nickell (1997); Nickell and Layard (1998)]. Stricter EPL appears to be associated with lower rates of job displacement from firms that continue in operation, but also leads to longer durations of unemployment following displacement [Albæk *et al.* (1998)].
- Flows through employment may not be affected as strongly by EPL as unemployment flows. There is little correlation between the magnitude of job and worker flows and the "flexibility" of the labour market across countries [Garibaldi *et al.* (1997) and Alogoskoufis *et al.* (1995), but see Schettkat (1997) for some opposing evidence]. In effect, the rates of job creation and job destruction (*i.e.* the gross job turnover rate) do not seem to differ between North America and some European countries [Bertola and Rogerson (1997); Contini *et al.* (1995); OECD (1996*b*), Chapter 5; but see Blanchard and Portugal (1998) for some opposing evidence]. Mean job tenures are also roughly similar in countries with very

15. The analysis may incorporate additional behavioural responses to EPL, such as advance notice encouraging workers to begin job search in anticipation of a redundancy or voluntary quits declining in response to greater conservatism in companies' hiring decisions [Garibaldi (1998)].

different labour market institutions [Burgess *et al.* (1997)], but stricter EPL increases the share of quits where the worker moves directly to another job [Boeri (1999)].

- EPL may also alter the composition of employment and unemployment. The cost of a "bad match" might be higher for firms when EPL is stricter, causing them to avoid hiring "risky" workers (unless wages are sufficiently lower to compensate for that risk). Esping-Andersen (forthcoming) and Scarpetta (1996) conclude that youths are the most adversely affected group, especially in a context of wage compression. Grubb and Wells (1993) find that stricter EPL increases the proportion of self-employment and temporary employment in total employment across countries, but reduces the proportion of part-timers.
- The higher dismissal costs caused by EPL may shift firms' preferences from varying employment in favour of adjusting hours worked, when responding to fluctuations in demand. Bertola (1990) finds that employment becomes more stable and hours less stable, when EPL is stricter. Abraham and Houseman (1993) show that Japan, like most European countries, tends to adjust both in the short- and long-run through hours, while the United States uses employment adjustments. It appears, however, that total labour input adjustment (*i.e.* combining hours and workers) in manufacturing is similar between some European countries and the United States, suggesting that EPL may not greatly hamper firms' ability to adjust total labour input.
- At the macroeconomic level, unemployment appears to become more persistent and the speed of adjustment declines in the presence of stricter EPL [Jackman *et al.* (1996)]. A possible explanation is that, when unemployment rises due to an adverse shock, stricter EPL decreases the restraining effect of higher unemployment on wages and, hence, raises the level of unemployment required for price stability. Reinforcing mechanisms, such as duration dependence and marginalisation [Blanchard (1998)] can create a pattern of hysteresis, so that an initial increase in unemployment tends to persist [see, for example, Bertola (1990); Blanchard and Summers (1987); Blanchard (1998); Flanagan (1988)].[16]
- One empirical question that remains open is why some economies manage to combine strong regulations with low unemployment. One possible explanation has to do with institutional interactions. Bertola and Rogerson (1997) find that the degree of flexibility in wage-setting appears to affect the strength of the link between EPL and employment, with rigid wage setting in the presence of strict EPL being a potentially unfortunate mix. Similarly, Elmeskov *et al.* (forthcoming) find that the effect of EPL depends on the structure of collective bargaining.

Limitations of prior empirical studies

Empirical studies of the labour market impact of EPL face a number of major difficulties, some of which apply to the analysis in this chapter:

- *EPL measures*. Many studies are based on inadequate measures of EPL. For example, EPL data are often only available for one out-of-date year (*e.g.* the OECD Jobs Study indicators for the late 1980s), only one dimension (*e.g.* Lazear's time series on maximum severance pay), or are based on subjective measures (*e.g.* employer surveys). With the EPL indicators presented in Section I, this chapter makes a major advance on this front.
- *Isolation of labour market impact.* It is extremely difficult to isolate the effects of EPL on labour market outcomes from other determinants. In particular, cross-sectional analysis of country data suffers from few degrees of freedom and an inability to control adequately for country effects. This chapter makes a modest advance here by adding more countries and some time-variation in EPL.
- *Dynamics of EPL reform*. Empirical evidence about the dynamics of EPL reforms is limited. Changes in employment protection are likely to affect employers' expectations and hiring policies in complex ways. One example of this complexity is described in Box 1. A similar reform (*i.e.* de-regulation of fixed-term contracts) implemented in Spain and Germany at about the same time nonetheless yielded very different outcomes which took a number of years to unfold. This chapter presents simple associations between changes in EPL and changes in labour market outcomes that are intended to begin to unravel these issues.
- *Components of EPL*. Not much attention has been paid to the relative importance of different components of employment protection for labour market performance. As noted above, EPL involves many different aspects of regulation which are unlikely to affect

16. By protecting insiders and reducing firms' willingness to hire outsiders, EPL may lead to segmentation between these two groups, with self-reinforcing effects on the future reemployment prospects of the outsiders, resulting in longer average durations of unemployment for the latter.

Box 1. De-regulation strategies: the German and Spanish experiences with fixed-term contracts

During the mid-1980s, Germany and Spain significantly eased restrictions on the use of fixed-term contracts [see Table 2.1]. Despite the similarity of these reforms, the impact was sharply different in the two countries and has taken many years to unfold [Büchtemann (1991, 1993*b*); Milner *et al.* (1995)]. First, in Germany, fixed-term contracts grew only modestly and still account for a relatively small proportion of the labour force (about 8 per cent if apprentices are not included, and 12 per cent if they are included). By contrast, the share of fixed-term contracts increased rapidly in Spain, from 10 per cent to one-third of dependent employment. Second, fixed-term employment is concentrated among first-time job seekers or in certain job categories (*e.g.* unskilled jobs which require no on-the-job training) in Germany, whereas it is spread across a much broader range of Spanish workers and firms. Furthermore, a much higher proportion of German workers hired under the type of fixed-term contract introduced in the 1980s gain permanent status [BMAS (1994)] than is the case for their Spanish counterparts, of whom only approximately 10 per cent do so [Güell-Rotllan and Petrongolo (1998)].

Why did similar reforms to EPL lead to such different outcomes? One possible explanation is related to the tradition of social partnership which has strong roots in Germany, but not in Spain. The strong sense of social partnership, which contributes to the success of the German dual-system of vocational training, may also encourage firms to regard stable and long-term relationships with employees as a positive asset [Büchtemann (1993*b*)]. Hence, German employers use fixed-term contracts primarily to screen workers for permanent positions. In Spain, on the other hand, firms use fixed-term contracts mainly to obtain "numerical flexibility", in adjusting to changes in labour requirements.

Another possible explanation is that the wide availability to German employers of (fixed-term) apprenticeship contracts, which pay well below entry-level wages for unskilled adult workers, is viewed by them as a preferable alternative to regular fixed-term contracts. Despite the existence of apprenticeship contracts in Spain, most youths are hired on fixed-term contracts with no training obligation [see Rogowsky and Schömann (1996) for a comparative review].

A third possible explanation is that the potential future firing costs due to EPL that were associated with hiring a worker on a permanent contract, as opposed to a fixed-term contract, remained larger in Spain than in Germany. The indicators presented in Section I suggest this was the case in the late 1980s, but may no longer be so today.

labour market outcomes in the same way. Identifying the best mixes of EPL components is important for informing policy choices. The analysis in Sections II.B and II.C explores multiple measures of EPL.

- *Institutional interactions.* Relatively little attention has been paid to the ways in which other labour market institutions condition the effects that EPL has on labour market outcomes. This chapter also explores a small number of interactions between EPL and other institutional variables (e.g. centralisation/co-ordination of collective bargaining and the generosity of unemployment benefits).
- *Off-setting flexibilities*. The use of alternative practices that may offset some of the effects of EPL has not had much attention in the literature, even though such off-setting flexibility may be of great relevance. For example, early retirement may be regarded as an offsetting flexibility in situations where dismissals of older workers are costly; self-employment may be one way of avoiding restrictions on employment contracts or high fixed wage costs; short-time work and work-sharing may be ways to adjust in recessions; informal or black-economy activity may be a response to overly regulated labour markets.
- *Social welfare*. Even when robust associations have been established between employment protection and labour market outcomes, a comprehensive evaluation of the implications for social welfare is rarely undertaken. For example, stricter EPL appears to be associated with longer lasting jobs. This shift to higher tenures might reflect important gains in economic security and on-the-job training, or it might reflect an increased number of workers spending long periods in jobs they do not like or are ill suited for. The equity and efficiency effects of an EPL-induced shift toward fewer, but longer lasting unemployment spells are similarly difficult to evaluate. A fuller assessment of the benefits and costs of employment protection regulation will be required if empirical research is to inform policy choices more effectively, but such an assessment would be very complex and is not attempted in this chapter.

B. Effects on employment and unemployment

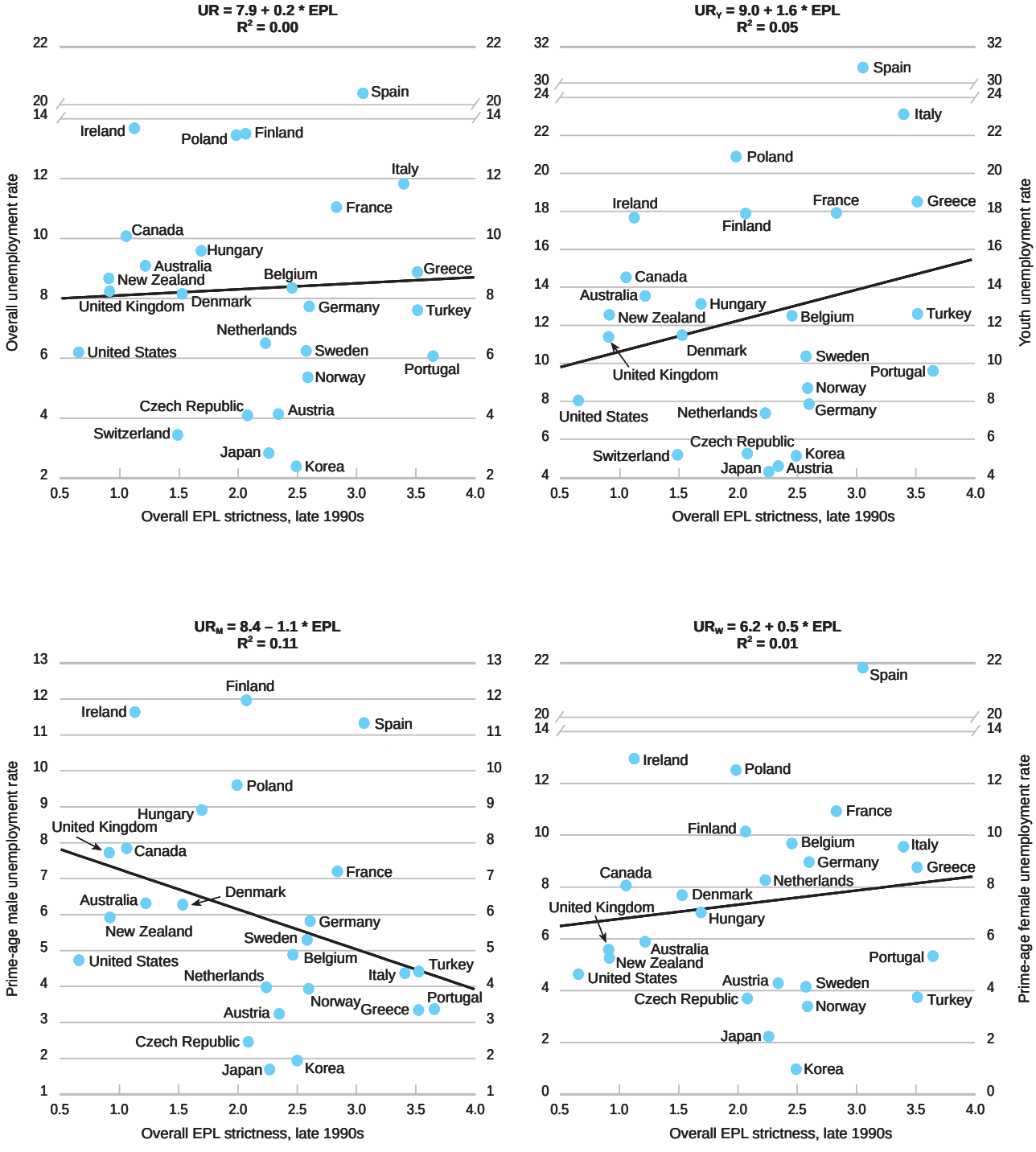
Bivariate associations

Chart 2.2 plots the most comprehensive indicator of EPL in the late 1990s (along the horizontal axis) against measures of employment and unemployment averaged over 1990-1997 (along the vertical axis). Panel A suggests that there is no association between EPL strictness and overall unemployment. However, the other charts in

Chart 2.2. Overall EPL strictness,[a] employment and unemployment

Panel A: Unemployment rates, averages over 1990-97

Percentages

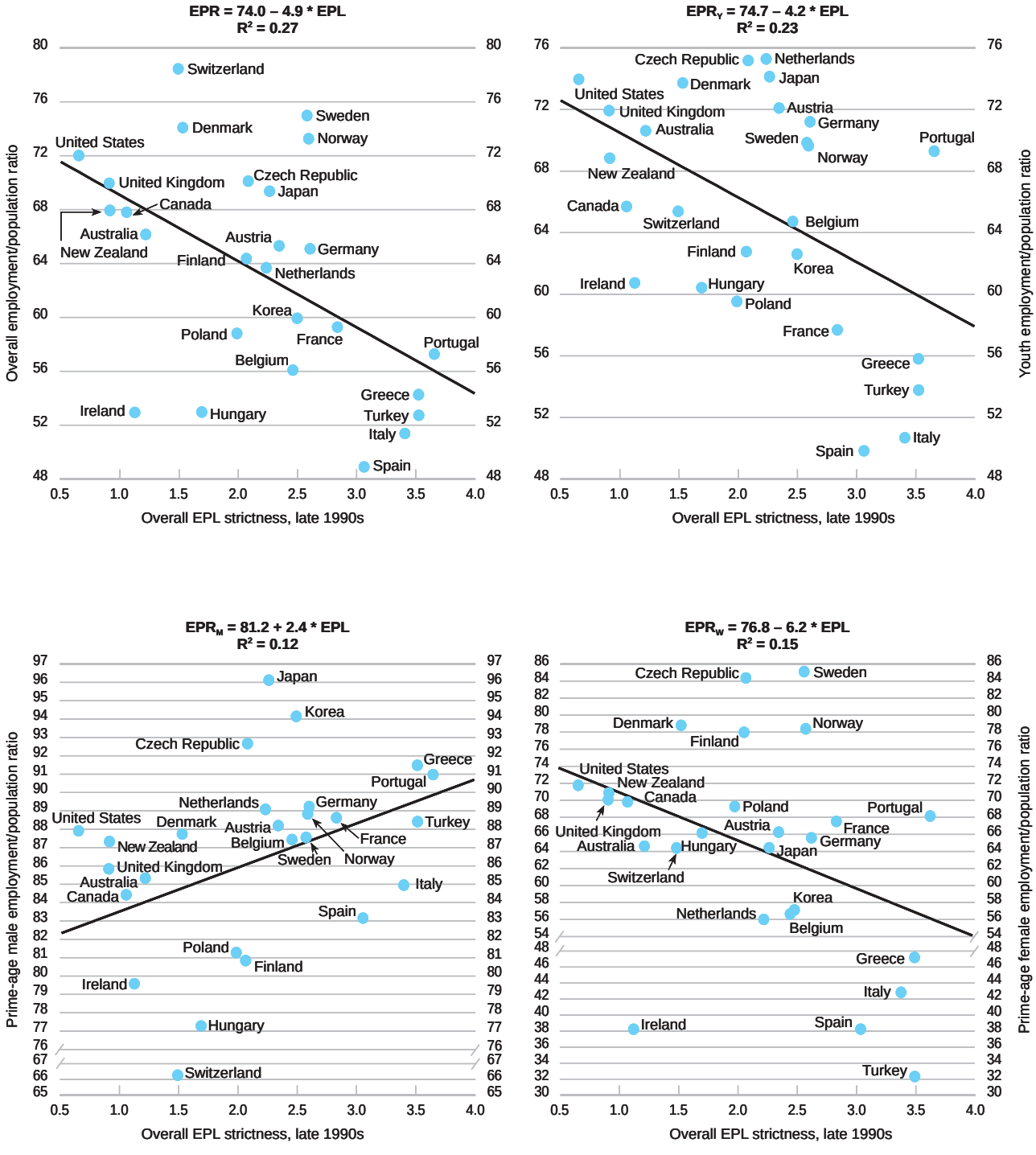


a) Overall EPL strictness, version 2.

Chart 2.2. **Overall EPL strictness,[a] employment and unemployment** *(cont.)*

Panel B: Employment/population ratios, averages over 1990-97

Percentages

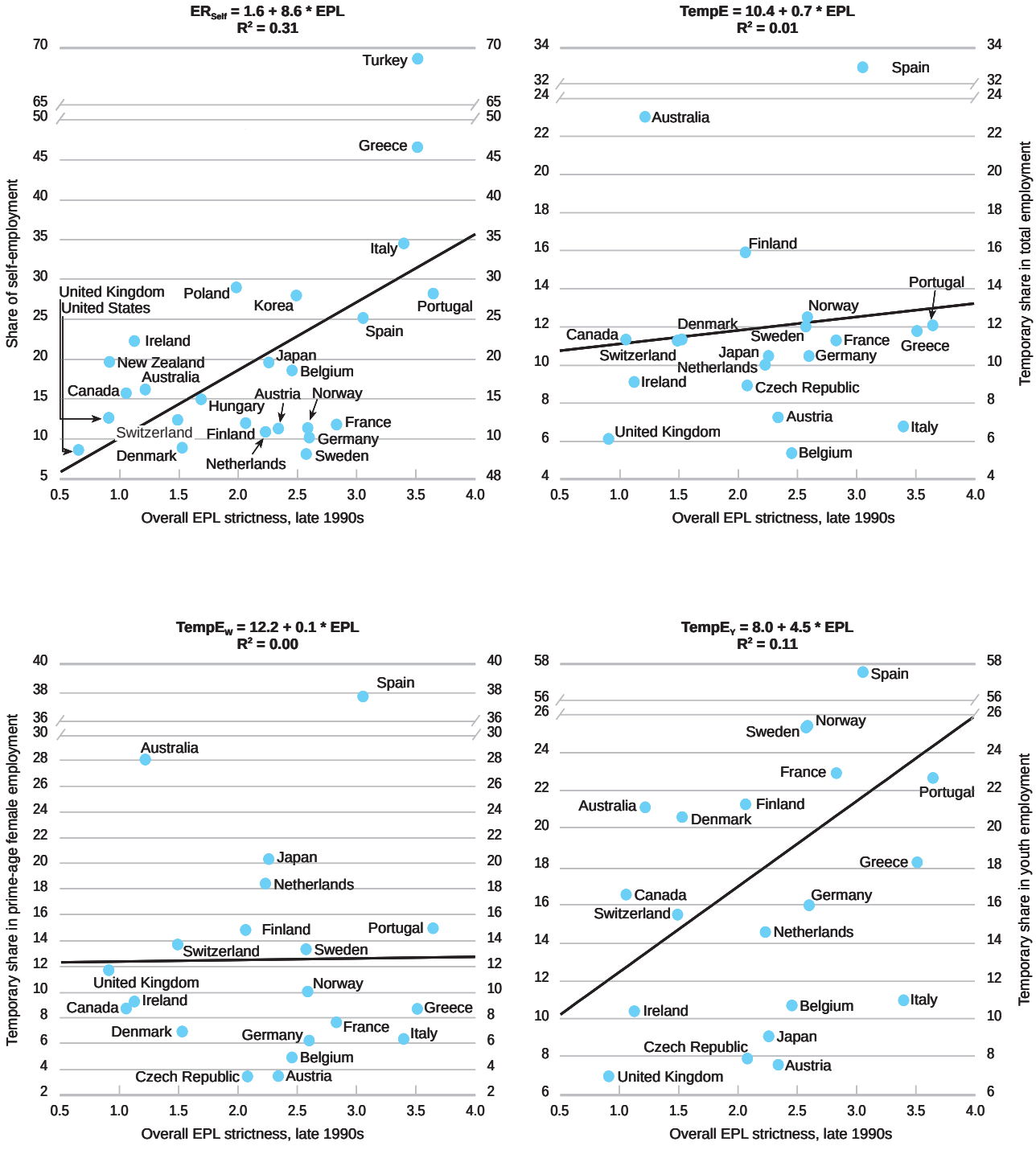


a) Overall EPL strictness, version 2.

Chart 2.2. **Overall EPL strictness,[a] employment and unemployment** *(cont.)*

Panel C: Employment shares by type of employment, averages over 1990-97

Percentages



a) Overall EPL strictness, version 2.

Sources: See Table 2.5 and Annex 2.D.

Panel A show some correlations between EPL strictness and the demographic composition of unemployment: stricter EPL being associated with lower unemployment for prime-age men, but with higher unemployment for youths and, perhaps, prime-age women. However, the low fits of the regression lines suggest that EPL is not the dominant determinant of international differences in either the level or the demographic composition of unemployment.

EPL strictness, however, is more strongly associated with employment rates, although, here too, the scatter of data points is quite dispersed. Panel B of Chart 2.2 shows a clear negative relationship between EPL strictness and the overall employment/population ratio. This negative association also holds for youths and prime-age women, but it reverses for prime-age men, consistent with the hypothesis that EPL protects the jobs of prime-age men (who are mainly insiders) at the cost of reducing employment for prime-age women and youths (who are mainly outsiders). Panel C shows that stricter EPL is associated with a higher share of self-employment. Regulation of regular contracts is expected to increase the share of temporary jobs and regulation of temporary employment is expected to reduce it, so the impact of the comprehensive indicator is theoretically ambiguous. Only among young workers is stricter EPL associated with an appreciable increase in the share holding temporary jobs. Thus, stricter EPL may encourage greater use of temporary contracts, but only for labour market entrants whose "productivities" are unknown due to their lack of work experience. Alternatively, recent liberalisations of EPL for temporary employment may not yet be fully reflected in hiring practices, but are beginning to be visible for younger workers.

Table 2.7 presents the simple correlation coefficients between a variety of EPL strictness indicators, in both the late 1980s and the late 1990s, and various employment and unemployment rates. Many of these correlation coefficients are small and not significantly different from zero, especially the correlations between measures of EPL strictness and the unemployment rates. However, these correlations suggest that EPL strictness may have an effect on employment rates and the share of self-employment. EPL strictness on temporary employment is more strongly associated with employment and self-employment rates than is EPL for regular employment or collective dismissals.[17] Over the past ten years, the correlations have increased between EPL strictness for temporary work and the overall, prime-age female and youth employment rates, as well as the share of self-employment.

The correlations between the EPL strictness measures and the share of temporary employment are never significant at even the 10 per cent level. However, the correlation between EPL strictness for regular work in the late 1980s and the shares of temporary employment are consistently positive and moderately large, a pattern that attenuates strongly in the late 1990s. Why this should be is unclear. One possibility, assuming there is a causal relationship, is that insufficient time has elapsed for recent reforms of EPL to be fully reflected in employers' use of temporary contracts.

Overall, the bivariate analysis suggests that EPL affects employment rates more than unemployment rates. This pattern suggests that stricter EPL may be associated with approximately equal shifts in labour force participation and employment: the employment and participation of prime-age men tending to be higher in countries with stricter EPL, but tending to be lower for prime-age women and youths. Stricter EPL is also associated with a higher share of self-employment, but there is little or no evidence of a link to the share of temporary employment, except in the case of young workers.

Multivariate analysis

Multivariate analysis may provide a superior assessment of the effects of employment protection on labour market performance since it controls for other determinants of cross-country differences in employment and unemployment. Accordingly, Tables 2.8 to 2.11 report the estimated coefficients from multivariate regression models that attempt to isolate the causal impact of various measures of EPL strictness. Although it is desirable to control for other determinants of labour market outcomes, these regression models rely on strong assumptions that may not be justified. As a result, both the bivariate and the multivariate results are of value for assessing the impact of EPL.

Panel-data methods are used to take advantage of the availability of the EPL indicators at two points in time [Hsiao (1986)]. The regression coefficients are estimated using the random-effects, generalised least squares (GLS) procedure that incorporates time-invariant "country effects".[18] Since the EPL strictness indicators are only available for two points in

17. The one possible exception is that stricter EPL for regular employment contributes significantly to the positive association between overall EPL strictness and the employment rate for prime-age men.

18. Allowing for cross-country differences in labour market performance that reflect the influence of omitted variables is highly desirable, but the random-effects method for doing so produces biased estimates if these country effects are correlated with the model regressors. Therefore, a Hausman test for misspecification of the random-effects model is shown for each regression [Hausman (1978)]. As an additional check, all of the panel models reported in this chapter were reestimated without country effects. When data for the two periods are pooled, the OLS coefficients for the EPL variables are similar to the random-effects GLS estimates that are discussed below.

Table 2.7. Correlation coefficients between EPL indicators and static measures of employment and unemployment [a, b]

	Indicators of the strictness of EPL							
	Regular employment		Temporary employment		Collective dismissals	Overall EPL, version 1 [c]		Overall EPL, version 2 [d]
	Late 1980s	Late 1990s	Late 1980s	Late 1990s	Late 1990s	Late 1980s	Late 1990s	Late 1990s
Employment [e]								
Employment/population ratios								
Overall	–0.35	–0.27	–0.40*	–0.52***	0.02	–0.43*	–0.48**	–0.46**
Prime-age males	0.32	0.42**	0.43*	0.31	–0.18	0.42*	0.40**	0.35*
Prime-age females	–0.19	–0.14	–0.19	–0.52***	0.09	–0.21	–0.42**	–0.39*
Youths	–0.26	–0.15	–0.42*	–0.61***	–0.08	–0.41*	–0.48**	–0.48**
Share of self-employment	0.36	0.32	0.46**	0.66***	–0.05	0.46**	0.59***	0.56***
Share of temporary employment								
Overall	0.27	0.02	–0.03	0.18	0.05	0.10	0.13	0.10
Prime-age females	0.27	0.03	–0.14	0.07	–0.15	0.02	0.06	0.01
Youths	0.45	0.15	0.24	0.38	0.09	0.38	0.35	0.33
Unemployment [e, f]								
Unemployment rates								
Overall	0.16	–0.13	0.09	0.14	–0.02	0.15	0.04	0.05
Prime-age males	–0.14	–0.37	–0.31	–0.20	–0.05	–0.26	–0.31	–0.30
Prime-age females	0.23	–0.07	0.16	0.16	0.10	0.23	0.08	0.11
Youths	0.21	–0.05	0.30	0.34	0.03	0.31	0.21	0.22
ISCED 0-2, prime age	–0.13	–0.34	–0.23	–0.24	–0.07	–0.21	–0.32	–0.32
ISCED 3, prime age	0.15	–0.16	–0.01	0.03	–0.09	0.06	–0.05	–0.06
ISCED 5, prime age	0.17	–0.01	0.11	0.29	–0.05	0.15	0.18	0.17
ISCED 6-7, prime age	0.12	–0.18	0.08	0.21	–0.12	0.11	0.07	0.05

*, ** and *** denote correlation coefficient significant at 10%, 5% and 1% levels respectively.

a) Variables of labour market performance are averages over 1990-1997, except the unemployment rates by levels of education, which are averages over 1991, 1992, 1994, 1995 and 1996.

b) The sample size is between 16 and 21 countries.

c) Average of summary indicators for regular employment and temporary employment (see Table 2.5 for details and explanations).

d) Weighted average of summary indicators for regular employment, temporary employment and collective dismissals (see Table 2.5 for details and explanations).

e) Age groups: 16-64 for the overall, 30-54 for prime age and 20-29 for the youth.

f) Educational attainments are divided in four groups: ISCED 0-2 for primary and lower secondary levels of education, ISCED 3 for upper secondary level of education, ISCED 5 for non-university tertiary level of education and ISCED 6-7 for university tertiary level of education.

Sources: For labour market performance variables see Annex 2.D. EPL variables are from Table 2.5.

time, a two-period model is estimated: the first period combines late-1980s EPL values with 1985-1990 averages for the performance and control variables, and the second period combines late-1990s EPL values with 1992-1997 averages for the other variables.[19] This averaging has the twin advantages of smoothing out some of the effects of the cycle and reducing measurement error.[20]

The selection of the control variables closely follows specifications previously used in the literature. The "basic specification" includes four variables characterising the wage bargaining structure (*i.e.* the degrees of centralisation and co-ordination of collective bargaining, trade union density, and collective bargaining coverage), two variables characterising income-support schemes for the unemployed (*i.e.* the average gross replacement rate and the maximum duration of benefits), the tax wedge, spending on active labour market policies (ALMPs) and the output gap to control for the effects of the cycle. Due to limited availability of the performance and control variables, the final regression sample is restricted to 19 of the 27 OECD countries for which EPL data are presented in Section I.[21]

19. It would probably be desirable to introduce a time lag between the dates at which EPL strictness and labour market performance are measured, since it may take several years for changes in EPL to be fully reflected in employment and unemployment. It has, for example, been argued that the initial impacts of EPL reforms on employment and unemployment may differ from their long-run effects [Bertola and Ichino (1995)]. It is not yet possible to explore lagged effects when analysing the EPL data for the late 1990s, but the possibility that recent changes in EPL are not yet fully visible in labour market performance needs to be taken into account when interpreting the results.
20. Alternative averaging periods were tried, but the results did not change significantly.
21. Two of the countries included in the regression sample, Japan and New Zealand, contribute only a single observation, since no EPL data are available for the late 1980s. More details on data availability, as well as the definitions and sources of the performance and control variables, can be found in Annex 2.D.

Unemployment effects

Table 2.8 presents regression coefficients for models relating international differences in overall unemployment rates to EPL strictness and various combinations of control variables. The first column reports a "basic specification" that closely parallels those used in previous studies, including a typical list of control variables and a single, overall, indicator of EPL strictness. A second version of the basic specification is presented in column (2), which differs only in that separate indicators are used for the three main components of EPL (*i.e.* strictness for regular employment, temporary employment and collective dismissals). In both cases, the results are qualitatively similar. The estimated coefficient for overall EPL strictness is very small and insignificant, which accords with the majority of the prior studies reviewed in Annex 2.C and the plots in Chart 2.2. Similarly, none of the coefficients for the three components of EPL indicates a significant impact on unemployment. The latter result is quite novel, since few studies have analysed the impact of separate components of EPL, and suggests that the finding of no link between overall EPL strictness and unemployment is not due to off-setting effects of the separate components of EPL.[22]

The remaining five columns of Table 2.8 further demonstrate the robustness of this result. Columns (3) and (4) report estimates for two specifications in which the components of EPL are further disaggregated. In the first specification, EPL for regular employment is divided into two components: regulations that imply a transfer from the employer to the employee (*i.e.* notice period and severance pay) and regulations that imply a net "tax" on the employment relationship (*i.e.* procedural inconveniences and difficulty of dismissal).[23] In the second specification, EPL for temporary work is divided into regulations for fixed-term contracts and for TWAs. In neither case, are any of the EPL coefficients of statistical significance.

The final three columns of Table 2.8 report results for additional generalisations of the basic specifications, which incorporate two new control variables[24] and interactions between EPL strictness and two measures of labour market institutions that may influence the strength of the link between EPL and unemployment: the centralisation and co-ordination of wage bargaining and the generosity of the unemployment benefits scheme [Bertola (1999)]. The interaction of EPL strictness with the centralisation/co-ordination index yields a marginally significant, negative coefficient, consistent with the argument that strict EPL is less likely to increase unemployment if wage bargaining is effectively co-ordinated at the national level.[25] The coefficient of the interaction with the replacement rate for unemployment benefits is zero. Although there is some confirmation that interaction effects may be important, there is no indication that adding the additional control variables or interactions reveals important effects of EPL strictness on overall unemployment that were obscured by the simpler specifications. The basic finding appears robust: overall unemployment is not significantly related to EPL strictness.

Turning now to the demographic composition of unemployment, Table 2.9 presents regressions relating international differences in the unemployment rates of prime-age males, prime-age females, youths and the low-skilled to EPL. In this and all the following tables, each independent variable (*i.e.* measure of labour market performance) is investigated using the two versions of the basic specification. "Model 1" includes a single, overall indicator of EPL strictness (Version 1 from Table 2.5) and is most easily compared with previous studies. "Model 2" includes separate indicators of EPL strictness for regular employment, temporary employment and collective dismissals. It allows for the possibility that these different components of EPL have distinct effects on labour market outcomes. Both models also contain the same nine control variables used in columns (1) to (4) of Table 2.8, although their coefficients are not reported.

The regression coefficients only weakly support the inference from Chart 2.2 that stricter EPL may affect the demographic composition of unemployment. The strongest evidence is for a reduction in unemployment for prime-age men. However, the bivariate association between stricter EPL and higher unemployment is only weakly confirmed for youths and totally disappears for prime-age women. This result is somewhat different from those obtained by several prior studies, which have also found

22. The fit of the basic specifications are quite good: R-squared values exceed 0.6, the model coefficients are highly jointly significant and the Hausman statistic indicates acceptance of the random-effects specification. A number of the control variables have statistically significant coefficients that accord well with previous studies.
23. The former may tend to have less impact on employment and unemployment than the latter, because mandated, employer-to-employee transfers can – at least in principle – be fully off-set by adjusting hiring terms, while payments to third parties or procedural costs represent an inescapable reduction in the joint income of the employer and employee.
24. The two additional control variables are the percentage of home owners – a control variable proposed in Oswald (1996) and used in Nickell and Layard (1998) – and earnings dispersion.
25. Elmeskov *et al*. (forthcoming) found that EPL raises unemployment more in combination with an intermediate level of centralisation and co-ordination of bargaining, than with either high or low levels. An alternative specification of the model in column (6) of Table 2.8 was estimated that allowed for such a pattern but the estimated interaction effect was monotonically decreasing, rather than "hump-shaped".

Table 2.8. Two-period panel regressions to explain (log) overall unemployment rate [a, b]

Random-effects GLS estimates

	Basic specifications		Further disaggregation of EPL components		Augmented basic specification	Interactions	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Strictness of EPL							
Overall EPL, version 1	–0.01 *(0.1)*				–0.05 *(0.5)*	–0.06 *(0.6)*	–0.06 *(0.5)*
Regular employment		0.02 *(0.2)*		0.02 *(0.1)*			
Procedural inconveniences and difficulty of dismissal			–0.05 *(0.4)*				
Notice period and severance pay			0.08 *(0.7)*				
Temporary employment		–0.03 *(0.4)*	–0.04 *(0.5)*				
Fixed-term contracts				–0.02 *(0.2)*			
TWAs				–0.01 *(0.2)*			
Collective dismissals		–0.04 *(0.3)*	–0.11 *(0.6)*	–0.04 *(0.2)*			
Interactions [c]							
EPL with the average of co-ordination and centralisation						–0.29 *(1.8)**	
EPL with the replacement rate							0.00 *(0.4)*
Wage bargaining system							
Co-ordination (1-2.5)	–0.43 *(2.7)****	–0.44 *(2.5)***	–0.39 *(2.0)***	–0.44 *(2.5)***	–0.23 *(1.4)*	–0.01 *(0.1)*	–0.25 *(1.4)*
Centralisation (1-2.5)	–0.25 *(0.9)*	–0.19 *(0.6)*	–0.21 *(0.7)*	–0.21 *(0.7)*	–0.20 *(0.8)*	0.10 *(0.3)*	–0.11 *(0.4)*
Trade union density (%)	–0.01 *(1.2)*	–0.01 *(1.1)*	–0.01 *(1.1)*	–0.01 *(1.0)*	–0.01 *(1.7)**	–0.01 *(1.4)*	–0.01 *(0.2)*
Bargaining coverage (%)	0.01 *(1.5)*	0.01 *(1.1)*	0.01 *(1.2)*	0.01 *(1.1)*	0.01 *(1.4)*	0.01 *(1.0)*	0.01 *(1.1)*
Unemployment benefit scheme							
Replacement rate (%)	0.02 *(2.1)***	0.01 *(1.8)**	0.01 *(1.7)**	0.01 *(1.8)**	0.01 *(1.3)*	0.01 *(1.6)*	0.01 *(1.0)*
Duration (months)	0.00 *(0.7)*	0.00 *(0.5)*	0.00 *(0.7)*	0.00 *(0.5)*	0.00 *(1.0)*	0.00 *(0.9)*	0.00 *(0.8)*
Tax wedge (%)	0.02 *(1.6)*	0.03 *(1.5)*	0.03 *(1.6)*	0.03 *(1.5)*	0.02 *(1.4)*	0.02 *(1.7)**	0.02 *(1.4)*
ALMP spendings (as % of GDP)	–0.38 *(1.4)*	–0.37 *(1.2)*	–0.33 *(1.0)*	–0.39 *(1.3)*	0.04 *(0.1)*	–0.05 *(0.1)*	0.04 *(0.1)*
Output gap	–0.11 *(3.3)****	–0.11 *(3.3)****	–0.11 *(3.0)****	–0.11 *(3.1)****	–0.09 *(2.8)****	–0.09 *(3.1)****	–0.10 *(3.0)****
Home ownership rate (%)					0.02 *(2.1)***	0.02 *(1.8)**	0.02 *(1.9)**
Earnings dispersion (D9/D1)					0.06 *(0.4)*	0.13 *(0.8)*	0.08 *(0.5)*
Number of observations [d]	34	34	34	34	34	34	34
R-squared	0.63	0.62	0.64	0.63	0.71	0.75	0.72
Wald test [e]	35.4 ***	31.6 ***	31.2 ***	30.7 ***	46.8 ***	50.6 ***	42.2 ***
Breusch and Pagan test [f]	0.67	0.69	0.21	0.14	0.03	0.03	0.03
Hausman test [g]	7.1	6.7	8.3	6.6	5.7	7.6	40.0 ***

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

a) Generalised least squares estimates for the random-effects panel model. Absolute values of *t*-statistics reported in parenthesis. Regressions also contain a constant term.

b) Unemployment rates are averages over 1985-90 and 1992-97. EPL is measured in the late 1980s and the late 1990s, except for collective dismissals, where late 1990s values are used for both periods. Most control variables are measured over the same two periods. In the cases where data for a control variable are only available for one of the periods, the same value was assigned to the other period.

c) Interactions are calculated as the product of the overall EPL indicator (version 1) and the institutional variables (expressed as a mean deviation). For example, the interaction of EPL with replacement rate in country *i* is measured as: (EPL indicator for *i*) × (replacement rate for *i* – average replacement rate).

d) Nineteen countries are included in the estimation sample: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States. Since EPL data for the late 1980s are not available for Japan and New Zealand, these countries only contribute a single observation (*i.e.* for the late 1990s).

e) Wald test for joint significance of regressors (Chi-square statistic).

f) Breusch and Pagan Lagrangian multiplier test for presence of country effects (Chi-square statistic).

g) Hausman test for misspecification of the random-effects model (Chi-square statistic).

Sources: The summary indicators for EPL strictness are from Table 2.2, Panel B, Table 2.3, Panel B and Table 2.5. The sources and definitions for the control variables and the labour market performance variables are described in Annex 2.D.

Table 2.9. **Two-period panel regressions to explain log unemployment rates** [a, b]

Random-effects GLS estimates

	Overall unemployment rate	Prime-age male unemployment rate [c]	Prime-age female unemployment rate [c]	Youth unemployment rate [c]	Low-skilled unemployment rate [c]
	(1)	(2)	(3)	(4)	(5)
Strictness of EPL (model 1)					
Overall EPL, version 1	–0.01 *(0.1)*	–0.21 *(1.9)**	–0.06 *(0.5)*	0.06 *(0.6)*	–0.13 *(0.9)*
Strictness of EPL (model 2)					
Regular employment	0.02 *(0.2)*	–0.06 *(0.4)*	0.02 *(0.2)*	0.01 *(0.1)*	–0.09 *(0.5)*
Temporary employment	–0.03 *(0.4)*	–0.13 *(1.6)*	–0.04 *(0.5)*	0.02 *(0.3)*	–0.06 *(0.6)*
Collective dismissals	–0.04 *(0.3)*	–0.05 *(0.3)*	0.15 *(1.0)*	–0.10 *(0.5)*	–0.04 *(0.2)*
Number of observations	34	33	33	34	34
Model 1					
R-squared	0.63	0.55	0.67	0.61	0.55
Wald test [d]	35.4 ***	39.3 ***	44.9 ***	34.3 ***	50.5 ***
Breusch and Pagan test [e]	0.7	4.5 **	0.5	0.8	0.8
Hausman test [f]	7.1	4.7	10.0	16.0 **	15.4 *
Model 2					
R-squared	0.62	0.56	0.69	0.61	0.55
Wald test [d]	31.6 ***	37.3 ***	42.7 ***	31.8 ***	47.0 ***
Breusch and Pagan test [e]	0.7	3.5 *	0.2	0.6	0.6
Hausman test [f]	6.7	6.1	8.0	13.5	16.9 *

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

a) For explanations of the estimation method and data definitions see notes *a)* and *b)* of Table 2.8.

b) The results presented in this table are obtained from two different model specifications, refered to as "model 1" and "model 2", which correspond to the specifications in the first and second columns of Table 2.8 and incorporate the same nine control variables and a constant term (coefficients not reported here).

c) Prime age refers to the age group 30-54, youth refers to the age group 20-29 and low-skilled refers to workers with no more than primary and lower secondary levels of education (ISCED 0-2).

d) Wald test for joint significance of regressors (Chi-square statistic).

e) Breusch and Pagan Lagrangian multiplier test for presence of country effects (Chi-square statistic).

f) Hausman test for misspecification of the random-effects model (Chi-square statistic).

Source: See Table 2.8.

evidence that greater EPL strictness has little effect on overall unemployment, but have found stronger evidence that it increases relative unemployment for select groups, especially youths (see *Annex 2.C* for a summary of prior studies).

Employment effects

Table 2.10 presents regression results for the effect of EPL on employment rates. The coefficients on overall EPL strictness indicate a positive effect on the employment rate for prime-age men and negative effects for women and the total workforce. However, none of these coefficients are statistically significant at even the 10 per cent level and it would, thus, appear that EPL may have little impact on employment rates once other factors are controlled for. The coefficients for the three components of EPL also fail to confirm a statistically significant relationship. These results differ substantially from those of several prior studies, using an overall EPL strictness indicator for the late 1980s, which found a significant negative impact on overall employment, but no effect for prime-age males [Nickell (1997); Nickell and Layard (1998)].[26]

Table 2.10 does confirm that stricter EPL is a significant factor encouraging the expansion of self-employment (Table 2.10, column 5). This result is consistent with previous findings [Grubb and Wells (1993)], and suggests that self-employment functions as an alternative form of employment that avoids the costs of strict regulation. The regulations on regular employment appear to matter most for stimulating increased self-employment.

The final two columns in Table 2.10 examine the effect of EPL on the share of temporary work in total employment, first for the total workforce and then for

26. The Hausman misspecification test indicates that the random-effects specification used here may be inappropriate.

Table 2.10. **Two-period panel regressions to explain employment** [a, b, c]

Random-effects GLS estimates

	Overall employment/ population ratio	Prime-age male employment/ population ratio [d]	Prime-age female employment/ population ratio [d]	Youth employment/ population ratio [d]	Share of self-employment	Temporary share in total employment	Temporary share in youth employment [d]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Strictness of EPL (model 1)							
Overall EPL, version 1	–1.59 *(1.1)*	1.37 *(1.5)*	–3.66 *(1.4)*	–0.54 *(0.3)*	2.75 *(2.3)***	–0.01 *(0.0)*	1.81 *(0.5)*
Strictness of EPL (model 2)							
Regular employment	–1.30 *(0.7)*	0.91 *(0.8)*	–3.86 *(1.1)*	0.04 *(0.0)*	4.62 *(3.9)****	–5.26 *(2.5)***	–6.93 *(1.7)**
Temporary employment	–0.64 *(0.7)*	0.44 *(0.8)*	–1.77 *(1.1)*	–0.31 *(0.3)*	–0.02 *(0.0)*	0.90 *(0.9)*	2.88 *(1.2)*
Collective dismissals	–0.44 *(0.2)*	–3.37 *(1.7)**	–4.69 *(0.7)*	0.80 *(0.3)*	0.78 *(0.3)*	–5.76 *(1.5)*	–6.17 *(1.0)*
Number of observations	34	34	34	33	36	28	27
Model 1							
R-squared	0.69	0.50	0.54	0.60	0.54	0.21	0.27
Wald test [e]	29.8 ***	58.2 ***	11.6	45.0 ***	12.9	6.2	5.6
Breusch and Pagan test [f]	2.5	2.4	7.6 ***	1.2	1.3	4.1 **	4.0 **
Hausman test [g]	8.7	17.6 **	35.6 ***	27.5 ***	95.6 ***	5.2	3.2
Model 2							
R-squared	0.68	0.46	0.51	0.60	0.48	0.08	0.09
Wald test [e]	25.1 **	66.4 ***	8.6	41.9 ***	22.9 **	23.1 **	11
Breusch and Pagan test [f]	2.1	2.7	5.7 **	0.9	1.6	4.5 **	4.5 **
Hausman test [g]	26.7 ***	48.8 ***	37.7 ***	26.0 ***	3.4	10.5	7.9

*, ** and *** mean statistically significant at 10%, 5% and 1% levels respectively.
a) See note *a)* of Table 2.8 for an explanation of the estimation method.
b) Employment/population ratios are averages over 1985-90 and 1992-97.
c) See note *b)* from Table 2.9 for an explanation of the two regression models.
d) Prime age refers to the age group 30-54 and youth to the age group 20-29.
e) Wald test for joint significance of regressors (Chi-square statistic).
f) Breusch and Pagan Lagrangian multiplier test for presence of country effects (Chi-square statistic).
g) Hausman test for misspecification of the random-effects model (Chi-square statistic).
Source: See Table 2.8.

youths. These regressions accord with the bivariate analysis in detecting no significant effect of overall EPL strictness on the overall share of temporary employment and, at best, a weak effect for youths. When three separate indicators of EPL strictness are included in the model for total temporary employment, many of the estimated coefficients are large but the signs are uniformly inconsistent with the theoretical predictions that regulation of regular employment increases the incidence of temporary employment while regulation of temporary employment reduces it. Thus, the analysis does not confirm earlier research that found an important role for EPL in encouraging the growth of temporary employment, but neither is it particularly successful at identifying alternative explanations for international differences in its prevalence (as indicated by the low goodness-of-fit statistics).[27]

Effect of changes in EPL on changes in labour market outcomes

Have the changes in EPL during the past decade had a detectable effect on employment and unemployment? The regression models in Tables 2.8 to 2.10 were reestimated in first-difference form, which relates changes in labour market outcomes to changes in EPL strictness and the control variables.[28] A representative selection of the results are reported in Table 2.11.[29]

27. Several additional attempts were made to improve the model specification, but the qualitative results did not change. For example, the estimation sample was restricted to European Union countries, since that reduces cross-country differences in the nature and measurement of temporary employment [OECD (1996*b*, Table 2.5)]. Also, Model 2 was reestimated omitting the EPL indicator for collective dismissals, since the coefficients of this variable behave quite erratically.
28. Since first differencing the data removes any country effects, these models are estimated using ordinary least squares (OLS).
29. Three variables, for which only second-period (*i.e.* mid to late 1990s) data are available had to be omitted from these regressions (*i.e.* EPL for collective dismissals, unemployment benefit duration and the tax wedge).

Table 2.11. Regressions to explain changes in the performance variables, from the late 1980s to the late 1990s [a, b]

Cross-section OLS estimates

	Changes in unemployment rates				
	Overall (1)	Prime-age males [c] (2)	Prime-age females [c] (3)	Youth [c] (4)	Low-skilled [c] (5)
Changes in the strictness of EPL (model 1)					
Overall EPL, version 1	0.50 *(0.3)*	0.62 *(0.6)*	0.67 *(0.3)*	0.85 *(0.4)*	1.68 *(1.1)*
Changes in the strictness of EPL (model 2)					
Regular employment	–2.51 *(1.1)*	–1.36 *(0.9)*	–7.53 *(3.3)***	–0.96 *(0.3)*	0.26 *(0.1)*
Temporary work	0.34 *(0.4)*	0.37 *(0.7)*	0.59 *(0.8)*	0.48 *(0.4)*	0.81 *(1.0)*
Number of countries	17	17	17	16	16
Model 1					
Adjusted R-squared	0.45	0.62	–0.10	0.55	0.70
F test [d]	2.6 *	4.3 **	0.8	3.3 *	5.4 **
Model 2					
Adjusted R-squared	0.48	0.64	0.57	0.49	0.66
F test [d]	2.7	4.2 **	3.4 *	2.6	4.2 **

	Changes in employment/population ratios				Changes in the shares of different types of employment	
	Overall (1)	Prime-age males [c] (2)	Prime-age females [c] (3)	Youth [c] (4)	Self-employment (5)	Temporary (6)
Changes in the strictness of EPL (model 1)						
Overall EPL, version 1	–1.81 *(0.9)*	0.03 *(0.0)*	–0.60 *(0.2)*	–1.58 *(0.6)*	–2.25 *(1.6)*	5.34 *(1.3)*
Changes in the strictness of EPL (model 2)						
Regular employment	–2.58 *(0.9)*	0.56 *(0.3)*	–2.95 *(0.7)*	–0.85 *(0.2)*	2.16 *(1.2)*	–10.19 *(3.1)**
Temporary work	–0.85 *(0.8)*	0.00 *(0.0)*	–0.21 *(0.1)*	–0.79 *(0.6)*	–1.22 *(1.9)**	1.32 *(1.5)*
Number of countries	17	17	17	17	19	12
Model 1						
Adjusted R-squared	0.69	0.60	0.43	0.66	0.09	0.29
F test [d]	5.5 **	4.0 **	2.5	4.9 **	1.2	1.6
Model 2						
Adjusted R-squared	0.66	0.55	0.38	0.61	0.27	0.89
F test [d]	4.5 **	3.2 *	2.1	3.8 **	1.8	10.5 *

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

a) Changes in the performance, EPL and control variables are measured between the first and second periods of the panel models reported in Tables 2.8 to 2.10.

b) The regressions include the same control variables as the panel models in Tables 2.9 to 2.10, except that two variables, for which no data were available for the late 1980s, are omitted (*i.e.* unemployment benefit duration and tax wedge).

c) Prime age refers to the age group 30-54, youth to the age group 20-29 and low-skilled to workers with no more than primary and lower secondary levels of education (ISCED 0-2).

d) *F*-statistic test for joint significance of regressors.

Source: See Table 2.8.

Overall, these results indicate that it is difficult to confirm that recent EPL reforms have been associated with changes in employment and unemployment. Virtually all of the coefficients on the variables for changes in EPL strictness are statistically insignificant; while the three exceptions all have the "wrong" sign. However, a weakness of these first-differenced models is that changes in employment and unemployment are being related to approximately *contemporaneous* changes in EPL, whereas it probably would be better to allow for a lagged effect between recent reforms and labour market outcomes. Given the data available, this was not possible. A second weakness is that EPL, particularly provisions for regular employment, was largely unchanged in many of the countries between the late 1980s and the late 1990s. Nonetheless, the first-differenced regressions suggest that EPL probably has not been a dominant explanation of international differences in changes in the levels and composition of employment and unemployment in recent years.

C. Effects on labour market dynamics

Bivariate associations

Chart 2.3 examines the bivariate association between the most comprehensive indicator of EPL strictness in the late 1990s (along the horizontal axis) and 12 measures of labour market dynamics (along the vertical axis). These scatter plots generally are consistent with the theoretical prediction that stricter EPL leads to a labour market with lower turnover, but some of the associations are stronger than others and there are notable examples of countries diverging from the overall tendency.

The simple associations between overall EPL strictness and measures of job and labour turnover[30] are presented in Chart 2.3, Panel A. These scatter plots do not suggest that international differences in employment protection are an important determinant of differences in overall job turnover, consistent with earlier analysis by the OECD (1997*a*). Even when attention is restricted to job turnover at continuing firms, the component of overall turnover that is most likely to be discouraged by EPL, the association is very weak.[31] By contrast, stricter EPL is more strongly associated with lower rates of labour turnover. Spain and Poland emerge as outliers, however, when the share of the workforce with less than one year of job tenure is used as an alternative measure of annual labour turnover. Spain has much higher labour turnover than other countries with equally strict EPL, reflecting the high share of temporary employment in the Spanish labour market. Poland's very low labour turnover, despite intermediate levels of EPL, may reflect aspects of its recent transition to a market economy, including that employment protection was much stricter quite recently and that turnover was very low during the communist era.

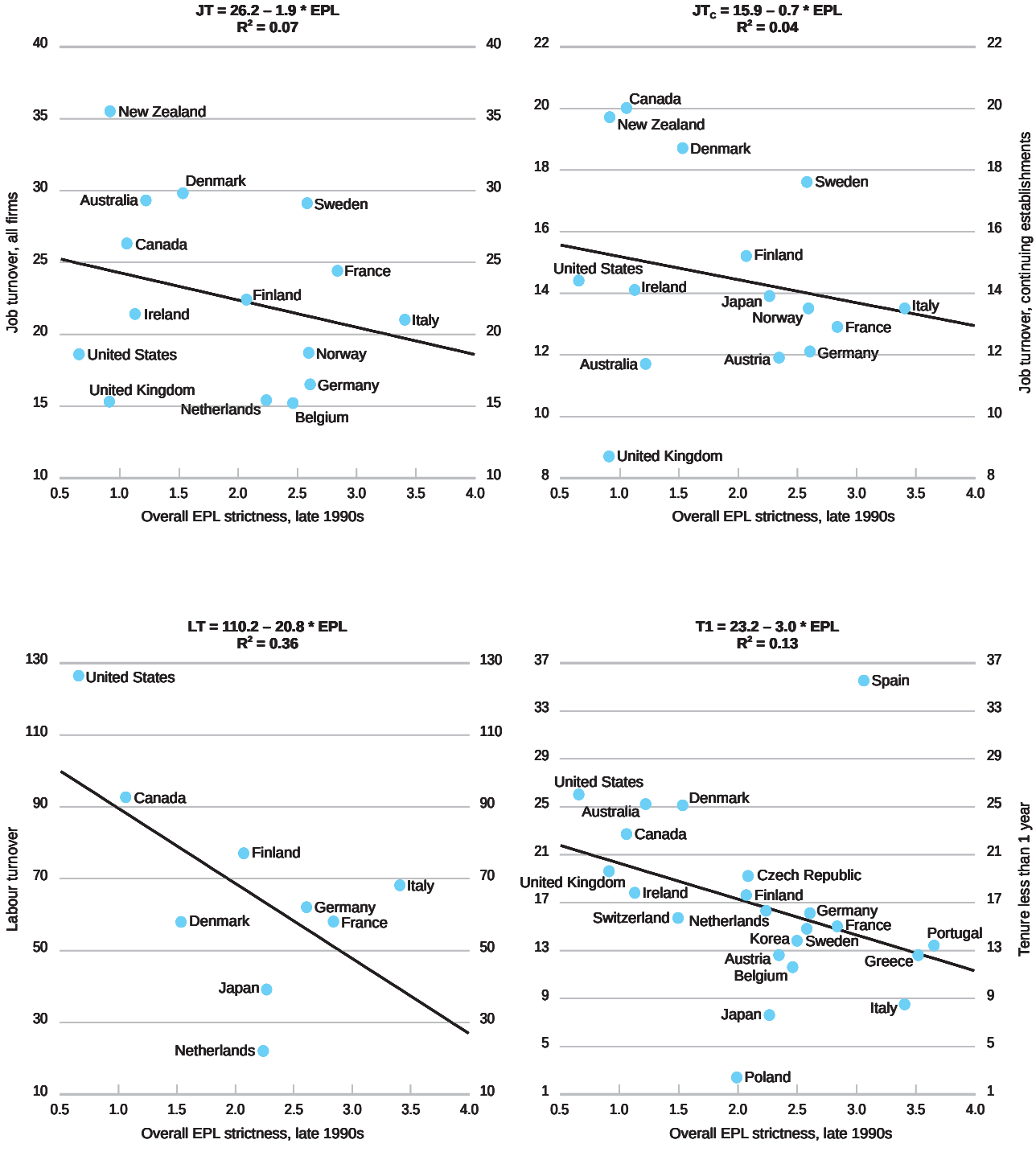
Mean job tenure is higher in countries with stricter employment protection (Chart 2.3, Panel B). Once again, Poland is an outlier. Similarly, five-year retention rates (*i.e.* the probability that worker-job matches observed at one point in time will still be intact five years later) tend to rise with the strictness of employment protection. This is consistent with EPL creating greater job security for workers already employed, encouraging employers to screen new employees more carefully and discouraging incumbent employees from quitting in order to search for another job. The relationship between employment protection and more durable jobs is especially strong for jobs having already lasted at least five years. Omitting very low tenure jobs, which are potentially fixed-term or TWA positions, brings Australia, Germany, Japan and Spain into closer conformity with the general pattern, but Finland remains an outlier, combining very low retention rates with intermediate EPL.[32] Stability among workers having already accumulated five years of tenure is unusually high in France, even after accounting for the relative strictness of EPL.

Stricter employment protection is associated with lower flows into and out of unemployment and longer durations of unemployment (Chart 2.3, Panel C).[33] The monthly unemployment inflow rate is highest in Canada and the United States, which score very low on EPL strictness, and generally declines as EPL strictness rises. A similar, but weaker statistically, relationship holds for the monthly rate at which unemployed persons exit

30. Job turnover is the sum of job creation and job destruction measured at the level of individual firms (or establishments). Labour turnover is job turnover plus movements of workers between on-going jobs. See Annex 2.D for definitions and sources of all the dynamic variables.
31. Although stricter EPL creates incentives for firms to smooth employment for any given system of wage setting, countries with stricter EPL may not have lower job turnover than other countries because they are characterised by less wage flexibility in response to labour demand "shocks" [Bertola and Rogerson (1997)].
32. The severe recession of the early 1990s probably accounts for the low retention rate for Finnish workers.
33. 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 monthly. Note that both inflows and outflows include transitions between unemployment and inactivity that may be less relevant for assessing the impact of EPL than flows between unemployment and employment.

Chart 2.3. **Overall EPL strictness[a] and labour market dynamics**

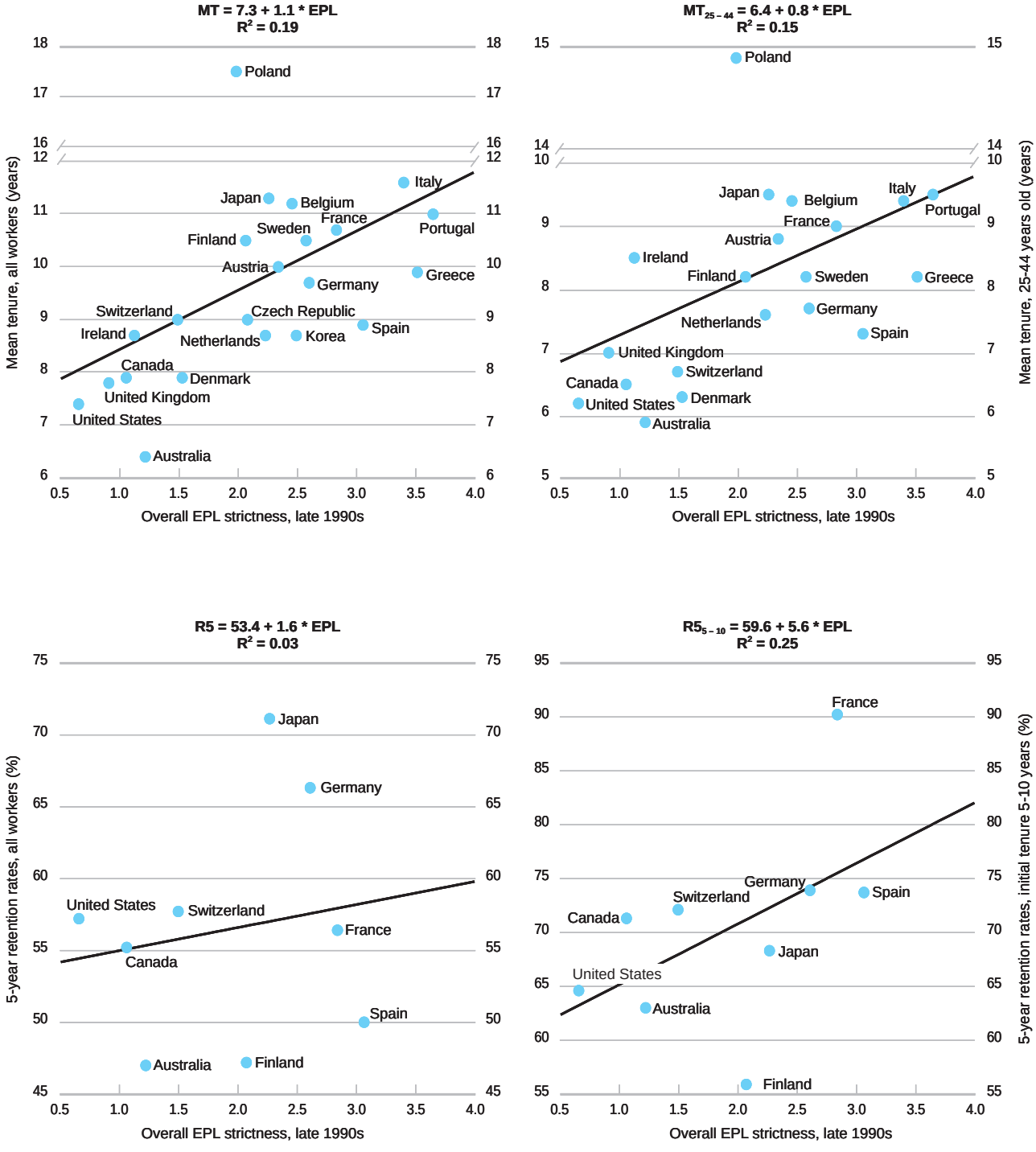
Panel A: Job and labour turnover
(as a percentage of employment)



a) Overall EPL strictness, version 2.

Chart 2.3. Overall EPL strictness[a] and labour market dynamics *(cont.)*

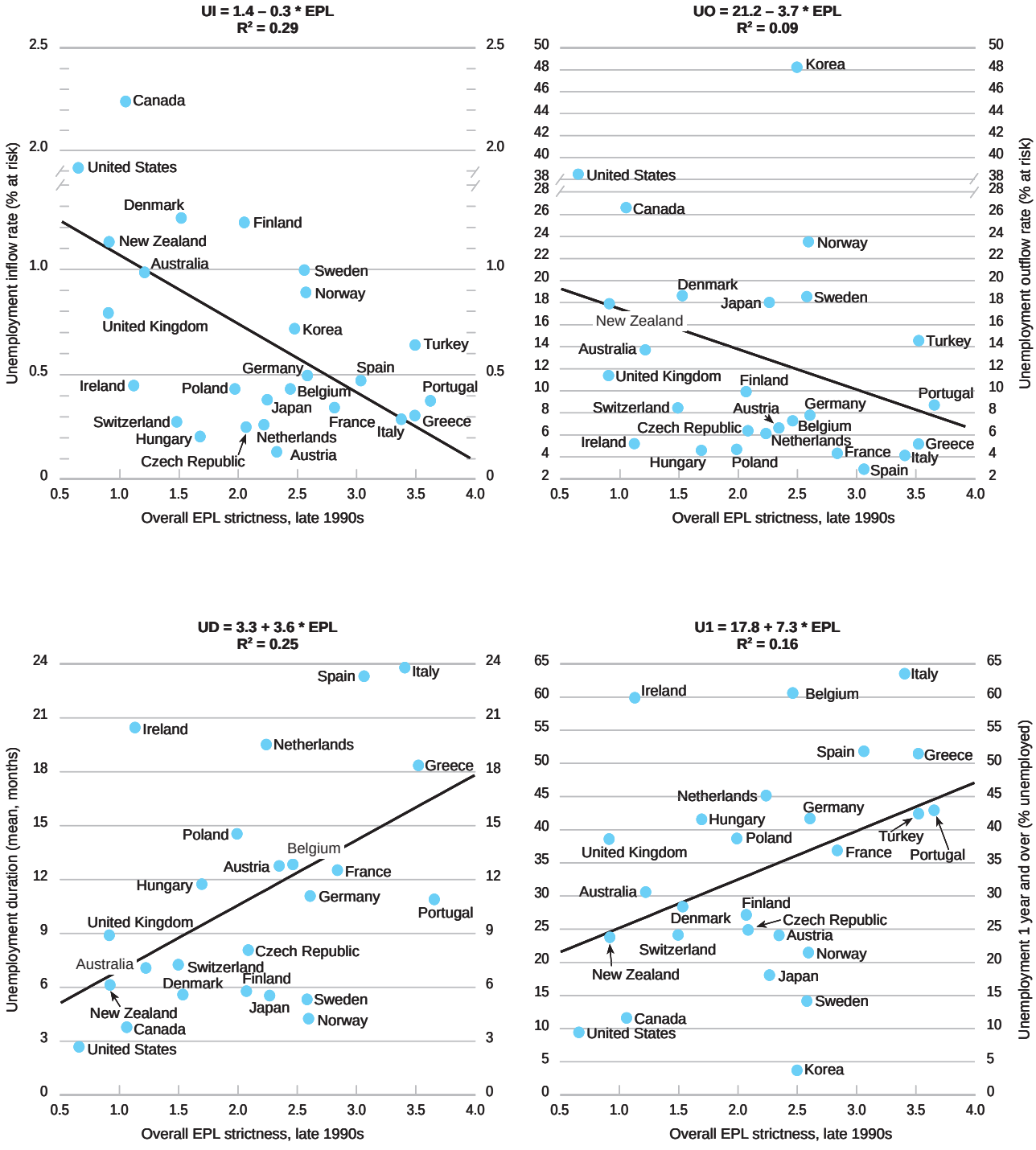
Panel B: Job tenure and retention rates



a) Overall EPL strictness, version 2.

Chart 2.3. **Overall EPL strictness[a] and labour market dynamics** *(cont.)*

Panel C: Unemployment flows and durations



a) Overall EPL strictness, version 2.
Sources: See Table 2.5 and Annex 2.D.

unemployment.[34] Korea is an exception, however, combing an extremely high unemployment outflow rate with moderately strict employment protection.[35] Both mean unemployment durations and the share of the unemployed who have been jobless for at least a year tend to be higher in countries with stricter EPL, consistent with several earlier studies [Blanchard and Portugal (1998); Gregg and Manning (1997); Jackman *et al.* (1996); Nickell and Layard (1998); OECD (1993)].

Table 2.12 reports pair-wise correlations between nine measures of labour market dynamics and twelve measures of EPL. Most of these correlations are not significantly different from zero, at even the 10 per cent level. However, the correlations with EPL strictness are quite strong and frequently significant for several of the variables: the labour turnover and unemployment inflow rates and the two measures of unemployment duration (mean duration and the share of unemployed who have been searching for more than one year). The strongest and most consistent finding is that of a negative association between EPL strictness and the inflow rate to unemployment. A second finding concerns the relative importance of different components of employment protection. The overall strictness of employment protection is significantly related to lower labour turnover and higher mean tenures, but most of this association operates through EPL practices affecting regular employment. For example, lower labour turnover rates appear to be most strongly associated with the procedural inconvenience and difficulty-of-dismissal aspects of the regulation of regular employment. By contrast, lower inflows to unemployment and longer mean durations appear to be about equally associated with restrictive regulations affecting temporary and regular employment.

Multivariate analysis

The extent to which EPL reduces labour market flows can be better gauged if other factors influencing these variables are controlled for using the regression framework introduced above to examine static measures of employment and unemployment. Table 2.13 reports GLS regression coefficients for two-period panel models, in which select measures of labour market dynamics have been regressed on summary indicators of EPL strictness and nine additional control variables. Many of the dynamic variables used in the bivariate analysis cannot be examined using panel regression models because data are not available for the late 1980s. Thus, this analysis is limited to one measure of job stability and five of unemployment dynamics.

Regression results for the five-year retention rate do not confirm the link between stricter EPL and greater job stability suggested by the bivariate analysis, but this may be due to data only being available for nine countries. By contrast, the regression analysis is more supportive of stricter EPL slowing flows into *and* out of unemployment, although many of the coefficients are not estimated with a high level of precision. The evidence is strongest for stricter EPL slowing the inflow rate into unemployment and lengthening the mean duration of unemployment. EPL for both regular and temporary employment appears to have the effect of reducing the number of workers becoming unemployed, but also of lengthening the expected time spent unemployed. The off-setting nature of the reduction in the number of workers becoming unemployed and the increase in unemployment duration suggests that the impact of EPL on overall unemployment will tend to be muted, consistent with the analysis using a static measure of unemployment. Thus, one conclusion of the statistical analysis is that EPL appears to have a greater impact on the *dynamics* and *composition* of unemployment than on its *level*.

Conclusions

The chapter has focused on making international comparisons of the strictness of employment protection and then analysing whether these differences affect some aspects of labour market performance. The main contribution here has been to provide new data about current employment protection regulation and how it differs from a decade ago. These new data also extend the international comparative analysis of EPL to a wider range of OECD countries and incorporate measures of special regulations applicable to collective dismissals.

The expanded OECD dataset on employment protection regulation confirms that EPL practice differs significantly across countries. In most respects, it appears that there has been quite high persistence in national systems of employment protection regulation over the past ten years, despite some reforms. In both the late 1980s and the late 1990s, EPL was strictest in southern Europe and least restrictive in the United States and the United Kingdom. However, there are also some examples of large changes

34. Boeri (1999) also finds that stricter EPL reduces the outflow rate from unemployment, particularly the rate at which the unemployed move into jobs.
35. The very high unemployment outflow rate for Korea (and the correspondingly low probability of long duration unemployment) may reflect the combination of very rapid growth rates and the absence of a system of unemployment benefits during 1990-1997, both conditions that have recently changed.

Table 2.12. Correlation coefficients between EPL indicators and measures of employment and unemployment dynamics [a]

	Job turnover rate	Labour turnover rate	Tenure less than 1 year	Mean tenure	Retention rate (5 years)	Retention rate (5 years) [b]	Unemployment inflow rate	Unemployment outflow rate	Mean unemployment duration	Unemployment more than 1 year
Strictness of EPL (in the late 90s) on										
Regular employment	–0.10	–0.87***	–0.39*	0.40*	0.34	0.32	–0.57***	–0.21	0.36*	0.16
Procedural inconvenience	–0.24	–0.73**	–0.37*	0.36	0.24	0.27	–0.47**	–0.17	0.41**	0.15
Notice and severance pay	0.07	–0.49	–0.21	0.29	0.02	0.28	–0.47**	–0.32	0.28	0.32
Notice [c]	–0.16	–0.58*	–0.31	0.41*	0.11	0.21	–0.28	–0.28	0.07	0.31
Severance pay [d]	0.24	–0.11	–0.06	0.09	–0.07	0.19	–0.34*	–0.17	0.26	0.15
Difficulty of dismissal	–0.04	–0.80***	–0.36*	0.33*	0.52	0.31	–0.43**	–0.04	0.17	–0.06
Temporary employment	–0.25	–0.39	–0.24	0.32	0.07	0.56	–0.39*	–0.22	0.48**	0.41**
Fixed–term contracts	–0.08	–0.25	–0.21	0.32	–0.23	0.36	–0.33*	–0.27	0.32	0.30
Temporary work agencies	–0.41	–0.47	–0.24	0.27	0.35	0.63*	–0.40**	–0.17	0.51***	0.43**
Collective dismissals	–0.37	0.31	–0.12	0.27	–0.25	0.00	–0.20	–0.32	0.11	0.13
Overall EPL, version 1	–0.21	–0.64*	–0.35	0.40*	0.19	0.48	–0.52***	–0.25	0.49**	0.37*
Overall EPL, version 2	–0.26	–0.60*	–0.36	0.43**	0.17	0.50	–0.54***	–0.30	0.50**	0.39**
Number of observations	15	9	22	22	9	9	27	27	25	27

*, ** and *** denote correlation coefficient significant at 10%, 5% and 1% levels, respectively.

a) Labour market performance variables are averages over 1990-97.

b) Five-year retention rate for workers beginning with between 5 and 10 years of tenure.

c) Average strictness score for notice period after 9 months, 4 years and 20 years, as reported in Table 2.2, Panel B.

d) Average strictness score for severance pay after 9 months, 4 years and 20 years, as reported in Table 2.2, Panel B.

Sources: EPL strictness indicators from Tables 2.2 to 2.5. See Annex 2.D for the sources and definitions of the measures of employment and unemployment dynamics.

Table 2.13. **Two-period panel regressions to explain employment and unemployment dynamics** [a, b, c]

Random-effects GLS estimates

	Retention rate (5 years)	Unemployment inflow rate (months)	Unemployment outflow rate (months)	Mean unemployment duration (months)	Share unemployed more than 1 year [d]	Long-term unemployment rate (log)
	(1)	(2)	(3)	(4)	(5)	(6)
Strictness of EPL (model 1)						
Overall EPL, version 1	–1.03 *(0.3)*	–0.45 *(4.8)****	–5.37 *(2.2)***	0.13 *(3.6)****	4.30 *(1.3)*	0.10 *(0.2)*
Strictness of EPL (model 2)						
Regular employment	n.a.	–0.20 *(1.6)*	–4.00 *(1.3)*	0.10 *(2.6)****	3.66 *(0.8)*	0.25 *(0.9)*
Temporary employment	n.a.	–0.24 *(4.0)****	–2.17 *(1.3)*	0.05 *(1.6)*	1.85 *(0.8)*	–0.03 *(0.2)*
Collective dismissals	n.a.	–0.05 *(0.3)*	–1.17 *(0.3)*	0.06 *(1.3)*	2.77 *(0.4)*	0.09 *(0.2)*
Number of observations	17	34	34	34	34	36
Model 1						
R-squared	0.89	0.65	0.51	0.56	0.43	0.56
Wald test [e]	43.1 ***	50.4 ***	21.2 **	29.3 ***	13.7	28.5 ***
Breusch and Pagan test [f]	2.4	6.3 **	7.0 ***	1.7	8.8 ***	6.7 ***
Hausman test [g]	182.7 ***	7.1	2.0	3.7	4.5	5.6
Model 2						
R-squared	n.a.	0.65	0.51	0.60	0.45	0.54
Wald test [e]	n.a.	48.1 ***	19.4 *	26.5 ***	12.9	27.1 ***
Breusch and Pagan test [f]	n.a.	5.4 **	6.8 ***	2.8 *	5.9 **	6.6 **
Hausman test [g]	n.a.	5.2	2.6	31.9 ***	6.5	7.2

* , ** and *** mean statistically significant at 10%, 5% and 1% levels respectively.
n.a.: Not available due to insufficient observations to estimate the model.
a) See note *a)* of Table 2.8 for an explanation of the estimation method.
b) Measures of employment and unemployment dynamics are averages over 1985-90 and 1992-97.
c) See note *b)* of Table 2.9 for an explanation of the two regression models estimated.
d) As a percentage of all unemployed.
e) Wald test for joint significance of regressors (Chi-square statistic).
f) Breusch and Pagan Lagrangian multiplier test for presence of country effects (Chi-square statistic).
g) Hausman test for misspecification of the random-effects model (Chi-square statistic).
Source: See Table 2.12.

over the past decade, especially in relaxing the regulation of temporary employment.

As regards the effects of employment protection on labour market performance, this chapter's results are qualitatively consistent with the results of earlier studies in many cases. This analysis strengthens the conclusion that EPL strictness has little or no effect on overall unemployment. Simple, cross-country comparisons suggest that EPL may affect the demographic composition of unemployment, with lower unemployment for prime-age men being offset by higher unemployment for other groups, particularly younger workers. However, this latter finding must be regarded as tentative, since the evidence from the multivariate regressions does not support it except in the case of stricter EPL having a negative impact on the unemployment of prime-age males.

The evidence is also somewhat inconsistent for employment. Simple, cross-country comparisons suggest that EPL raises employment for prime-age men, but lowers employment for youths and prime-age women, with the overall effect being a net reduction. However, these correlations become very weak and statistically insignificant when mutivariate regressions are used to isolate the causal impact of EPL from that of other determinants of employment. By contrast, the evidence is quite robust for stricter EPL leading to an expansion of self-employment. Contrary to the predictions of economic theory and several prior studies, the new data do not indicate a clear link between EPL and the share of workers in temporary jobs. However, it is possible that insufficient time has passed for employers' use of temporary employment contracts to adapt fully to recent liberalisation in their use in a number of countries.

Both the bivariate and the multivariate analyses support the hypothesis that stricter EPL lowers some forms of labour market turnover. Stricter EPL appears to expand the number of stable jobs, as intended by its supporters. However, unemployment spells also tend to last longer. With stricter EPL, fewer individuals become unemployed, but those who become unemployed are at a greater risk of remaining unemployed for a year or more. EPL provisions

for both temporary and regular employment appear to have an important dampening impact on turnover.

The implications of these findings for policymaking cannot be reduced to a simple formula. Overall, the analysis confirms that EPL should be monitored closely as part of the continuing process of evaluating and fine-tuning an overall strategy for lowering long-duration unemployment and improving labour market performance generally. As labour market conditions evolve, it should be verified that excessively restrictive or poorly designed provisions for employment protection are not creating barriers to employment for youths or other labour force groups that may face difficulties in gaining access to stable jobs. However, any initiatives to reform employment protection practices have to confront difficult trade-offs, such as whether to lessen job protection for high-tenure workers in order to improve employment opportunities for recent school leavers.

Annex 2.A

Detailed Description of Employment Protection Regulation and Practice

The following nine tables present the more detailed descriptions of employment protection regulation that form the basis for the indicators of EPL presented in Tables 2.2 to 2.5 and discussed in Section I. These descriptions are based on a variety of national sources as well as multi-country surveys by Watson Wyatt Data Services [Watson Wyatt (1997, 1998)], Incomes Data Services [IDS (1995, 1996, 1997)] and the European Commission (1997*a*). OECD governments provided additional information, based on a request for information from the OECD Secretariat.

Table 2.A.1. **Administrative procedures for individual notice and dismissal** [a]

Situation of a regular employee, after any trial period for the job, who is dismissed on personal grounds or individual redundancy, but without fault

	Notification procedures [b]		Estimated time before notice can start [c]	
	Requirement	Score (0-3)	Requirement	In days
Australia [d]	No prescribed procedures. In case of legal proceedings, tribunal will consider whether there were warnings, provision of an opportunity to the employee to answer allegations and, particularly in the case of redundancy, whether trade union/ employee representatives were notified.	0.5	Written or oral notification.	1
Austria	Notification first to works council (if one exists), then to employee.	2	Maximum 5 days for works council to react. Notice can then be served, usually by registered mail.	9 [e]
Belgium	Notification of employee usually by registered letter. Oral notification possible if employer chooses severance pay in lieu of notice.	0.5	Registered letter or oral notification.	1.5
Canada	No prescribed procedure.	0	Written or oral notification.	1
Czech Republic				
Personal reasons	Notification of employee and trade union body, after previous warning.	2	Letter sent by mail or handed out directly.	7
Redundancy	Notification of employee, trade union and public employment office.	2	Advance consultation, with offer of another job or re-training if feasible; then letter sent by mail or handed directly to employee.	7
Denmark	Legal requirement of written notice only for white collar workers. Employees can request negotiation with the union once notice is received.	0.5	For white collar workers, letter sent by mail or handed out directly.	1
Finland				
Personal reasons	Statement of reasons and information on appeals procedures given to the employee. Advance discussion with employee and trade union if requested by employee.	1.5	Advance discussion, then notice orally or in writing.	7
Lack of work	In companies with 30 or more employees, notification to trade union representatives and consultation on reasons and ways to avoid lay-off.	2	Invitation to consultation; 5-day delay; consultation for 7 days; then notice in writing.	15
France				
Personal reasons	Statement of reasons to employee; in many cases, additional notification of works council is requested by collective agreement.	1.5	Letter; interview; notice served in a second letter including statement of reasons.	9
Economic reasons	Labour Inspectorate and usually the personnel delegates or works council.	2	Letter, interview including re-training offer; a second letter after delay of at least 7 days.	15
Germany	Notification to employee, usually in writing (required in many collective agreements), after oral or written warnings to employee in case of dismissal for lack of performance. Previous notification of planned dismissal, including reasons for termination, to works council (if one exists). In case of notice given despite works council objection and subsequent law suit, dismissal has to wait for decision by Labour Court.	2.5	After notification, maximum 7 days for works council to object to dismissal. Notice can then be served, specifying the 1st or 15th of the month.	17 [f]
Greece	Written notice to employee, plus additional notification to OAED local office (public employment service). Previous warning in case of dismissal for poor performance may be advisable.	2	Letter sent by mail or handed directly to employee.	1
Hungary	Statement of reasons upon request, after written warnings and provision of an opportunity to the employee to answer allegations.	1	Advance discussion, then letter sent by mail or handed directly to employee.	13

Table 2.A.1. Administrative procedures for individual notice and dismissal[a] *(cont.)*

Situation of a regular employee, after any trial period for the job, who is dismissed on personal grounds or individual redundancy, but without fault

	Notification procedures[b]		Estimated time before notice can start[c]	
	Requirement	Score (0-3)	Requirement	In days
Ireland				
Individual termination	No prescribed procedure, but advisable to serve notice in writing after warnings specifying what aspect of behaviour is sub-standard. Employee can request statement of reasons.	1	Written or oral notification.	7
Redundancy	Copy of official redundancy form to be sent to Department of Employment.	2	Idem.	2
Italy	Written notice to employee who can require communication of detailed reasons and can request conciliation by the provincial employment office or through conciliation committees set up under collective agreements.	1.5	Letter sent by mail or handed directly to employee.	1
Japan				
Personal reasons	To stand up in court, it is considered advisable that notice is given in writing and reasons are stated. Some collective agreements provide for prior consultation with trade union.	1	Written or oral notification.	1
Managerial reasons	The courts must be satisfied that trade union/ employee representatives have been adequately notified and consulted.	2	Sincere consultation on need for dismissal and standards of selection, then letter of dismissal.	5
Korea				
Personal reasons	Statement of urgency and reasons to employee.	1	Letter sent by mail or handed directly to employee.	1
Managerial reasons	Notification of union or other worker representatives 60 days before dismissal.	2.5	Sincere consultation procedure on need for dismissal and standards of selection within the 60-day period; then letter of dismissal.	63
Mexico	Statement of reasons to the employee.	1	Letter sent by mail or handed directly to employee.	1
Netherlands	Prior authorisation from regional employment office needed, except in cases of bankruptcy and mutual agreement.[g]	3	Authorisation procedure normally takes 4-6 weeks, although there is a trend towards shorter duration ("shortened procedure"); then written notice by registered mail.	31
New Zealand				
Personal reasons	Statement of reasons to the employee, after written warnings and provision of an opportunity to the employee to answer allegations and improve performance.	1	Notification orally or in writing, as provided for in contract.	7
Redundancy	Notification of trade union/employee representatives only if required by contract.	0.5	Consultation on selection and ways of avoiding dismissal may be required by contract.	7
Norway	Written notice to employee, with statement of reasons upon request.	1.5	Letter sent by mail. (Notice period runs from the first day of the month following that in which notice was given.)	2
Poland	Notification to representative trade union of intention to terminate, including reasons for dismissal. In case the employee takes the case to the labour court, the court may require evidence of a warning procedure and of a fair account of trade union opinions.	2	5 days for consultation with local trade union on justification for dismissal. (In case of objection, case will be submitted to upper union levels which shall give their opinion within another 5 days.) Notice can then be served, usually by mail.	13
Portugal	Written notice to employee and employee representatives justifying the reasons for dismissal and the lack of suitable alternatives. In case of individual termination for unsuitability, a replacement must be hired. In case of economic redundancy, employee representatives can call in the Labour Inspectorate to verify justification of dismissal.	2	After initial notification, minimum two weeks for employee or works council to present their views, and a further delay of 5 days before final notice is issued, usually in a letter sent by mail or handed directly to employee.	21

Table 2.A.1. **Administrative procedures for individual notice and dismissal**[a] *(cont.)*

Situation of a regular employee, after any trial period for the job, who is dismissed on personal grounds or individual redundancy, but without fault

	Notification procedures[b]		Estimated time before notice can start[c]	
	Requirement	Score (0-3)	Requirement	In days
Spain	Written notice with statement of reasons, plus notification to workers' representatives.	2	Letter sent by mail or handed directly to employee.	1
Sweden				
Personal grounds	Written notification to employee and trade union, after at least one previous warning (as proof of "long-standing" problems) that action is intended; reasons to be given if requested by employee.	2	Minimum 14 days to be allowed for consultation before notice can be served.	23
Redundancy	Notification to employee, trade union and county labour board which may request consultation on selection and dismissal procedures.	2	Duty to negotiate on pending dismissals before notice can be served. Lack of suitable alternatives must be demonstrated in all cases.	7
Switzerland	Notification to the employee who has the right to request a statement of reasons.	0.5	Letter sent by mail or handed directly to employee.	1
Turkey	Written notice to employee and notification, within 15 days, to Ministry of Labour.	2	Letter sent by mail or handed directly to employee.	1
United Kingdom				
Individual termination	Employees with 2 years' continuous service have the right to demand the reasons in writing.	0.5	Written or oral notification.	1
Redundancy	Consultation with recognised trade union recommended, but not legally required when few workers are affected.	1.5	"Reasonable notice" that redundancy is being considered.	3
United States	No prescribed procedures. Only a few States prescribe a "service letter" a certain period after dismissal, noting the reasons for termination.	0	Written or oral notification.	1

a) The procedures are either directly legislated or generally considered necessary because without them the employer's case will be weakened before the courts, if a claim for unfair dismissal is made.

b) Procedures are scored according to the scale 1 when a written statement of the reasons for dismissal must be supplied to the employee; 2 when a third party (such as a works council or the competent labour authority) must be notified; and 3 when the employer cannot proceed to dismissal without authorisation from a third party.

c) Estimated time includes an assumption of 6 days in case of required warning procedure prior to dismissal (although such time periods can be very diverse and range from a couple of days to several months). One day is counted when dismissal can be notified orally or the notice can be directly handed to the employee, 2 when a letter needs to be sent by mail, and 3 when a registered letter needs to be sent.

d) Australia: when they do not refer to all employees, procedures and requirements in Tables 2.A.1 to 2.A.9 refer to the federal workplace relations system which regulates employment conditions for approximately half the workforce.

e) Austria: 3 days if no works council is present.

f) Germany: 8 days if no works council is present.

g) Netherlands: notification of trade union/employee representatives may also be required by contract. Instead of turning to the public employment service (which may refuse authorisation), both employers and employees can also file a request with the Cantonal Court that the employment contract be dissolved "for important reasons". This is done in an increasing number of dismissal cases.

Table 2.A.2. Required notice and severance pay for individual dismissal

Case of a regular employee with tenure beyond any trial period, dismissed on personal grounds or economic redundancy, but without fault [a]

	Type of worker	Notice/tenure [b]	Severance pay/tenure [b]
Australia [c]	All workers	1 week < 1 year, 2 weeks < 3 years, 3 weeks < 5 years, 4 weeks > 5 years. These notice periods are increased by one week if employee is over 45 years old and has over 2 years continuous service.	None.
	Workers dismissed for redundancy	Idem.	0 < 1 year, 4 weeks < 2 years, 6 weeks < 3 years, 7 weeks < 4 years, 8 weeks > 4 years (typical cases).
Austria	Blue collar	Usually 2 weeks (but ranging from 1 day in construction industry to 5 months in some collective agreements).	2 months > 3 years, 3 months > 5 years, 4 months > 10 years, 6 months > 15 years, 9 months > 20 years, 12 months > 25 years.
	White collar	6 weeks < 2 years, 2 months < 5 years, 3 months < 15 years, 4 months < 25 years, 5 months > 25 years.	Idem.
Belgium	Blue collar	0 in trial period; 7 days < 6 months, 28 days < 20 years, 56 days > 20 years (can be modified by royal decree or collective agreements).	None.
	White collar	7 days < 6 months (trial period), 3 months < 5 years. *Plus* 3 more months of notice for each additional 5 years of service. [d]	None.
Canada	All workers (federal jurisdiction)	2 weeks.	0 < 12 months, after which 2 days for each year of tenure, but with a minimum of 5 days.
	All workers (Ontario)	1 week < 1 year, 2 weeks < 3 years, 3 weeks < 4 years, 4 weeks < 5 years, up to 8 weeks > 8 years.	1 week per year of service, up to 26 weeks maximum, if tenure > 5 years, and if in a firm with a payroll of $2.5 million or more.
	Other jurisdictions	Notice requirements similar to Ontario in most other provinces.	No legislated severance pay.
Czech Republic	All workers	2 months.	None.
	Workers dismissed for redundancy	3 months.	2 months.
Denmark	Blue collar [e]	0 < 9 months, 21 days < 2 years, 28 days < 3 years, 56 days < 6 years, 70 days > 6 years.	None.
	White collar	14 days < 3 months, 1 month < 5 months, 3 months < 33 months, 4 months < 68 months, 5 months < 114 months, 6 months > 114 months.	1 month after 12 year, 2 months after 15 years, 3 months after 18 years.
Finland	All workers	0 < 4 months, 1 month < 1 year, 2 months < 5 years, 3 months < 9 years, 4 months < 12 years, 5 months < 15 years, 6 months > 15 years.	None. [f]
France	Blue collar	7 days < 6 months, 1 month < 2 years, 2 months > 2 years.	1/10th of a month's pay per year of service plus an additional 1/15th after 10 years.
	White collar	15 days < 6 months, 1 month < 2 years, 2 months > 2 years.	Idem.
Germany	All workers	2 weeks in trial period, 4 weeks < 2 years, 1 month < 5 years, 2 months < 8 years, 3 months < 10 years, 4 months < 12 years, 5 months < 15 years, 6 months < 20 years, 7 months > 20 years. (Notice periods > 4 weeks only apply to workers above 25 years of age.)	No legal entitlement, but can be included in collective agreements and social compensation plans.

Table 2.A.2. **Required notice and severance pay for individual dismissal** *(cont.)*

Case of a regular employee with tenure beyond any trial period, dismissed on personal grounds or economic redundancy, but without fault [a]

	Type of worker	Notice/tenure [b]	Severance pay/tenure [b]
Greece	Blue collar	None.	5 days < 1 year, 7 days < 2 years, 15 days < 5 years, 30 days < 10 years, 60 days < 15 years, 90 days < 20 years, 105 days > 20 years.
	White collar	0 < 2 months, 30 days < 1 year, 60 days < 4 years, 3 months < 6 years, 4 months < 8 years, 5 months < 10 years, plus one month per year of service, up to a maximum of 24 months. Notice can be waived if full severance pay is given.	Half the notice period if written notice is given; otherwise, severance pay according to the schedule for notice.
Hungary	All workers	30 days < 3 years, 35 days < 5 years, going up to 90 days > 20 years.	0 < 3 years, 1 month < 5 years, 2 months < 10 years, going up to 5 months > 20 years and 6 months > 25 years.
Ireland	All workers	0 < 13 weeks, 1 weeks < 2 years, 2 weeks < 5 years, 4 weeks < 10 years, 6 weeks < 15 years, 8 weeks > 15 years. 2 weeks minimum in redundancy cases.	In redundancy cases with at least two years tenure: 1 week pay, *plus* half a week of pay per year worked under the age of 41, *plus* one week of pay per year worked over the age of 41, with a maximum of Ir£ 15 600 (as of 1995). Employers are partially reimbursed by redundancy fund.
Italy	Blue collar	2 days < 2 weeks and 6 to 12 days thereafter.	2/27 of annual salary per year of service (often higher in collective agreements).
	White collar	8 days < 8 weeks and 15 days to 4 months thereafter (minimum legal requirements, often higher in collective agreements).	Idem.
Japan	All workers	30 days.	According to enterprise surveys, average severance pay (retirement allowance) equals almost 1 month per year of service, although it is not legally required. It is somewhat higher in the case of lay-offs, and lower in case of voluntary quits. Figures shown in Tables 2.2 and 2.A.3 refer to the differential in severance pay between these two cases.
Korea	All workers	0 < 6 months, 30 days > 6 months. Notice can be exchanged for severance pay (retirement allowance).	Retirement allowance of > 30 days per year of service legally required; often more in practice. Although no detailed data are available, difference between allowance for lay-off and voluntary quit was assumed to be somewhat higher than in Japan.
Mexico	All workers	No minimum notice period.	3 months.
Netherlands	All workers	1 month in the first five years of service, extended by one more month for every additional 5 years of service, up to a maximum of 4 months. In practice the maximum is closer to 3 weeks since time spent on PES dismissal procedure is usually compensated to the employer.	None by law, and if the dismissal is handled by the employment office. However, if the employer files for permission by a labour court, the court may determine severance pay, roughly according to the formula: 1 month per year of service for workers < 40 years of age; 1.5 months for workers between age 40 and 50; 2 months for workers 50 years and over. [g]
New Zealand	All workers	No specific period required by law, but case law requires reasonable notice. Usually 1-2 weeks for blue collar and over 2 weeks for white collar.	None by law; however according to survey data, about three quarters of employees are covered by contracts which provide them with severance pay in case of redundancy (typically 6 weeks for 1st year, and 2 weeks for additional years of tenure).

Table 2.A.2. **Required notice and severance pay for individual dismissal** *(cont.)*

Case of a regular employee with tenure beyond any trial period, dismissed on personal grounds or economic redundancy, but without fault [a]

	Type of worker	Notice/tenure [b]	Severance pay/tenure [b]
Norway	All workers	14 days < 6 months, 1 month < 5 years, 2 months < 10 years, 3 months > 10 years; with above 10 years seniority, notice period increases with age, up to 6 months at age 60 and above.	None by law; however collective agreements in the private sector may require lump-sum additional payments to long-serving staff who have reached age 50-55, or where the dismissal arises from company reorganisation.
Poland	All workers	2 weeks before 6 months, 1 month after 6 months, 3 months after 3 years. 2 weeks for school leavers in first job.	Usually none, but 1 month in case of termination due to disability or retirement.
Portugal	All workers	0 < 2 months; 60 days > 2 months (legal minimum).	1 month per year of service (legal minimum 3 months).
Spain	Workers dismissed for "objective" reasons	30 days.	2/3 of a month's pay per year of service up to a maximum of 12 months.
	Workers under fixed-term contracts	0 < 1 year, 15 days > 1 year.	None, except for workers under contract with temporary agencies who get 12 days per year of service.
Sweden	All workers	1 month < 2 years, 2 months < 4 years, 3 months < 6 years, 4 months < 8 years, 5 months < 10 years, 6 months > 10 years.	No legal entitlement, but occasionally included in collective agreements.
Switzerland	All workers	0 < 1 month, 1 month < 1 year, 2 months < 10 years, 3 months > 10 years, always to the end of a calendar month.	No legal entitlement to severance pay, except for workers over age 50 and with more than 20 years seniority, where severance pay cannot be less than 2 months wages.
Turkey	All workers	0 < 1 month, 2 weeks < 6 months, 4 weeks < 18 months, 6 weeks < 3 years, 8 weeks > 3 years.	After one year's employment, one month for each year of service, often extended by collective agreement to 45 days.
United Kingdom	All workers	0 < 1 month, 1 week < 2 years, plus one additional week of notice per year of service up to a maximum of 12 weeks.	Legally required only for redundancy cases with 2 years tenure: half a week per year of service (ages 18-21); 1 week per year (ages 22 to 40); 1.5 weeks per year (ages 41 to 64), limited to 30 weeks and £220 per week (as of April 1998). According to a government study, 40% of firms exceed legal minima.
United States	All workers	No legal regulations (but can be included in collective agreements or company policy manuals). [h]	

a) Information based mainly on legal regulation, but also, where relevant, on averages found in collective agreements or individual employment contracts.
b) "28 days < 20 years" means 28 days of notice or severance pay is required when length of service is below 20 years.
c) Australia: notice periods may be increased through collective agreements, particularly in cases of redundancy.
d) Belgium: this refers to the legal minimum. If annual salary is above 928 000 BF (in 1998), currently the case in over half of Belgian white-collar employees, parties or courts tend to use one of a number of standard formulas (such as the Claeys formula) for severance pay in lieu of notice.
e) Denmark: based on collective agreements.
f) Finland: dismissed employees of 45 and over, and with tenure 5 years and above, are entitled to 1-2 months severance pay out of a collective redundancy payment fund, often used for training purposes [European Commission (1997*b*), p. 52].
g) Netherlands: judges may apply a correction factor taking into account particulars of the case.
h) United States: for example, the US Labor Department's Employee Benefits Survey shows that in 1992 over a third of employees of medium and large establishments were covered by formal severance pay plans, while 15% of the employees were covered at small establishments [OECD (1996*a*)].

Table 2.A.3. Notice periods and severance pay for individual dismissals at three lengths of service [a]

	Type of worker	Notice			Severance pay		
		9 months	4 years	20 years	9 months	4 years	20 years
Australia (federal jurisdiction)	All workers	1 week	3 weeks	5 weeks	0	0	
	Redundancy cases	1 week	3 weeks	5 weeks	0	8 weeks	8 weeks
Austria	Blue collar	2 weeks	2 weeks	2 weeks	0	2 months	9 months
	White collar	6 weeks	2 months	4 months	0	2 months	9 months
Belgium [b]	Blue collar	28 days	28 days	56 days	0	0	0
	White collar	3 months	3 months	12 months	0	0	0
	Claeys formula for white collar workers	3 months	6 months	21 months	0	0	0
Canada (federal jurisdiction)	All workers	2 weeks	2 weeks	2 weeks	0	8 days	40 days
Czech Republic	All workers	2 months	2 months	2 months	0	0	0
	Redundancy cases	2 months	3 months	3 months	2 months	2 months	2 months
Denmark	Blue collar	3 weeks	8 weeks	10 weeks	0	0	0 3 months
	White collar	3 months	4 months	6 months	0	0	3 months
Finland	All workers	1 month	2 months	6 months	0	0	0
France	All workers	1 month	2 months	2 months	0	0.4 month	2.7 months
Germany	All workers	4 weeks	1 month	7 months	0	0	0
Greece	Blue collar	0	0	0	7 days	15 days	3.5 months
	White collar	30 months	3 months	16 months	15 days	1.5 months	8 months
Hungary	All workers	30 days	35 days	90 days	0	1 month	5 months
Ireland	All workers	1 week	2 weeks	8 weeks	0	0	0
	Redundancy cases	2 weeks	2 weeks	8 weeks	0	2 weeks	18 weeks
Italy	Blue collar	6 days	9 days	12 days	0.7 month	3.5 months	18 months
	White collar	15 days	2 months	4 months	0.7 month	3.5 months	18 months
Japan	All workers	30 days	30 days	30 days	0	1.5 months	4 months
Korea	All workers	1 month	1 month	1 month	0	2 months	6 months
Mexico	All workers	0	0	0	3 months	3 months	3 months
Netherlands [c]	All workers	1 month	1 month	4 months	0	0	0
New Zealand	Blue collar	1-2 weeks	1-2 weeks	1-2 weeks	0	0	0
	White collar	< 2 weeks	< 2 weeks	< 2 weeks	0	0	0
	Redundancy cases				0	3 months	10 months
Norway	All workers	1 month	1 month	5 months	0	0	0
Poland	All workers	1 month	3 months	3 months	0	0	0
Portugal	All workers	60 days	60 days	60 days	3 months	4 months	20 months
Spain	Workers dismissed for "objective" reasons	30 days	30 days	30 days	0.5 month	2⅔ months	12 months
Sweden	All workers	1 month	3 months	6 months	0	0	0
Switzerland	All workers	1 month	2 months	3 months	0	0	2 months
Turkey	All workers	4 weeks	8 weeks	8 weeks	0	4 months	20 months
United Kingdom	All workers	1 week	4 weeks	12 weeks	0	0	0
	Redundancy cases	1 week	4 weeks	12 weeks	0	4 weeks	20 weeks
United States	All workers	0	0	0	0	0	0

a) Where relevant, calculations assume that the worker was 35 years old at the start of employment. Averages are taken where different situations apply (*e.g.* blue collar and white collar workers; dismissals for personal reasons and for redundancy, etc.). For further explanation, see detailed notes to Table 2.A.2.
b) Belgium: two notice periods calculated for white collar workers, depending on whether they earn below or above the BF 928 000 threshold (see Table 2.A.2).
c) Netherlands: data for severance pay refer to dismissal cases handled by the public employment service.

Table 2.A.4. Conditions under which individual dismissals are fair or unfair[a]

	Fair	Unfair	Score (0-3)[b]
Australia	Dismissal can be fair if justified on the basis of capacity or conduct, subject to whether it is harsh, unjust or unreasonable, as well as for economic redundancy (“retrenchment”).	Dismissals on grounds of, *inter alia*, race, sex, colour, sexual preference, age, disability, marital status, family responsibilities, pregnancy, religion, political views and union membership, as well as those where no adequate notice has been given.	0
Austria	Dismissals for “serious reason”, including non-performance or lack of competence, and for operational reasons or other business needs.	“Socially unjustified” dismissals (which would affect the dismissed employee more unfavourably than other comparable employees of the company, or which would impair the interests of the employee to a greater degree than the interest of the firm in dissolving the employment relationship); and dismissals on inadmissible motive (*e.g.* discrimination, trade union activity or imminent military service).	1
Belgium	Dismissals for non-performance or business needs.	Dismissals for “reasons which have no connection whatsoever with the capability or conduct of the worker or which are not based on the operational needs of the undertaking, establishment or department”. Dismissals of workers on maternity or educational leave, and of trade union and works council delegates.	0
Canada	All dismissals for “just cause”.	Dismissals without notice and/or pay in lieu of notice, for pregnancy and trade union activities, for exercising a right under labour statutes, such as those dealing with minimum employment standards and occupational safety and health, and dismissals based on breach of human rights legislation.	0
Czech Republic	Dismissals for failure to meet performance requirements and for reasons of technological and organisational change.	Dismissals where employee can be retained in another capacity, if necessary after retraining. Unfair are also any dismissals based on discrimination (age, sex, colour, religion, union membership, etc.).	2
Denmark	Lack of competence and economic redundancy are legitimate reasons.	Dismissals founded on “arbitrary circumstances” (blue-collar workers) or “not reasonably based on the employee’s or the company’s circumstances”. Dismissals based on race, religion, national origin, etc., and as a result of a corporate take-over are also unfair.	0
Finland	Dismissals are justified for “specific serious reasons”, including personal characteristics and urgent business needs.	Dismissals for an employee’s illness, participation in a strike, union activities and political or religious views; and dismissals where employees could be reasonably, in view of their skills and abilities, transferred or retrained.	1.5
France[c]	Dismissals for personal characteristics such as non-performance or lack of competence, or for economic reasons such as work reorganisation or other business needs. In redundancy cases, obligation for employer to consider alternative solutions (*reclassement*), offer redundant employees a “re-training contract” and give them priority when rehiring.	Dismissals without real and serious cause, and for reasons relating to the private life of the employee.	1.5
Germany	Dismissals based on factors inherent in the personal characteristics or behaviour of the employee (such as insufficient skill or capability), or business needs and compelling operational reasons.	Dismissals where the employee can be retained in another capacity within the same establishment or enterprise, and redundancy dismissals where due account has not been taken of “social considerations” (*e.g.* seniority, age, family situation).	2
Greece	Dismissals for non-performance or business needs (production requirements, work organisation). In larger companies, dismissals are fair only as a “last resort”, after exhaustion of oral and written warnings, pay reductions and suspensions, and after consultation with employee representatives.	Dismissals of trade union representatives, works council members, of recent mothers, and for reasons of pregnancy and discrimination.	0.5

Table 2.A.4. **Conditions under which individual dismissals are fair or unfair**[a] *(cont.)*

	Fair	Unfair	Score (0-3)[b]
Hungary	Dismissals are justified for non-performance or business needs.	Dismissals without notice and of workers on sick leave, maternity leave and child care leave.	0
Ireland	Dismissals for lack of ability, competence or qualifications, or for redundancy.	Dismissals reflecting discrimination on grounds of race, religion, age, gender, etc., including when these factors bias selection during redundancies.	0
Italy	Termination of contract only possible for "just cause" or "just motive", including significant non-performance of the employee, and compelling business reasons.	Dismissals reflecting discrimination on grounds of race, religion, gender, trade union activity, etc.	0
Japan	Dismissals for "reasonable cause". Redundancy dismissals require urgent business reasons for reducing number of staff; reasonableness of selection criteria, and reasonableness of procedures.	Dismissals for reason of nationality, gender, belief or social status, of workers on sick leave, and maternity leave, and when conditions in left-hand column have not been satisfied.	2
Korea	Dismissals for "just cause" or urgent managerial needs, including individual redundancy and dismissals due to mergers and acquisitions when employees or union have been consulted on urgency, selection criteria and transfer/retraining alternatives.	Dismissals for reason of nationality, gender, belief or social status, of workers on sick leave, and maternity leave, and when not having demonstrated special efforts to avoid dismissal in consultation with labour union.	2
Mexico	Dismissals are fair only when the employer can demonstrate the worker's lack of integrity or actions prejudicial to the company's interests (such as negligence, imprudence, or disobedience). Redundancy or poor performance are normally not legal grounds for dismissal.	..	3
Netherlands	Dismissals on grounds of employee conduct or unsuitability, and for economic redundancy. In the latter case, data on the financial state of the company and proof that alternatives to redundancy have been considered must be given, and the selection of dismissed employees be justified ("last in-first out" principle, or age/sex balance of the workforce, for example).	Unfair are "obviously unreasonable" terminations, and dismissals of pregnant women, the disabled, new mothers and works council members.	1.5
New Zealand	Termination of contract is possible if there is good reason and the employer carries out the dismissal fairly. Good reasons include misconduct, poor performance and individual redundancy.	Dismissals will be judged unfair if carried out in an unreasonable manner. In redundancy cases, failure to consult or consider redeployment may cast doubt on fairness of the dismissal.	0
Norway	Dismissals for personal and economic reasons (rationalisation measures, etc.) are possible. However, the courts have restricted personal reasons mainly to cases of material breach of the employment contract (disloyalty, persistent absenteeism, etc.).	Dismissals for economic reasons are unfair if the employee could have been retained in another capacity. Dismissals for reasons of age (under the age of 70), for trade union activities, military service, pregnancy and of recent mothers and employees on sick leave are also unfair.	2.5
Poland	Dismissals based on factors inherent in the employee (*e.g.* lack of competence) or on economic grounds of redundancy of the job.	..	0
Portugal	Previously the only grounds for dismissal were disciplinary. Laws in 1989 and 1991 added dismissals for economic grounds and for lack of professional or technical capability. Dismissals for individual redundancy must be based on urgent needs and must not involve posts also manned by people on fixed-term contracts. Dismissals for lack of competence are only possible after introduction of new technology or change to job functions.	Dismissals where employees could have been reasonably, in view of their skills and abilities, transferred or retrained.	2
Spain[d]	Dismissals for "objective" reasons, which include economic redundancy and an employee's inability to adapt to changed working practices, after having been given up to 3 months training.	Dismissals based on discrimination or violating an employee's constitutional or civil rights (such as based on trade union or works council membership).	2

Table 2.A.4. **Conditions under which individual dismissals are fair or unfair**[a] *(cont.)*

	Fair	Unfair	Score (0-3)[b]
Sweden	Dismissals on "objective grounds", *i.e.* economic redundancy and personal circumstances, including lack of competence. In cases of redundancy, selection of workers to be dismissed has to be justified (mainly based on "*last-in, first-out*" principle).	Objective grounds are deemed not to exist if an employee could reasonably have been transferred to other work, or if dismissal is based on events which happened over two months ago.	2
Switzerland	..	Dismissals based, *inter alia*, on personal grounds such as sex, religion, union membership, marital status or family responsibilities, or on the exercise of an employee's constitutional rights or legal obligations, such as military service.	0
Turkey	..	Dismissals of shop stewards, and on grounds of trade union membership, strike activity, pregnancy and after occupational accidents.	0
United Kingdom	Dismissals justified by lack of capability or qualifications; persistent or gross misconduct; economic redundancy; or some other "substantial reason". Two years tenure necessary for being able to file for unfair dismissal.	Dismissals based on discrimination by race and sex, or related to trade union activity or health and safety.	0
United States	With the exception of the public sector, it is generally fair to terminate an open-ended employment relationship without justification or explanation ("employment-at-will" principle) unless the parties have placed specific restrictions on terminations.	Dismissals based on breach of Equal Employment Opportunity principles (*i.e.* national origin, race, sex, etc.) and dismissals of employees with physical or mental impairment if work could be performed through appropriate workplace adjustment.[e]	0

.. Data not available.

a) This table does not report the treatment of dismissal for serious fault which is considered fair grounds for dismissal in all countries.

b) Scored 0 when worker capability or redundancy of the job are adequate and sufficient grounds 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 retraining to adapt the worker to different work must be attempted prior to dismissal; and 3 when worker capability cannot be a ground for dismissal.

c) In France, the employer often has to provide or contribute towards the cost of training after a dismissal (*convention de conversion*), but the retraining condition does not enter into judging the fairness of the dismissal. By contrast, in countries like Germany and Spain rehabilitation must already have been attempted before the dismissal, or the dismissal is considered unfair.

d) Spain: after legislative reforms in 1994 and 1997, the share of individual dismissals found to be unjustified by the courts has fallen considerably.

e) United States: in addition, there are increasing numbers of cases where employees pursue wrongful termination claims by alleging that dismissal was based on an "implied contract" for continued employment.

Table 2.A.5. **Compensation and related remedies following unjustified dismissal**

Australia	Courts may order reinstatement with back pay. Compensation up to six months wages, plus entitlements (that would have been) accrued until the end of notice period. (For non-award employees, the cap is either 6 months wages or $34 000, whichever is the lower amount.)
Austria	A reinstatement order is possible, although rarely taken up by the employee concerned. Compensation through regular severance pay, plus a sum equal to earnings between the dismissal and the legal settlement of the case. Sums earned by the employee in the interim are set off against the award.
Belgium	Compensation at least equal to notice period, plus compensation for damages corresponding to six months. No right to reinstatement.
Canada	Reinstatement now recognised by the courts as an appropriate remedy for dismissals without just cause (but still relatively rare). Wrongfully discharged workers may be entitled to damages corresponding to past and future financial losses, and accompanying psychic injuries.
Czech Republic	Unfair dismissal gives rise to a right to reinstatement. If reinstatement is not accepted by both parties, compensation is through severance pay and award of lost earnings during the court case. Sums earned by the employee in the interim are set off against the award.
Denmark	Compensation is limited to 1 year of pay (for long service cases). Reinstatement orders are possible but rare.
Finland	Courts may suggest reinstatement, but this cannot be enforced. Compensation between 3 and 20 months.
France	Reinstatement cannot be enforced. Compensation of 6 months minimum (in some cases up to 24 months or more) for employees with at least two years tenure and working in enterprises with more than 11 employees. For employees with less than 2 years service and/or working in a firm with fewer than 11 people, the judge can order compensation according to the loss suffered, but without any minimum.
Germany	A reinstatement order is possible, although rarely taken up by the employee concerned. Compensation of up to 12 months, depending on length of service (15 months if aged over 50, 18 months if aged over 55). In some cases, additional liability for wages from the expiry date of the notice to the conclusion of the court hearing.
Greece	Frequent reinstatement orders, accompanied by indemnity for the period of time between notice of termination and court ruling. No reinstatement, if severance pay has been requested.
Hungary	Reinstatement orders fairly frequent. In lieu of reinstatement, severance pay is normally doubled and extended to those below 3 years tenure.
Ireland	A reinstatement order, with back pay from the date of dismissal, is possible. Maximum compensation equals 104 weeks of pay.
Italy	Two Acts of 1966 and 1970, both revised in 1990, regulate unfair dismissals, differentiated by establishment size. Under the 1970 Act (Workers Statute), workers in companies employing > 60 employees, or > 15 employees in an establishment or in the same commune can choose reinstatement (plus at least 5 months compensation pay) or financial compensation of 15 months. For establishments not included in the above cases, the 1966 Act gives the employer the choice between re-engagement and compensation of 2.5-6 months (depending on seniority and firm size), but up to 10 months for > 10 years seniority, and 14 months for > 20 years seniority if the firm employs > 15 employees. Normal severance pay is payable in addition to compensation.
Japan	Frequent orders of reinstatement with back pay. Alternatively, compensation through regular severance pay, plus a sum equal to earnings between the dismissal and the legal settlement of the case. Sums earned by the employee in the interim can only partially be set off against the award.
Korea	Courts may order reinstatement with back pay. Compensation in lieu of reinstatement varies widely.
Mexico	Reinstatement orders are rare, although possible by law. In the case of dismissal without "just cause", compensation of 3 months plus 20 days per year of service.
Netherlands	Notwithstanding court rulings, employers in practice can choose to replace reinstatement by payment of compensation. The amount of compensation is governed by application of severance pay formula as in Table 2.A.2, although a "correction factor" may be applied to this formula. Recent research has documented that average compensation is about NLG52 000. Scored as 18 months.
New Zealand	No legal provisions. Compensation set on a case-by-case basis.
Norway	Reinstatement orders fairly frequent. Compensation up to 6 months pay (although it can go up to 3 years in rare cases), plus back pay for the duration of the court case.
Poland	Reinstatement frequently ordered. Compensation of up to 2 months depending on amount of salary earned in another job by the time of court decision.
Portugal	Employee can choose between reinstatement with full back pay counting from the date of the dismissal to the actual court sentence; or compensation of one month of pay per year of service (with a minimum indemnity of 3 months).
Spain	Employer can choose between reinstatement with back pay and, since 1997, compensation of 33 days per year of service, with a maximum of 24 months pay. Workers hired under pre-1997 legislation can still receive up to 45 days severance pay per year of service, with a total of 42 months. In certain cases involving discrimination or union/works council activities, the dismissal is "annulled" and employers have to accept reinstatement.

Table 2.A.5. **Compensation and related remedies following unjustified dismissal** *(cont.)*

Sweden	Courts may order reinstatement or damages, plus a sum equal to earnings between the dismissal and the legal settlement of the case. If employer refuses to comply with reinstatement, damages are payable on the scale (employees over 60 in parenthesis): 16 (24) months < 5 years; 24 (36) months < 10 years; 32 (48) months > 10 years.
Switzerland	Courts are not empowered to order reinstatement. Compensation usually limited to wages for the notice period that should have been observed, or for the time period from the time of the unjustified dismissal to the actual court sentence, with an overall limit of 6 months.
Turkey	Courts are not empowered to order reinstatement, with the exception of dismissals on grounds of trade union activities. Standard remedy is a right to compensation, amounting to triple the notice period, plus regular severance pay.
United Kingdom	Employers are not obliged to reinstate. Compensation may consist of various elements: basic award (up to £6 600); compensatory award (up to £12 000); and special awards. Unlimited, if there is also discrimination on grounds of sex, race or disability.
United States	Reinstatement often ordered where worker has been discharged in violation of laws such as the National Labor Relations Act or the Equal Rights Act. A wrongfully discharged worker employed under a fixed-term contract is entitled to damages corresponding to what he/she would have earned over the life of the contract (less any salary from newly entered employment). Workers under open-ended contracts may be entitled to damages corresponding to past and future financial losses, and accompanying psychic injuries.

Table 2.A.6. **Compensation pay and related provisions following unjustified dismissal**

Trial periods, compensation payable and extent of reinstatement

	Type of worker	Trial period before eligibility arises	Typical compensation at 20 years tenure [a]	Extent of reinstatement [b]
Australia	All workers	Not legally regulated	Wide range, on case-by-case basis	1.5
Austria	All workers	1 month	15 months	1
Belgium	Blue collar	7-14 days	8 months	0
	White collar	1-6 months [c]	18/27 months [d]	0
Canada	All workers	Typically 3 months	Disparate rulings	1
Czech Republic	All workers	3 months	8 months	2
Denmark	Blue collar	0 months	9 months	1
	White collar	3 months	9 months	1
Finland	All workers	4 months	12 months	0
France [e]	Blue collar	1 week-2 months	15 months	0
	White collar	1-3 months	15 months	0
Germany	All workers	6 months	18 months	1.5
Greece	Blue collar	3 months	9.5 months	2
	White collar	3 months	22 months	2
Hungary	All workers	3 months	10 months	2
Ireland	All workers	12 months [f]	24 months	1
Italy	Blue collar	1-2 weeks [g]	32.5 months	2
	White collar	3-8 weeks	32.5 months	2
Japan	All workers	Not legally regulated, but varies mainly between 2 and 6 months	26 months	2
Korea	All workers	Not legally regulated, varies from case to case	Wide range, on case-to-case basis	2
Mexico	All workers	Not legally regulated	16 months	1
Netherlands	All workers	1 month for contract of up to 2 years duration; 2 months for contract with > 2 years duration	18 months [h]	1
New Zealand	All workers	All employees covered by EPL from start of employment [i]	Wide range, on case-by-case basis	1
Norway	All workers	1 month	15 months	2
Poland	All workers	Minimum 2 weeks, ranging up to 3 months	3 months	2
Portugal	All workers	60 days [j]	20 months	2.5
Spain	All workers	2 or 3 months (depending on company size) [k]	22 months	0
Sweden	All workers	Probationary period limited to a maximum of 6 months; does not exclude claim for damages	32 months, if employer refuses to comply with reinstatement order	1
Switzerland	All workers	1 month, sometimes extended by collective agreements to 3 months	6 months	0
Turkey	All workers	1 month, sometimes extended by collective agreements to 3 months	26 months	0
United Kingdom	All workers	2 years [f]	8 months [l]	0
United States	All workers	Wide range	Disparate rulings	0.5

a) Where relevant, calculations assume that the worker was 35 years old at the start of employment and that a court case takes 6 months on average.
b) The extent of reinstatement is based upon whether, after a finding of unfair dismissal, the employee has the option of reinstatement into his/her previous job even when this is against the wishes of the employer. The indicator is 1 where this option is rarely made available to the employee, 2 where it is fairly often made available, and 3 where it is always made available.
c) For Belgian white collar workers, the trial period can be up to 12 months if pay exceeds BF 1 130 000 per year.
d) Two possibilities given, depending on salary (< or > BF 928 000 annually in 1998).
e) France: trial period taken from collective agreement of chemical industry [IDS (1995), p. 105]; 15 months are sum of 12 months compensation and 2.7 months severance pay.
f) In Ireland and the United Kingdom, shorter trial periods are commonly agreed between employer and employee, but claims under statutory unfair dismissal legislation are not normally possible until after the periods shown.
g) For Italy, the trial periods cited are those common in collective agreements which are enforceable.
h) Netherlands: see Table 2.A.5 for detail.
i) New Zealand: case law tends to reduce rigour of provisions where employee is on probation.
j) Portugal: while 60 days is the standard trial period, the period can vary from 15 days in case of fixed-term contracts below 6 months duration, to 90 days in firms with > 20 employees, and 240 days for senior managers.
k) Spain: trial period can go up to 6 months for qualified technical staff and 9 months for managers.
l) After 20 years of service, an average worker is entitled to about £12 000 which equal roughly 8 months average gross salary.

Table 2.A.7. Regulation of fixed-term contracts

	Valid cases other than "objective" or "material" situation [a]		Maximum number of successive contracts [b]	Maximum cumulated duration of successive contracts
	Current practice	Score [c] 0-3	Number	Time
Australia	No restrictions in legislation.	3	1.5 No legal limit specified; but risk that, upon continuous renewal, the courts will find that the primary purpose of the contract is to avoid termination laws.	No limit specified.
Austria	No restrictions for first contract.	2.5	1.5 Successive fixed-term contracts without objective reason imply the risk of a court declaring the contract null and void.	No limit specified.
Belgium	Still in principle restricted to objective situations (replacement, temporary increase in workload, etc.), fixed-term contracts are now permitted without specifying an objective reason, *a)* for up to two years, or *b)* up to three years with the authorisation of the social and labour inspectorate.	2	4 If each > 3 months under option *a)*, or 6 months under option *b)*.	30 months (generally 2 years, but 3 years after authorisation of labour inspectorate).
Canada	No restrictions.	3	No limit.	No limit.
Czech Republic	Generally permitted, with restrictions for certain categories of employees, such as the disabled, those under 18 and recent graduates of apprenticeship and higher education.	2.5	No legal limit.	No limit specified.
Denmark	Fixed-term contracts allowed for specified periods of time and/or for specific tasks. Widely used, particularly in professional services and construction.	3	1.5 No legal limit, but successive contracts imply the risk of a court declaring the fixed-term contract null and void.	No limit specified.
Finland	Permitted for temporary replacements, traineeship, and special business needs (unstable nature of service activity, etc.).	1	1.5 In case of successive contracts, justification of limitation of contract subject to court examination.	No limit.
France [d]	Restricted to "objective" situations (replacement, seasonal work, temporary increases in company activity). Certain categories of fixed-term contracts are allowed for training purposes and in case of hiring subsidies and public work programmes.	1	2 A new contract on the same post can only start after a waiting period amounting to one third of initial contract.	18 months (respectively 9 and 24 months in restricted cases).
Germany	Fixed-term contracts are now widely possible without specifying any objective reason [up to mid-80s, restricted to "material reasons" (specific projects, replacement, seasonal work, etc.)].	2.5	4 (no legal limit in case of objective reason).	24 months (no legal limit in case of objective reason).
Greece	Objective situations only (mainly seasonal work and special projects), with the exception of the public service.	0	2.5 No legal limit specified, but outside the public service, more than 2 renewals will imply the risk of a court declaring the fixed-term contract null and void.	No limit specified.

Table 2.A.7. **Regulation of fixed-term contracts** *(cont.)*

	Valid cases other than "objective' or "material" situation [a]		Maximum number of successive contracts [b]	Maximum cumulated duration of successive contracts
	Current practice	Score [c] 0-3	Number	Time
Hungary	No restrictions, except for public service (objective reasons only).	2.5	No limit specified.	5 years.
Ireland	Employers do not have to justify recourse to fixed-term contracts.	3	No limit (but some possibility for unfair dismissal claims after having been employed for successive contracts).	No limit.
Italy	Traditionally limited to "objective" situations and subject to approval by the Employment Office. Since 1987, fixed-term contracts can be used more widely through sectoral collective agreements which specify target groups (youth and unemployed) and employment shares (often 8-10 per cent)	1	Scored 2 (two prolongations possible, but renewal is allowed only in restricted circumstances).	Scored 15 months (generally 12 months; 24 months for the special case of "training-work" contract).
Japan	Fixed-term contracts under 1 year duration widely possible without specifying any objective reason.	2.5	2.5 No legal limit specified; after repeated renewal the employee becomes entitled to expect renewal of his/her contract and the employer must have just cause to refuse renewal.	No limit.
Korea	Fixed-term contracts under 1 year duration widely possible without specifying any objective reason. Contracts over 1 year still limited to objective situations.	2.5	2.5 No limit specified, but several successive renewals imply the risk that a court will declare a fixed-term contract invalid.	No limit specified.
Mexico	Restricted to objective situations (replacement, temporary increase in workload, etc.), with the exception of a few occupations. Extent of use determined in consultation with union delegates.	0.5	No limit specified, negotiable by both parties.	No limit specified, negotiable by both parties.
Netherlands	No restrictions.	3	3 Beyond 2 renewals, worker is entitled to indefinite status. Notice required after 3 successive contracts.	No limit for first fixed-term contract, but 3 years in case of renewals.
New Zealand	No restrictions in legislation.	3	Scored 5 No legal limit specified; recent case law has reduced the risk that upon continuous renewal courts will find fixed-term contract a "sham".	No limit.
Norway [e]	Permitted for specific tasks/projects, the hiring of trainees, athletes and chief executives, temporary replacements of absent employees, and job creation measures.	1	1.5 In case of successive contracts, justification of limitation of contract subject to court examination.	No limit.
Poland	No restrictions.	3	2	No limit specified.
Portugal	Permitted, *inter alia*, for *a)* business start-ups; *b)* launching a new activity of uncertain duration; and *c)* recruiting workers in search of their first job and long-term unemployed.	2	3	3 years, except for new activities and business start-ups (2 years); scored 30 months.

Table 2.A.7. **Regulation of fixed-term contracts** *(cont.)*

	Valid cases other than "objective' or "material" situation [a]		Maximum number of successive contracts [b]	Maximum cumulated duration of successive contracts
	Current practice	Score [c] 0-3	Number	Time
Spain	Permitted *inter alia*, for specific tasks/projects; temporary replacements; training contracts; "eventualities of production"; and the hiring of handicapped, older workers and long-term unemployed.	1	3 No limit specified, except that implied by legislated minimum (12 months) and maximum cumulated duration.	3 years. Law prohibits hiring successive workers under fixed-term contracts to occupy the same post.
Sweden	Permitted, *inter alia*, for: *a)* temporary replacement of absent employees; *b)* temporary increases in workload; *c)* trainee work; *d)* since 1997 also allowed without specifying the reason, but only where no more than 5 employees are covered by such contracts simultaneously.	2.5	No limit specified.	Under *a)*, 3 years in 5-year period; under *b)*, 6 months in 2-year period; under d), 12 months in 3-year period, or 18 months for 1st employee; scored 12 months.
Switzerland	General.	3	1.5 No limit specified, but successive contracts imply the risk of a court declaring the fixed-term contract null and void.	No limit specified.
Turkey	Restricted to "objective situations", particularly seasonal and agricultural work.	0	1.5 No limit specified, but successive contracts imply the risk of a court declaring the fixed-term contract null and void.	No limit specified.
United Kingdom	No restrictions.	3	No limit.	No limit.
United States	No restrictions.	3	No limit.	No limit.

a) All countries recognise the validity of fixed-term contracts in "objective" situations, a term which typically refers to specific projects, seasonal work, replacement of temporarily absent permanent workers (on sickness or maternity leave), and exceptional workload.

b) The law in most countries does not specify any limits to the number of fixed-term contracts if separate valid objective reasons for each new contract can be given. However, after successive renewals (often at the first such renewal) courts may examine the validity of the reason given and may declare the fixed term unjustified.

c) Scored 0 if fixed-term contracts are permitted only for "objective" or "material" reasons (*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 exemptions exist on both the employer and the employee side; 3 when there are no restrictions on the use of fixed-term contracts.

d) France: fixed-term contracts are not allowed in a period of six months following dismissals for economic reasons.

e) Norway: employers have to give notice to fixed-term employees, instead of simply letting their contracts run out. Fixed-term workers dismissed before expiry date because of lack of work are entitled to preferential rehiring later, under certain conditions.

Table 2.A.8. **Regulation of temporary work agency (TWA) employment**

	Types of work for which TWA employment is legal	Score [a] (0-4)	Are there any restrictions on the number of renewals?	Maximum cumulated duration of temporary work contracts [b]
Australia	General.	4	No.	No limit.
Austria	General, if contract is indefinite, but limited to "objective" situations, if it is of fixed duration.	3	Yes (unless there is a separate reason for every contract).	No limit.
Belgium	Limited to "objective" situations; prohibited in certain sectors of the construction and transport industries; consultation with union delegates required.	2	Yes.	6 to 24 months, depending on reason. Scored 15 months.
Canada	General.	4	No.	No limit.
Czech Republic	General.	4	No.	No limit.
Denmark	General.	4	No.	No limit.
Finland	General.	4	No.	No limit.
France	Limited to "objective" situations, as for other fixed-term contracts.	2	Yes (1 prolongation possible). [c]	18 months.
Germany	General, with exception of construction industry.	3	Yes.	12 months.
Greece	TWAs not permitted.	0	Not applicable.	Not applicable.
Hungary	General.	4	No.	No limit.
Ireland	General.	4	No.	No limit.
Italy	Admitted since 1997 on an experimental basis for particular sectors, for replacement of absent workers and for types of work not normally used in the enterprise. Collective agreements lay down upper limits for the use of temporary workers. Excluded for all unskilled workers and firms which have resorted to collective dismissals in the last 12 months.	1	Yes (regulated through sectoral agreements; generally only one renewal possible).	No limit.
Japan	"Dispatching agencies" restricted by law to 23 types of occupations.	2	Yes (two prolongations possible).	36 months (12 months for initial contract).
Korea	Allowed in 26 occupations and in response to certain specified labour shortages.	2.5	Yes.	2 years.
Mexico	..	..	..	..
Netherlands	General, with exception of seamen (previous restrictions on construction and transport now removed).	3.5	Yes.	3.5 years, after which an indefinite contract with the TWA will be required.
New Zealand	General.	4	No.	No limit.
Norway	General prohibition remains in force, but wide exceptions for most service sector occupations.	3	Yes.	24 months.
Poland	General.	4	Yes.	No limit specified.
Portugal	Restricted to "objective situations", including seasonal activity and substitution of absent workers.	2	Yes; only certain categories of contract may be renewed, always with the permission of the Labour Inspectorate. Succession of temporary workers in the same post is expressly forbidden.	6 or 12 months, depending on reason. Scored 9 months.

Table 2.A.8. **Regulation of temporary work agency (TWA) employment** *(cont.)*

	Types of work for which TWA employment is legal	Score [a] (0-4)	Are there any restrictions on the number of renewals?	Maximum cumulated duration of temporary work contracts [b]
Spain	TWAs legal since 1994, limited to "objective situations".	2	Yes.	Not regulated for substitution and contracts related to a specific task; 3 or 6 months for temporary increase in workload. Scored 6 months.
Sweden	General.	4	No.	Same rules as for fixed-term contracts. Scored 12 months.
Switzerland	General.	4	No (but no renewals possible with the same client employer)	No limit.
Turkey	Prohibited (with the exception of agricultural work).	0	Not applicable.	Not applicable.
United Kingdom	General.	4	No.	No limit.
United States	General.	4	No.	No limit.

.. Data not available.
a) Scored 0 if TWA employment is illegal, 1 to 3 depending upon the degree of restrictions, and 4 where no restrictions apply.
b) In most OECD countries, work contracts are between the temporary employee and the temporary work agency, while the latter concludes a different type of contract with the final user.
c) France: a new contract on the same post can only start after a waiting period amounting to one third of initial contract.

Table 2.A.9. **Procedures and standards for collective dismissal**

	Definition of collective dismissal	Notification of employee representatives	Notification of public authorities	Delays involved	Type of negotiation required [a]	Selection criteria	Severance pay
Australia	Employers planning to dismiss 15 or more employees on economic, technical or structural grounds.	Obligation to inform and consult with employees and trade union, where relevant.	Notification of competent labour authorities.	No specific regulations.	Consultation on alternatives to redundancy and selection standards.	Law requires fair basis of employee selection.	No special regulations for collective dismissal.
Austria	Within 30 days, 5+ workers in firms with 20-99 employees; 5%+ in firms with 100-599; 30+ workers in firms with > 600; 5+ workers > 50 years old.	General duty to inform the works council about changes affecting the business.	Notification of local employment office.	30 days waiting period before first notice can become effective.	Consultation on alternatives to redundancy and ways to mitigate the effects; social plan to be established in firms with > 20 employees.	No criteria laid down by law.	No legal requirements, but often part of social compensation plans.
Belgium	Within 60 days, > 10 workers in firms with 20-99 employees; > 10% in firms with 100-300; > 30 workers in firms with 300+ employees.	Obligation to inform and consult with works council or trade union delegation.	Notification of sub-regional employment office.	30 days delay, can be lengthened to 60 days by employment office.	Consultation on alternatives to redundancy and ways to mitigate the effects.	No criteria laid down by law, but a national collective agreement allows co-determination of works council.	Severance pay during four months equivalent to half the difference between unemployment benefit and net remuneration (up to a ceiling).
Canada	50 or more employees within a period of 4 weeks in federal jurisdiction, Manitoba, Newfoundland and Ontario; between 10 or more and 25 or more in most other jurisdictions.	Obligation to inform and consult with recognised or certified trade union in less than half of the jurisdictions.	Notification of competent labour authorities or ministries in all jurisdictions.	Extended notice period to individuals (16 weeks in federal jurisdiction).	In 4 jurisdictions, labour authorities may require employer to establish or participate in a joint committee to discuss alternatives to redundancy and measures for finding new employment. This is obligatory in the federal jurisdiction.	As laid down in any collective agreements.	No special regulations for collective dismissal in federal jurisdiction.
Czech Republic	Employers planning to dismiss several employees for reasons of structural change or reorganisation.	Duty to inform competent trade union body.	Notification of district labour office.	Information to trade union and PES office 3 months before implementation.	Consultation on alternatives to redundancy and measures for finding new jobs.	Obligation to take account of social considerations (*e.g.* mothers, adolescents, disabled).	No special regulations for collective dismissal.
Denmark	Within 30 days, > 9 workers in firms with 21-99 employees; > 9% in firms with 100-299; > 29 workers in firms with 300+ employees.	Inform and consult with works council or trade union delegation.	Notification of public employment service.	30 days delay after notice to PES; delays are longer in firms with > 100 workers that seek to dismiss over half of staff.	National agreement obliges companies to organise transfer and/or retraining whenever possible.	No criteria laid down by law.	No special regulations for collective dismissal.

Table 2.A.9. **Procedures and standards for collective dismissal** *(cont.)*

	Definition of collective dismissal	Notification of employee representatives	Notification of public authorities	Delays involved	Type of negotiation required [a]	Selection criteria	Severance pay
Finland	> 9 workers in firms with > 20 employees, in case of dismissal for financial or production-related reasons.	Consultation with trade union or personnel representatives.	Notification of local employment office.	Consultation for at least 42 days, plus 5 days advance notice of the need for consultation.	Consultation on alternatives to redundancy and ways to mitigate the effects.	As laid down in collective agreements, selection procedure usually takes account of seniority, family circumstances and the retention of skilled personnel.	No legal requirements.
France	10 or more redundancies within 30 days (special obligations, similar to those for individual redundancy, also for dismissal of 2 to 9 employees).	Full information to be given to personnel delegates or works council and consultation meetings to be held.	Notification of departmental labour market authorities (DDTEFP).	30-60 days in companies with 50 or more employees; 21-35 days in companies with fewer than 50 employees (depending on number of proposed dismissals).	Consultation in several phases on alternatives to redundancy, such as redeployment or retraining; consultation on social compensation plan which is obligatory in companies with 50 or more employees. No veto power by employee representatives, but possibility of rejection of social plan by labour market authorities.	Labour law requires to take account of family responsibilities, seniority, age, disability and professional qualification (by job category).	No special regulations for collective dismissal.
Germany	Within 30 days, > 5 workers in firms with 21-59 employees; 10% or > 25 workers in firms with 60-499; > 30 workers in firms with > 500 employees.	Consultation with works council.	Notification of local employment office.	1 month delay after notice to PES, can be extended to two months.	Consultation on alternatives to redundancy and ways to mitigate the effects; social plan to be set up in conjunction with works council, regulating selection standards, transfers, lump-sum payments, early retirement, etc.	Social as well as economic considerations can enter the selection criteria, *e.g.* labour market prospects of concerned employees and economic viability of the company.	No legal requirements, but often part of social compensation plans.
Greece	Within a month, > 5 workers in firms with 20-50 employees; > 2% or > 30 workers in firms with > 50 employees.	Notification of reasons and obligation to reach agreement with employee representatives.	Notification to Prefect and Labour Inspection, with request for approval.	If social partners agree and ministry approves, notice can be given after 10 days. Ministry can extend time for negotiation by another 20 days.	Negotiation with employee representatives on dismissal procedures. If no agreement is reached, Labour Ministry can impose its own terms.	Law lays down union participation, but no specific selection criteria for dismissal.	No special regulations for collective dismissal.

Table 2.A.9. **Procedures and standards for collective dismissal** *(cont.)*

	Definition of collective dismissal	Notification of employee representatives	Notification of public authorities	Delays involved	Type of negotiation required [a]	Selection criteria	Severance pay
Hungary	10+ workers in firms with 20-299 employees; > 10% in firms with 100-299; 30+ workers in firms with 300+ employees.	Committee to be set up, including works council or trade union representatives to consult on procedures and benefits.	Notification of local employment office.	30 days delay after notification of employment office, if at least 10 persons are involved; 90 days if 25% of workforce or 50+ employees are involved.	Consultation on principles of staff reduction, and ways to mitigate its effects.	Law lays down union participation, but no specific selection criteria for dismissal.	No special regulations for collective dismissal.
Ireland	Within 30 days, 5-9 workers in firms with 20-49 employees; 10+ workers in firms with 50-99; 10% in firms with 100-299; 30+ in firms with 300+ employees.	Duty to inform and consult with competent trade union.	Notification of ministry competent for labour and employment.	Information to trade union and ministry 30 days before implementation.	Consultation on alternatives to redundancy and ways to mitigate the effects.	Law lays down union participation, but no specific selection criteria for dismissal.	No special regulations for collective dismissal, but legally required severance pay usually topped up in cases of mass redundancies.
Italy	In firms with 15 and more employees and over a period of 120 days, 5+ workers in a single production unit; 5+ workers in several units within one province.	Duty to inform employee representatives and competent trade union and set up a joint examination committee.	Notification of labour authorities (at local, regional or national level, depending on size of redundancy).	Up to 45 days negotiation in joint examination committee before implementation. Conciliation if no agreement reached.	Consultation on alternatives to redundancy, scope for redeployment and ways to mitigate the effects; severance agreement usually reached after negotiation with union and (in major cases) labour authorities, determining selection criteria and use of financial support.	Law specifies social and economic criteria (length of service, number of dependants, technical and production requirements), but does not specify priorities.	Regular severance pay after exhaustion of *Cassa Integrazione Guadagni* or mobility payments.
Japan	No special statute on collective dismissal, but notification requirement in cases of 30+ dismissals.	Courts usually require information and consultation with trade union or employee representatives.	Notification of public employment service.	No special regulations.	Courts will require sincere consultation on need for redundancy, dismissal standards and employee selection.	No specific selection criteria for dismissal.	No special regulations for collective dismissal.
Korea	> 10 workers in firms with < 100 employees; > 10% of workers in firms with 100-999; > 100 workers in firms with > 1 000 employees.	Information and consultation with trade union/employee representatives.	Notification to Ministry of Labour.	No special regulations (60 days waiting period as for individual redundancy).	Sincere consultation on need for redundancy, dismissal standards and employee selection.	Law lays down union participation, but no specific selection criteria for dismissal other than "rational and fair standards".	No special regulation for collective dismissal.

Table 2.A.9. **Procedures and standards for collective dismissal** *(cont.)*

	Definition of collective dismissal	Notification of employee representatives	Notification of public authorities	Delays involved	Type of negotiation required [a]	Selection criteria	Severance pay
Mexico	Unspecified number to be dismissed for economic reasons; provisions restricted to companies with 20+ employees.	Duty to inform and consult with trade union/employee representatives.	Notification to Conciliation and Arbitration Board (*Junta*) if no agreement with union can be found.	No special regulations for collective dismissal.	Negotiation with employee representatives on conditions and procedures of dismissal. If no agreement is reached, agreement by *Junta* on terms of dismissal required.	Usually seniority-based.	No special regulation for collective dismissal.
New Zealand	No special statute on collective dismissal.	Duty to inform and consult with trade union/employee representatives only if required by contract.	Not required.	No special regulations for collective dismissal.	No legal requirements apart from procedural fairness.	Law requires fair basis of employee selection, but essentially employer's decision.	No special regulations for collective dismissal.
Netherlands	Over 3 months, 20+ workers dismissed by one employer in one employment service region.	Duty to inform and consult with works council and trade union delegation.	Notification of regional employment office.	30 days waiting period to allow for social plan negotiations (unless the social partners have agreed in writing to refrain from the waiting period).	Consultation on alternatives to redundancy and ways to mitigate the effects; social plan will normally be agreed outlining transfers, re-training, early retirement measures and financial compensation.	Employment service can determine mix of selection criteria (“last in-first out” principle, or “mirror-image” of existing workforce).	No legal entitlement, but social plans often contain severance pay or top-ups to unemployment benefits.
Norway	10+ employees within a month.	Duty to inform and consult with trade union/employee representatives.	Notification of district employment office.	30 days waiting period after notification of employment service.	Consultation on alternatives to redundancy and selection standards.	Accepted custom is by seniority, but recent case law gives more weight to business needs.	No legal requirements.
Poland	10%+ of workers in firms with < 1 000 employees 100+ workers in firms with 1 000 employees and above.	Duty to inform competent trade union.	Notification of local employment office.	Information to trade union and PES 45 days before implementation.	Agreement to be reached with trade union on alternatives to redundancy and ways to mitigate the effects.	Law lays down union participation, but no specific selection criteria for dismissal.	1 month < 10 years of service; 2 months < 20 years; 3 months > 20 years.
Portugal	Within 90 days, 2+ workers in firms with < 51 employees; 5+ workers in firms with 51+ employees.	Duty to inform and consult with works council or trade union delegation.	Notification of Labour Inspectorate.	75 days if agreement on dismissal procedures can be reached; otherwise 90 days.	Consultation on alternatives to redundancy, selection standards and ways to mitigate the effects; written agreement to be reached, if necessary via conciliation by Labour Inspectorate.	No criteria laid down in law, except for priority to trade union representatives and members of works councils.	No special regulations for collective dismissal.

Table 2.A.9. **Procedures and standards for collective dismissal** *(cont.)*

	Definition of collective dismissal	Notification of employee representatives	Notification of public authorities	Delays involved	Type of negotiation required [a]	Selection criteria	Severance pay
Spain	Within 90 days, 10+ workers in firms with < 100 employees; 10%+ in firms with 100-299; 30+ workers in firms with 300+ employees.	Duty to inform and consult with works council or trade union delegation.	Notification of local labour market authorities.	Employer must consult 30 days in advance (15 days in firms with < 50 employees). Further 15 days delay for approval of labour market authorities, if required.	Consultation on alternatives to redundancy, selection standards and ways to mitigate the effects. Written agreement to be reached, otherwise approval by labour market authorities is required.	No criteria laid down in law, except for priority to trade union representatives and members of works councils.	No special regulations for collective dismissal.
Sweden	Collective dismissal governed by regulation on redundancy dismissal.	Duty to inform and consult with competent trade union.	Notification of county labour board.	Waiting periods after notification of employment service are from 2 months (when 5-24 workers involved) to 6 months (when 100+ workers involved).	Consultation on alternatives to redundancy, selection standards and ways to mitigate the effects; notice may not take effect before negotiation with trade union.	Usually based on seniority within a job category, but deviations by collective agreement are possible.	No special regulations for collective dismissal.
Switzerland	10+ workers in firms with 20-99 employees; 10%+ in firms with 100-299; 30+ in firms with 300+ employees.	Obligation to inform and consult with works council or trade union delegation.	Duty to notify cantonal employment service.	30 days waiting period.	Consultation on alternatives to redundancy and ways to mitigate the effects; obligation to negotiate a social plan frequently contained in collective agreements.	No selection criteria laid down in law.	No legal requirements, but often part of social plans.
Turkey	10+ employees.	Not legally regulated (some collective agreements may require notification).	Duty to notify public employment service of names and skills of employees to be dismissed.	1 month waiting period.	No legal requirements (some collective agreements may stipulate some type of joint decision-making).	Usually employer prerogative.	No special regulations for collective dismissal.
United Kingdom	Within 90 days, 20+ employees.	Duty to inform and consult with recognised trade union or other elected employee representatives.	Notification of Department of Trade and Industry.	30 days if 20-99 workers are involved; 90 days when 100+ workers are involved.	Consultation on selection standards and dismissal procedures.	No criteria laid down in law, except for prohibition of discrimination. Often mix of seniority and performance-based criteria.	No special regulations for collective dismissal.

Table 2.A.9. **Procedures and standards for collective dismissal** *(cont.)*

	Definition of collective dismissal	Notification of employee representatives	Notification of public authorities	Delays involved	Type of negotiation required [a]	Selection criteria	Severance pay
United States	In firms with 100 or more employees and over a period of 30 days, 50+ workers in case of plant closure; 500+ workers in case of layoff; 50-499 workers, if they make up at least one third of the workforce.	Duty to inform affected workers or labour unions (where they exist).	Duty to notify state and local authorities.	Special 60-day notice period. [b]	No legal requirements.	As laid down in collective agreements or company manuals; usually seniority-based.	No special regulations for collective dismissal.

a) Including obligations, if any, to conclude compensation agreements ("social plans"), detailing *inter alia* measures for re-deployment, re-training, outplacement and severance pay, between the enterprise concerned, its employee representatives and/or the competent labour authorities.

b) Exceptions to the notice period include layoffs due to risk of bankruptcy, unforeseen circumstances, or ending of a temporary business activity. Several studies have shown that in a substantial number of cases employers fail to adequately apply notice requirements.

Annex 2.B

Calculation of Summary Indicators of EPL Strictness

Summary indicators of EPL strictness greatly facilitate the analysis of employment protection and its effects on labour market performance. Comparisons of employment protection across countries, or at different times in the same country, would be extremely cumbersome if done solely in terms of the 22 first-level indictors presented in Tables 2.2 to 2.4 (or the even more numerous descriptive entries reported in Annex 2.A). Although item-by-item comparisons can be instructive, summary measures appear to be essential in order to study the effects of employment protection on labour market outcomes.

However, the construction of such summary measures raises difficult choices of quantification and weighting that are familiar from the theory of index numbers. In earlier work, the OECD used a "rank of averaged ranks" approach to constructing summary indicators [OECD (1994*a*)], which was originally developed by Grubb and Wells (1993). Since the basic EPL indicators being combined are difficult to quantify in comparable units (*e.g.* difficulty of procedural requirements and severance pay), this largely ordinal approach is potentially attractive. However, the rank of averaged ranks method can prove misleading if national rankings differ too strongly across these basic indicators. In such a case, performing a cardinal operation on an ordinal measure – such as averaging several rankings – can lead to perverse results.

An ordinal approach is not sufficient for the purposes of this chapter because valid comparisons could not be made between levels of EPL strictness in the late 1990s and in the late 1980s. One limitation of a summary indicator based on ranking is that a given country's strictness score could either rise or fall over time, even though its employment protection practices were completely unchanged, for the simple reason that other countries changed their policies. Even more fundamentally, it would be invalid to compare a rank-based score for the late 1980s, which was based on an analysis of 16 European countries, with a rank-based score for the late 1990s based on a sample of 27 countries. Quite independently of any changes in EPL, the maximum rank score has nearly doubled.

A four-step procedure was developed for constructing *cardinal* summary indicators that allow meaningful comparisons to be made, both across countries and between different years (Chart 2.B.1).[1] Since the theoretical analysis of employment protection emphasises the analogy of EPL to an employer-borne tax on employment adjustment, the overall intent is to reflect, as accurately as possible, the cost implications of various regulatory provisions for employers (*i.e.* stricter is interpreted as more costly). However, the correspondence between the strictness scores and employers' costs is no more than qualitative.

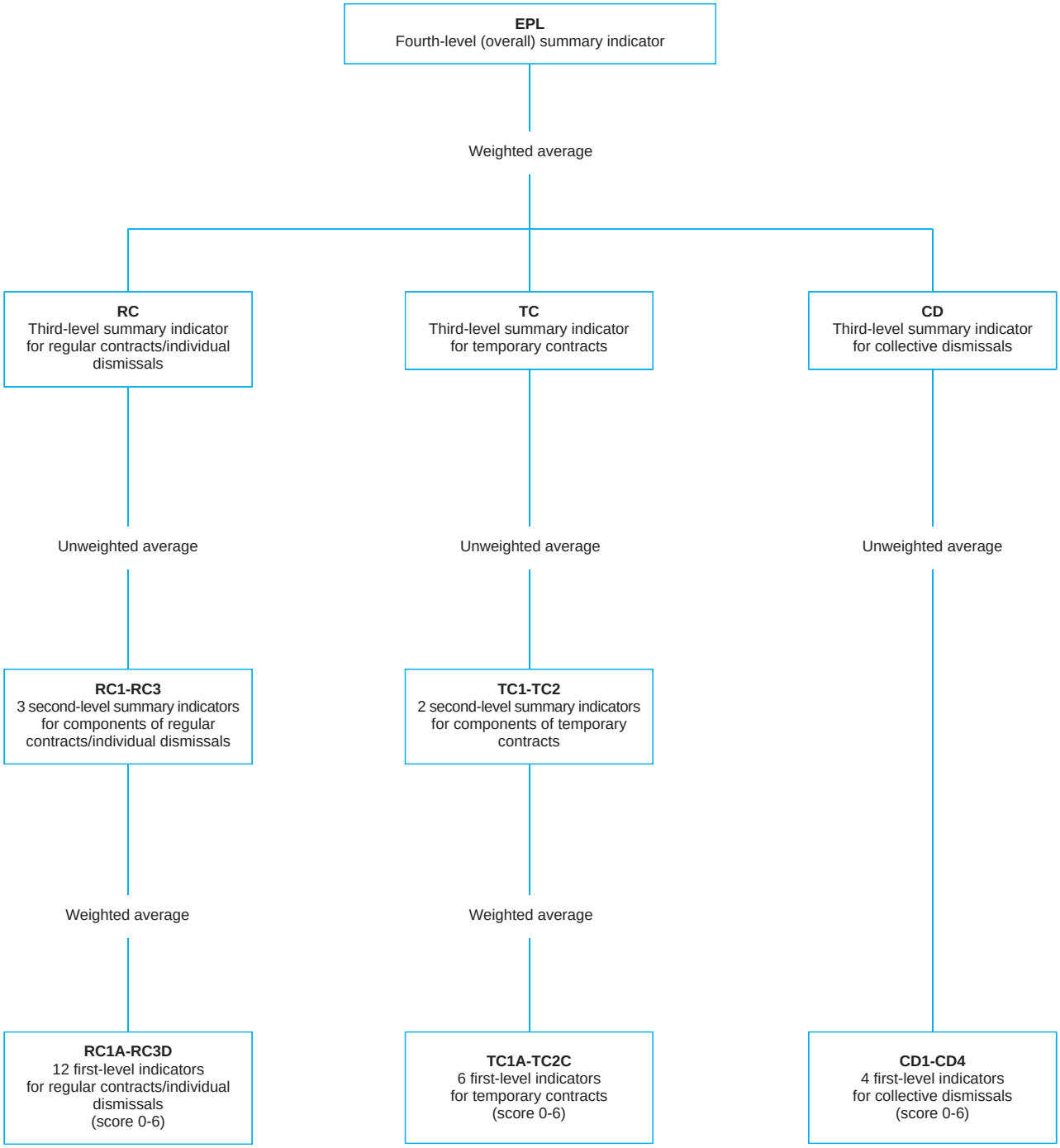
The first step is to convert each of the 22 first-level indicators of EPL into cardinal scores that are normalised to range from 0 to 6, with higher scores representing stricter regulation. This scoring algorithm is somewhat arbitrary, but was implemented so as to compromise between allowing the score to rise proportionally with the underlying measure (*e.g.* with weeks of severance pay) and respecting natural break points in the data (*i.e.* clusters in country practices). Table 2.B.1 specifies the mapping that was used for each of the 22 first-level indicators.

Having converted all of the first-level measures into numerical scores that are in comparable units, it is mathematically straightforward to form various averages, as depicted in Levels 2 to 4 of Chart 2.B.1. However, it would be inappropriate to take unweighted averages of all of the components and uneven weights were used in two situations (see Table 2.B.2 for details):

- In cases where a single underlying aspect of employment protection regulation was reflected in multiple measures, their weights were reduced to be collectively equivalent to the weight applied to another aspect represented by a single measure. For example, the notice period and severance pay are not triple weighted, just because each is measured three times (*i.e.* at 9 months, 4 years and 20 years of tenure).
- In two cases, uneven weights were used because it was judged that some aspects of employment protection deserved greater economic weight than others. First, and following the *Jobs Study* [OECD (1994*a*)], it was assumed that a week of notice was only equivalent to 0.75 of a week of severance pay.[2] Second, when forming an overall strictness measure from the three subcomponents for strictness of regulation for regular contracts, temporary contracts and collective dismissals, the summary measure for collective dismissals was allocated just 40 per cent of the weight assigned to regular and temporary contracts. The rationale for this is that the collective dismissals indicator only reflects *additional* employment protection that was trigged by the collective nature of a dismissal. In most countries, these additional requirements are quite modest.

1. In practice, the cardinal summary indicator used in this chapter produces a very similar ranking of countries by overall EPL strictness to that produced by applying the rank of averaged ranks method to the underlying data (Spearman rank correlation of 0.95 for the late 1990s).
2. In each case, the employer must pay a week's wages, but in the case of notice the workers typically provide productive services that are of some value.

Chart 2.B.1. Four-step procedure to construct summary indicators of EPL strictness[a, b]



a) The sequence of calculations flows from the bottom to the top of the chart (*i.e.* from first to fourth-level indicators).
b) See Tables 2.B.1 and 2.B.2 for variable definitions and aggregation weights.
Source: OECD.

Table 2.B.1. Assignment of numerical strictness scores to first-level EPL indicators [a]

Code	Original unit	Assigned scores						
		0	1	2	3	4	5	6
Individual dismissals of workers with regular contracts								
RC1A	Scale 0-3				Scale (0-3)*2			
RC1B	Days	0-2	< 10	< 18	< 26	< 35	< 45	≥ 45
RC2A1	Months	0	≤ 0.4	≤ 0.8	≤ 1.2	< 1.6	< 2	≥ 2
RC2A2	Months	0	≤ 0.75	≤ 1.25	< 2	< 2.5	< 3.5	≥ 3.5
RC2A3	Months	< 1	≤ 2.75	≤ 5	≤ 7	≤ 9	> 11	< 11
RC2B1	Months	0	≤ 0.5	≤ 1.0	≤ 1.75	≤ 2.5	< 3	≥ 3
RC2B2	Months	0	≤ 0.5	≤ 1	≤ 2	≤ 3	< 4	≥ 4
RC2B3	Months	0	≤ 3	≤ 6	≤ 10	≤ 12	≤ 18	> 18
RC3A	Scale 0-3				Scale (0-3)*2			
RC3B	Months	≥ 24	> 12	> 9	> 5	> 2.5	> 1.5	< 1.5
RC3C	Months	≤ 3	≤ 8	≤ 12	≤ 18	≤ 24	≤ 30	> 30
RC3D	Scale 0-3				Scale (0-3)*2			
Temporary employment								
TC1A	Scale 0-3				6-Scale (0-3)*2			
TC1B	Number	No limit	≥ 5	≥ 4	≥ 3	≥ 2	≥ 1.5	< 1.5
TC1C	Months	No limit	≥ 36	≥ 30	≥ 24	≥ 18	≥ 12	< 12
TC2A	Scale 0-4				6-Scale (0-4)*6/4			
TC2B	Yes/no	–	–	No	–	Yes or TC2A = 0	–	–
TC2C	Months	No limit	≥ 36	≥ 24	≥ 18	≥ 12	> 6	≤ 6 or TC2A = 0
Collective dismissals								
CD1	Scale 0-4				Scale (0-4)*(6/4)			
CD2	Scale 0-2				Scale (0-2)*3			
CD3	Days	0	< 25	< 30	< 50	< 70	< 90	> 90
CD4	Scale 0-2				Scale (0-2)*3			

a) The first 12 rows of this table (variables RC1A to RC3D) correspond to the measures of EPL for individual dismissals of workers with regular contracts as reported in Table 2.2, Panel A; the next 6 rows (variables TC1A to TC2C) correspond to the measures of the regulation of temporary contracts as reported in Table 2.3, Panel A; and the last 4 rows (variables CD1 to CD4) correspond to the measures of EPL for collective dismissals reported in Table 2.4.

The assignment of scores and weights adds a subjective dimension to the EPL strictness scores that is additional to the judgements already embodied in the 22 descriptive indicators. Experimentation with alternative scoring schemes for the first-level indicators suggests that the conclusions reached by the analysis are unlikely to be affected by the arbitrariness embodied in this step. By contrast, the weighting scheme can have a greater impact, since the components of EPL are not always highly, positively correlated. To take the most extreme example, notice and severance are actually negatively correlated (correlation coefficient of -0.16 in the late 1990s), so that the relative weights assigned to these components, can affect cross-country comparisons of EPL strictness. Rather than reporting results for a number of different weighting schemes for constructing alternative summary strictness measures, this chapter provides considerable analysis of the separate components of EPL.

Table 2.B.2. **EPL summary indicators and weighting scheme** [a]

Level 4	Level 3	Level 2	Level 1			
EPL Overall summary indicator [b]	RC Regular contracts [c] (5/12)	RC1 Procedural inconveniences (1/3)	Procedures		(1/2)	RC1A
			Delay to start a notice		(1/2)	RC1B
		RC2 Notice and severance pay for no-fault individual dismissals (1/3)	Notice period after	9 months	(1/7)	RC2A1
				4 years	(1/7)	RC2A2
				20 years	(1/7)	RC2A3
			Severance pay after	9 months	(4/21)	RC2B1
				4 years	(4/21)	RC2B2
				20 years	(4/21)	RC2B3
		RC3 Difficulty of dismissal [d] (1/3)	Definition of unfair dismissal		(1/4)	RC3A
			Trial period		(1/4)	RC3B
			Compensation		(1/4)	RC3C
			Reinstatement		(1/4)	RC3D
	TC Temporary contracts [c] (5/12)	TCI Fixed-term contracts [e] (1/2)	Valid cases other than the usual "objective"		(1/2)	TC1A
			Maximum number of successive contracts		(1/4)	TC1B
			Maximum cumulated duration		(1/4)	TC1C
		TC2 Temporary work agency (TWA) employment [e] (1/2)	Types of work for which is legal		(1/2)	TC2A
			Restrictions on number of renewals		(1/4)	TC2B
			Maximum cumulated duration		(1/4)	TC2C
	CD Collective dismissals [c] (2/12)		Definition of collective dismissal		(1/4)	CD1
			Additional notification requirements		(1/4)	CD2
			Additional delays involved		(1/4)	CD3
			Other special costs to employers		(1/4)	CD4

a) Level 1 corresponds to the disaggregated data that have been assembled on EPL, while levels 2-4 represent successively more aggregated indicators of EPL strictness. The values in parenthesis indicate the aggregation weights to use in creating the next higher level summary indicator as a weighted average of the indicators at that level. Prior to forming these weighted averages, the level 1 indicators must be converted into equivalently scaled, cardinal variables (as specified in Table 2.B.1).

b) Variables CD1-CD4 are only available for the late 1990s. Thus, an alternative overall index is calculated as an unweighted average of RC and TC only. The table also omits several other indices that are used in the analysis. For example, equally weighted indices were calculated from RC2A1-RC2A3 (notice) and RC2B1-RC2B3 (severance).

c) The weighting 5/12, 5/12, 2/12 assigns CD 40 per cent the weight of assigned to RC and TC. This is intended to reflect the fact that the collective dismissals measures typically represent modest increments to the EPL requirements for individual dismissals.

d) Since all of the underlying data are available for Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States, except RC3B or RC3C, the index RC3 (difficulty of dismissal) is calculated in these cases by averaging over all of the variables RC3A-RC3D with valid data. This allows levels 3 and 4 summary indicators to be calculated for these countries.

e) Since all of the underlying data are available for Finland, Norway and Sweden in the late 1980s, except for one or two items related to the maximum duration of temporary employment, the indices TC1 and TC2 are calculated in these cases by averaging over all of the variables TC1A-TC2C with valid data. This allows changes in the levels 3 and 4 summary indicators to be calculated for these three countries.

Annex 2.C

Summary of the Empirical Literature

Table 2.C.1. Effects of EPL on labour market performance, findings from selected studies

Study	Period and countries	Performance measure	Measure of EPL	Control variables and/or interactions	Method	Findings
EMPLOYMENT, UNEMPLOYMENT, AND HOURS						
Bertola (1990)	1962-86, 1974-86; 10 countries.	Employment rate; unemployment rate; hours worked.	Ranking based on evidence from Emerson (1988).	Unemployment rate; CPI; time-period dummies; GDP growth.	Time series estimation.	No effect on unemployment levels. Positive effect on unemployment persistence.
Blanchard (1998)	1960-64 to 1995-96; 21 countries.	Unemployment rate.	OECD ranking.[a]	The same as used in Nickell (1997), excluding the union density variable.	Unbalanced panel, with explicit treatment of shocks, and interaction of shocks and institutions.	No effect on unemployment, even after controlling for possible shocks.
Elmeskov *et al.* (forthcoming)	1983-95; 19 countries.	Structural unemployment (NAWRU).	OECD ranking.[a] Changes of EPL over time.	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] tax wedge; minimum wages.	Panel data methods for a reduced-form unemployment equation. Theoretical bargaining model, taken from Layard *et al.* (1991).	Positive effect on structural unemployment. The results are more robust than Scarpetta's (1996) – note that EPL changes are taken into account.
Jackman *et al.* (1996)	1983-88, 1989-94; 20 countries.	Short-term unemployment; long-term unemployment (average over 1985-93, standardised and in logs).	OECD ranking.[a]	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] change of inflation; time dummy.	Pooled regression for the two sub-periods, using random-effects methods. Equations also include lagged dependent variables.	No effect on unemployment, because the effect on hirings is almost offset by the effect on firings. No significant effect on unemployment persistence.
Esping-Andersen (forthcoming)	1993; 18 countries.	Unemployment rates.	OECD ranking.[a]	Collective bargaining,[c] minimum wage.[d]	Experimentations with the specification of EPL (linear and quadratic). Interactions of EPL with collective bargaining are allowed.	No impact on aggregate unemployment.
Lazear (1990)	1956-84; 22 countries.	Employment/ population rate; labour force/ participation rate; unemployment rate; hours worked per week.	Historical time series of severance pay and months of advance notice before dismissal (blue-collar worker with 10 years of service).	Severance pay, notice variable (both after 10 years of service) and quadratic time trend.	Models in reduced form.	High severance pay reduces employment, reduces labour force participation, and raises unemployment. Changes in severance pay rules partly explain unemployment changes in France, Italy and Portugal.

Table 2.C.1. **Effects of EPL on labour market performance, findings from selected studies** *(cont.)*

Study	Period and countries	Performance measure	Measure of EPL	Control variables and/or interactions	Method	Findings
Nickell (1997)	1983-88, 1989-94; 20 countries.	Log unemployment rate; overall labour supply; [e] employment/ working-age-population ratio.	OECD ranking. [a]	Income-schemes for unemployed. [b] ALMP; collective bargaining; [c] total tax rate; change in inflation. Period dummy.	GLS random effects using two periods.	Insignificant effect on unemployment. Negative effect on employment, which becomes nil on prime-age men (due to high correlation between strict EPL and low female participation in southern Europe).
Nickell and Layard (1998)	1983-88, 1989-94; 20 countries.	Unemployment rate; employment/population; hours/population (six-year averages).	OECD ranking. [a]	Income-schemes for unemployed; [b] ALMP; collective bargaining; [c] total tax rate. Owner occupation rate. Time period dummy. Change in inflation.	GLS random effects using two time periods. The rate of change in inflation is included to capture the difference between actual and structural unemployment rate.	No effect on total unemployment. Negative effect on employment/ population ratio (due to high correlation between strict EPL and low female participation in southern Europe).
Scarpetta (1996)	1983-93; 17 countries.	Structural unemployment (NAWRU); no-employment rate.	OECD ranking. [a]	Cyclical factors. Income-schemes for unemployed; [b] ALMP; collective bargaining; [c] tax wedge; exposure to trade (proxy for product market competition). Real interest rates.	Static reduced-form model. Takes into consideration the difference between actual and equilibrium unemployment.	Positive impact on unemployment, which disappears after including institutional interactions. Positive impact also on non-employment rates.
LONG-TERM AND SHORT-TERM UNEMPLOYMENT, FLOWS AND UNEMPLOYMENT DURATION						
Blanchard and Portugal (1998)	1985-94; 21 countries.	Unemployment inflow; unemployment duration (average 1985-94).	OECD ranking. [a]	None.	Regression of the log flow and the log duration on the EPL rank.	EPL lowers flows through unemployment and raises unemployment duration.
Bertola and Rogerson (1997)	Mid to late 1980s; 6 countries.	Job creation, job destruction, unemployment flows and job turnover.	Grubb and Wells (1993) ranking.	None.	Standard theoretical model of job turnover to analyse the effects of firing costs on steady-state job turnover across firms.	Similar job turnover across countries. But EPL reduces the flows into and out of unemployment. Thus, job reallocation takes more often the form of job-to-job mobility.
Boeri (1999)	1983-94; 13 EU countries.	Probability of job-to-job and employment to unemployment flows; probability of unemployment outflow to employment.	Proportion of temporary employees.	GDP growth rate (lagged); country dummy; linear (and quadratic) time trend.	Panel data (grouped) logit equations for the group of workers in short-term jobs. Separated regressions for (adult and young) men and women.	EPL raises job-to-job mobility, but reduces flows from employment to unemployment. Since with strict EPL quits are more often not re-filled, it also reduces the chances of unemployed.

Table 2.C.1. **Effects of EPL on labour market performance, findings from selected studies** *(cont.)*

Study	Period and countries	Performance measure	Measure of EPL	Control variables and/or interactions	Method	Findings
Gregg and Manning (1997)	10 countries.	Percentage of long-term unemployed (> 1 year).	Average job tenure 1991, Bertola index.	None.	Regressions on average job tenure and on the Bertola index.	Positive effect on long-term unemployment.
Jackman *et al.* (1996)	1983-88, 1989-94; 20 countries.	Short-term unemployment; long-term unemployment (average over 1985-93, standardised and in logs).	OECD ranking.[a]	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] change of inflation; time dummy.	Pooled regression for the two sub-periods, using random-effects methods. Equations also include lagged dependent variables.	EPL increases long-term unemployment (because it decreases hirings), but also decreases short-term unemployment (because it decreases firings).
Nickell (1997)	1983-88; 1989-94; 20 countries.	Long-term and short-term unemployment (six-year averages in logs).	OECD ranking.[a]	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] total tax rate. Change in inflation. Period dummy.	GLS random effects using two periods.	The effects of EPL on short-term and long-term unemployment are not significant.
Nickell and Layard (1998)	1983-88, 1989-94; 20 countries.	Long-term and short-term unemployment (six-year averages in logs).	OECD ranking.[a]	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] total tax rate. Owner occupation rate. Time period dummy. Rate of change in inflation.	GLS random effects using two time periods. The rate of change in inflation is included to capture the difference between actual and structural unemployment rate.	Reduction of labour market flows, raising long-term unemployment and reducing short-term unemployment.
Schettkat (1997)	1982-83, 1987-88; 9 EU countries.	Overall labour mobility; flows out of employment; job-to-job mobility.	Own grouping based on strictness of dismissals protection (individual and collective).	Country dummies (proxy for labour market regulations); industry dummies (product market conditions); employment change and unemployment rate (macroeconomic conditions).	Pooled regressions, in reduced form.	Negative effect on labour mobility.
OECD (1993)	1979-91; 19 countries.	Long-term unemployment.	Severance pay and notice periods combined as one factor (blue- and white-collar workers).	Unemployment benefit duration; ALMP expenditures/ unemployment benefits.	Pooled time-series/cross-section estimation.	Positive effect on long-term unemployment rates. in southern Europe and Ireland, job security account for more than half of the long-term unemployed observed, particularly among blue-collar workers.
EMPLOYMENT AND UNEMPLOYMENT COMPOSITION						
Blanchard and Portugal (1998)	1985-94; 21 countries.	Unemployment inflow; unemployment duration (average 1985-94).	OECD ranking.[a]	None.	Regression of the log flow and the log duration on the EPL rank.	Strong effects on the nature of unemployment are found – the effect on the unemployment rate is ambiguous.

Table 2.C.1. **Effects of EPL on labour market performance, findings from selected studies** *(cont.)*

Study	Period and countries	Performance measure	Measure of EPL	Control variables and/or interactions	Method	Findings
Esping-Andersen (forthcoming)	1993; 18 countries.	Log unemployment rate; youth to male-adult unemployment ratio; unskilled to all unemployed ratio; unemployment outflow.	OECD ranking. [a]	Collective bargaining, [b] minimum wage. [d]	Experimentations with the specification of EPL: linear monotonic measure, quadratic specification, interactions with collective bargaining.	A quadratic effect is found. Youth and female unemployment is high when EPL is either strict or flexible (u-curve), and low-skilled unemployment is low when EPL is strict or flexible (hump-shaped curve).
Grubb and Wells (1993)	1989; 11 EU countries.	Incidence of temporary work; shifts in the structure of employment towards non-regulated forms of work.	Own rank based on regulations of: individual dismissals; temporary employment; working time.	None.	Cross-country correlations between regulation indicators and patterns of work. Partial cross-correlations between different indicators of regulation and corresponding work patterns' indicators are discussed.	EPL increases non-regulated forms of employment, and the proportion of employees in part-time and temporary work who are involuntary.
Nickell (1997)	1983-88, 1989-94; 20 countries.	Long-term and short-term unemployment (six-year averages, in logs).	OECD ranking. [a]	Income-scheme for unemployed; [b] ALMP; collective bargaining coverage; [c] total tax rate. change in inflation. Period dummy.	Estimation made using GLS random effects using two periods.	No effect on prime-age male unemployment.
Scarpetta (1996)	1983-93; 17 countries.	Youth unemployment.	OECD ranking. [a]	Cyclical factors. Income-schemes for unemployed; [b] ALMP; collective bargaining; [c] tax wadge; exposure to trade (proxy for product market competition). Real interest rates.	Static reduced-form model. Takes into consideration the difference between actual and equilibrium unemployment.	Significant impact on the structure of employment and unemployment (*e.g.* youth), which disappears after institutional interactions.
LABOUR INPUT ADJUSTMENT AND REALLOCATION OF LABOUR						
Abraham and Houseman (1994)	1973-90; 4 countries.	Employment adjustments; hours adjustments.	Separate regressions for each country. Dummy for changes in labour market regulation.	Output; time trend.	Koyck model of the dynamic demand for labour to estimate labour adjustments.	Employment adjustment (in manufacturing) is slower in Europe than in the United States, but hours adjustment is similar. EPL is not an obstacle to adjust for firms, since they develop strategies to get the needed flexibility (*e.g.* short-time work).

Table 2.C.1. **Effects of EPL on labour market performance, findings from selected studies** *(cont.)*

Study	Period and countries	Performance measure	Measure of EPL	Control variables and/or interactions	Method	Findings
Bertola (1990)	1962-86, 1974-86; 10 countries.	Employment rate; unemployment rate; hours worked.	Ranking based on evidence from Emerson (1988).	Unemployment rate; CPI; time-period dummies; GDP growth.	Time series estimation.	Employment is more stable, hours are less stable and unemployment is more persistent.
Boeri (1999)	1983-94; 13 EU countries.	Probability of unemployment outflow to employment, probability of voluntary quits.	Proportion of temporary employees.	GDP growth rate (lagged); country dummy; linear (and quadratic) time trend.	Panel data (grouped) logit equations for the group of workers in short-term jobs. Separated regressions for (adult and young) men and women.	"Partial reforms" which liberalise fixed-term contracts reduce the employment chances of the unemployed and discourage voluntary quits, which is often an efficient way to achieve optimal labour reallocation.
Jackman *et al.* (1996)	1983-88, 1989-94; 20 countries.	Short-term unemployment; long-term unemployment (average over 1985-93, standardised and in logs).	OECD ranking.[a]	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] change of inflation; time dummy.	Pooled regression for the two sub-periods, using random-effects methods. Equations also include lagged dependent variables.	Reduction in the speed of adjustment, but minor impact on the equilibrium unemployment.
INTERACTIONS WITH OTHER INSTITUTIONAL FACTORS						
Bertola and Rogerson (1997)	Mid to late 1980s; 6 countries.	Job creation, job destruction, unemployment flows and job turnover.	Grubb and Wells (1993) ranking.	None.	Standard theoretical model of job turnover to analyse the effects of firing costs on steady-state job turnover across firms.	Firings (but not hirings) increase if strict EPL coincides with wage compression.
Elmeskov *et al.* (forthcoming)	1983-95; 19 countries.	Structural unemployment (NAWRU).	OECD ranking.[a]	Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] tax wedge; minimum wages.	Panel data methods for a reduced-form unemployment equation. The theoretical bargaining model follows Layard *et al.* (1991).	The positive effect of unemployment benefit and tax wedge on unemployment is larger if EPL is strict or loose. The negative impact of EPL on unemployment is stronger in countries with intermediate degree of centralisation/ co-ordination of collective bargaining.

Table 2.C.1. **Effects of EPL on labour market performance, findings from selected studies** *(cont.)*

Study	Period and countries	Performance measure	Measure of EPL	Control variables and/or interactions	Method	Findings
Scarpetta (1996)	1983-93; 17 countries.	Structural unemployment (overall and youth).	OECD ranking.[a]	Cyclical factors. Income-schemes for unemployed;[b] ALMP; collective bargaining;[c] tax wedge; exposure to trade (proxy for product market competition). Real interest rates.	Static reduced form model (for the impact of institutions on structural unemployment). Takes into consideration the difference between actual and equilibrium unemployment.	A worst case scenario (as far as unemployment is concerned) would combine strong EPL with generous unemployment benefits and uncoordinated bargaining.

a) OECD *Jobs Study* (1994*b*), Part II, Table 6.7, Panel B, Column 2.
b) Replacement rate and unemployment benefit duration.
c) Union density, union coverage and bargaining centralisation/co-ordination.
d) Minimum wage as a percentage of the average wage.
e) Overall labour supply is measured with a combination of annual hours worked and employment/population ratios.

Annex 2.D

Definitions and Data Sources of the Performance and Control Variables Used for the Analysis in Sections II.B and II.C

Definitions

Three types of variables have been used to analyse the links between EPL and labour market performance in Sections II.B and II.C. The first are the summary indicators of EPL strictness, presented in Table 2.5. The second are the performance variables, both static and dynamic. Section II.B uses the static measures and Section II.C the dynamic ones. The third are institutional and policy measures that are used as control variables in the regressions presented in Sections II.B and II.C.

Performance variables

Data for the performance variables have been gathered for the 27 OECD countries for which EPL data were collected, from 1985 to 1997[1], although the analysis mostly concentrates on the years 1990 to 1997. The static variables used in Chart 2.2 and Tables 2.7 to 2.11 are divided into three groups: unemployment rates by age, gender and educational attainment, employment/population ratios by age and gender, and shares of different types of employment. The basic definitions of these variables are given in the notes of the tables, but additional details are provided here. Concerning the age groups, generally these are 15-64 years for "all ages", 20-29 years for youth and 30-54 years for the prime-age group. However, there are a few exceptions:

- Employment/population ratios for prime-age groups refer to ages 35-54 years (rather than 30-54) for Australia, Canada, Ireland, Mexico and New Zealand, and to ages 30-59 years for Italy.
- Employment/population ratios for youth refer to ages 20-24 years (rather than 20-29) for Australia, Canada, Ireland, Mexico and New Zealand, and 15-24 years for Switzerland.
- Unemployment rates for youth refer to ages 20-24 years (rather than 20-29) for Australia, Canada, Ireland, Mexico and New Zealand and 15-24 years for Switzerland.

The share of temporary employment is defined as the proportion of workers in temporary jobs over total employment. If no age group is specified, the share refers to workers of all ages. Note that the share of youth temporary employment is the number of 20-29 year olds in temporary jobs over the total employment for the same age group.[2] Similarly, the share of self-employment is defined as the proportion of self-employees over total employment for all age groups.

The dynamic variables used in Chart 2.3 and Tables 2.12 and 2.13 include job turnover, labour turnover, tenure and separation rates. The distinction between job turnover and labour turnover is important [OECD (1996*b*), Chapter 5]. Job turnover is the sum of changes (over one year) in employment levels across all establishments. Labour turnover measures the changes in individuals' jobs, regardless of whether the jobs themselves are newly created, ongoing or disappeared. Thus, this definition includes moves into and out of ongoing jobs, in addition to those due to job turnover. Normally, both job and labour turnover are measured in annual averages, although there are some exceptions [see notes to Tables 5.1 and 5.2 in OECD (1996*b*), Chapter 5]. These annual averages cover many different time periods, some referring to the early and mid 1980s (*e.g.* Australia, Belgium and Ireland), the late 1980s (*e.g.* Finland, France, Germany, Japan, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States), most of the 1980s (*e.g.* Denmark and Italy) and some referring to the early 1990s (*e.g.* Austria).

Tenure is measured as the proportion of employment by employer tenure. For example, tenure for less than one year refers to the proportion of employees who have been employed at their firm for one year or less. Mean tenure denotes the average length of ongoing and, hence, incomplete spells. Retention rates are measures of the stability of the employer-employee match. For example, the five-year retention rate is the percentage of employees in a certain year which are still with the same employer five years latter. These are measured both over 1985-90 and over 1990-95. Also, these are broken down by length of initial tenure. [See OECD (1997*a*), Chapter 5 for more details on these definitions.]

The unemployment inflow rate is defined as persons unemployed for less than a month as a percentage of the source population (the working-age population less the unemployed). Similarly, the unemployment outflow rate is defined as the average percentage of the unemployed moving to employment or out of the labour force in a month. Since the group leaving unemployment cannot be identified in typical labour force survey data, the size of this group is estimated indirectly, as the number of persons who must have exited in order to reconcile the data on unem-

1. The available performance data begin in more recent years for Austria (1994), the Czech Republic (1993), Hungary (1995), Mexico (1991), Poland (1992), Switzerland (1991) and Turkey (1988).
2. The temporary employment data for Germany include apprentices.

ployment inflows and the change in the total number unemployed. The mean duration of unemployment is also estimated indirectly, as the reciprocal of the share of all unemployed with a duration under one month.[3]

Control variables

Data for control variables have been gathered for the 27 OECD countries for which EPL data was collected. These include measures of institutional and policy variables thought likely to be important determinants of the performance variables. Values have been collected (when possible) for two points in time; the late 1980s and the latest date available for use in the regressions presented in Sections II.B and II.C, Tables 2.8, 2.9, 2.10, 2.11 and 2.13.

Unions and the wage bargaining process, in 1990 and 1994. These data are only available for: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.

- *Centralisation of collective bargaining*. This variable scores from 0 to 2.5, according to the prevailing bargaining level [see OECD (1997*a*), Chapter 3 for more details].
- *Co-ordination of collective bargaining*. This variable also scores from 0 to 2.5, according to the degree of co-ordination in bargaining [see OECD (1997*a*), Chapter 3, for more details].
- *Trade union density.* This variable measures the percentage of workers belonging to a trade union [see OECD (1997*a*), Chapter 3, for more details].
- *Bargaining coverage*. This variable is calculated on the basis of the number of employees covered by a collective agreement divided by the corresponding total number of wage and salary earners [see OECD (1997*a*), Chapter 3, for more details].

Unemployment benefit schemes, in the late 1990s:

- *Replacement rate for unemployment benefit schemes*. Overall average of gross replacement rates for three types of families (single person, with dependent spouse, and with spouse in work) and two earning levels. The replacement rates are averages of benefit levels over a five-year period of benefit receipt and refer to programme characteristics in 1995. These data are available for all countries, except the Czech Republic, Hungary, Korea, Mexico, Poland and Turkey.
- *Unemployment benefit duration*. Duration has been calculated by taking – for a given type of worker – the maximum duration of the unemployment insurance benefits (in months), plus – when applicable – the maximum duration of the unemployment assistance benefits (in months) when the insurance is exhausted. The type of worker is a 40 year-old single worker with a long employment history, previously earning an average income [*i.e.* earnings equal to the Average Production Worker (APW)]. For the econometric analysis, when this variable takes on an indefinite value (due to indefinite duration of the benefit), this has been substituted by a value of 100. These data are available for all countries, except Mexico and Turkey.

Other institutional and policy variables, in the 1990s:

- *ALMP spending in 1990 and 1996-97*. This variable measures ALPM spending as a percentage of GDP. Data are available for all countries except the Czech Republic, Hungary, Korea, and Poland in 1990, and Mexico and Turkey in both time periods.
- *Tax wedge in 1995*. This is measured as the sum of employees' and employers' social security contributions and personal income tax less transfer payments as a percentage of gross labour costs (gross wage earnings plus employers' social security contributions). The chosen family type is a two-earner married couple with two children, whose combined earnings are one-third above the APW's earnings. Data are available for all countries, except Korea.
- *Home ownership*. This is measured as the percentage of home-owners in 1990. Data are available for all countries except the Czech Republic, Greece, Hungary, Korea, Mexico, Poland and Turkey.
- *Output gap*. This is measured as the fraction of real GDP to potential GDP, minus 1. It is averaged over 1985-1990 and over 1992-1997 to cover the same periods as the dependent variables. Data are available for all countries except the Czech Republic, Hungary, Korea, Mexico, Poland and Turkey.
- *Earnings dispersion*. This variable is measured as the deciles ratios D9/D1. Generally, these are gross earnings ratios, except for France. These are either annual (*i.e.* Canada, Finland, France, the Netherlands, Spain, Sweden and Switzerland), monthly (*i.e.* Austria, Czech Republic, Germany, Hungary, Italy, Japan, Korea and Poland), weekly (*i.e.* Australia, Belgium, Ireland, New Zealand, Portugal, the United Kingdom and the United States) or even hourly (*i.e.* Norway). Normally the data refer to full-time full-year earnings, except for Austria, Denmark and Norway, which include all employees. Two years have been used: 1990 and the latest available, which varies significantly among countries: 1993 (for Belgium, Norway and Portugal), 1994 (for Austria, Canada and Ireland), 1995 (for Germany, the Netherlands and Spain), 1996 (for the Czech Republic, Finland, France, Italy, Japan, Korea, Poland, Sweden, Switzerland and the United States), 1997 (for Australia, Hungary and New Zealand) and 1998 (for the United Kingdom).

Data sources

Performance variables

Static employment and unemployment variables have been obtained from several OECD databases.

3. In steady state, the mean duration of unemployment is equal to the reciprocal of the share of newly unemployed among all unemployed.

- All *employment/population ratios* by age groups, gender and educational attainment are obtained from the OECD SID database (Directorate of Education, Employment, Labour and Social Affairs, DEELSA). The employment/population ratios by educational attainment are published annually in the OECD's *Education at a Glance*.
- *Shares of self-employment* are obtained from the OECD Analytical Database (Economics Department).
- *Shares of temporary employment* (totals and for youth) are obtained from the OECD SID database (DEELSA).
- *Unemployment rates by gender, age, educational attainment and duration* are obtained from the OECD SID database (DEELSA). The unemployment rates by educational attainment are published annually in the OECD's *Education at a Glance*.
- *Dynamic variables* been obtained from previous OECD publications or on-going data bases. Data on job turnover and labour turnover are obtained from OECD (1996*b*), Chapter 5, Table 5.1 and Table 5.2 respectively. The tenure variables are obtained from Tables 5.5 and 5.6 of OECD (1997*a*), Chapter 5, and retention rates are obtained from Tables 5.8 and 5.9 of the same publication. Data on unemployment flows and durations are from the OECD SID database (DEELSA).

Control variables

The sources of the control variables are as follows:

- *Unions and wage bargaining variables*. All these data are obtained from the OECD DEELSA database. Data have also been published in OECD (1997*a*), Chapter 3, Table 3.3.
- *Unemployment benefit schemes*. Data on replacement rates are obtained from the OECD DEELSA database on unemployment benefit entitlements and replacement rates. Unemployment benefit duration has been obtained from OECD (1998*c*). Information on unemployment insurance is obtained from Table 2.2 (last column), and on unemployment assistance from Table 2.3 (last column).
- *Minimum wage*. Data obtained from OECD DEELSA Minimum Wage Database.
- *ALMP.* Obtained from OECD (1995), Table T and OECD (1998*b*), Table J, row marked "Total active measures".
- *Tax wedge.* Data obtained from the OECD Analytical Database (Economics Department), as published in OECD (1997*b*), Table 5.
- *House ownership*. Data obtained from Oswald (1996).
- *Output gap.* Obtained from OECD Analytical Databank Database (Economics Department).
- *Earnings dispersion.* Obtained from the OECD DEELSA Earnings Database.

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