

CPB Document

No 135

Employment Protection Legislation

Lessons from theoretical and empirical studies for the Dutch case

Anja Deelen, Egbert Jongen and Sabine Visser

CPB Netherlands Bureau for Economic Policy Analysis
Van Stolkweg 14
P.O. Box 80510
2508 GM The Hague, the Netherlands

Telephone +31 70 338 33 80
Telefax +31 70 338 33 50
Internet www.cpb.nl

ISBN 90-5833-289-6

Abstract in English

Employment protection is a hotly debated topic. In this document we review the theoretical and empirical studies on the impact of employment protection. Subsequently, we confront the findings of these studies with the Dutch setup, and consider a number of reform options.

Key words: Employment protection, literature review, economic policy

JEL code: E60, J32, J65, K31

Abstract in Dutch

Ontslagbescherming staat volop in de belangstelling. In dit document geven we een overzicht van de theoretische en empirische studies naar de effecten van ontslagbescherming. Vervolgens confronteren we de bevindingen van dit literatuuroverzicht met het Nederlandse stelsel, en analyseren we enkele hervormingsopties.

Steekwoorden: Ontslagbescherming, literatuuroverzicht, economisch beleid

Een uitgebreide Nederlandse samenvatting is beschikbaar via www.cpb.nl.

Contents

Preface	7
Summary	9
1 Introduction	13
2 Definition and indicators	15
2.1 Definition	15
2.2 EPL indicators	16
2.3 Indicators for related institutions of interest to EPL	20
2.4 Summarising	25
3 EPL in theory	27
3.1 The good	27
3.2 The bad	29
3.3 The ugly?	31
3.4 Potential market failures and the role of the government	33
3.5 Summarising	35
4 Simulation studies	37
4.1 Tracing the results back to the assumptions	37
4.2 Quantitative simulation results	42
4.3 Summarising	45
5 Empirical studies	47
5.1 Introduction	47
5.2 Macro studies on EPL	47
5.3 Micro studies	57
5.4 Temporary employment	59
5.5 Summarising	61
6 The Dutch case	65
6.1 A brief history of Dutch EPL	65
6.2 The current Dutch dismissal system	66
6.3 Evaluation of the current Dutch system	70
6.4 Reform options for Dutch EPL	73
6.5 Summarising	78

Preface

Employment protection legislation (EPL) receives increasing attention. Indeed, EPL reform remains on the agenda of the Social Economic Council (SER), and many of the programs from the political parties for the recent election contain some type of EPL reform. This year CPB already published some thoughts on EPL in the ‘CEP 2006’ and in ‘Reinventing The Welfare State’. The conclusions in those publications were based on the more elaborate study that is presented here.

With the current analysis the authors want to contribute to the ongoing discussion on EPL reform in the Netherlands (and abroad) by structuring relevant information. The study gives an extensive overview of the theoretical and empirical economic literature on EPL, like e.g. the impact on worker flows, the stocks of employment and unemployment, and productivity. With the help of this overview the authors then evaluate the current Dutch system, and consider the effects of some reform options for the Dutch case. At the beginning of next year CPB will publish the first simulation results from a model for EPL calibrated on Dutch data (Jongen and Visser (2007)).

This document benefited from valuable comments on an earlier draft by Maurits Barendrecht (Tilburg University), Aart-Jan Bette (Ministry of Social Affairs and Employment), Diederik Dicou (DNB), Anne Gielen (Tilburg University), Willem Kooi (Ministry of Finance), Raoul Leering (Ministry of Economic Affairs) and Jules Theeuwes (SEO and Scientific Council for Government Policy (WRR)).

The authors also gratefully acknowledge comments from various CPB-colleagues, in particular Sjef Ederveen (currently at the Ministry of Economic Affairs), Casper van Ewijk, Peter Kooiman, Ruud de Mooij and Frans Suijker. Furthermore, the authors wish to thank Janneke Rijn and Annemarie Spaans-Vink for their help with the layout.

Coen Teulings
Director

Summary

Employment protection legislation (EPL) is a hot topic. International institutions like the IMF, European Commission and OECD have been pushing for reform, but support among the general public is mixed at best. In this document we review the findings of the theoretical and empirical research on EPL, and apply these findings to the Dutch case.

In Chapter 2, we first define EPL and put the Dutch system in an international perspective. EPL refers to institutions related to the dissolution of matches between firms and workers. These institutions include administrative and legal procedures, and also include notice periods, severance pay and firing taxes. The OECD has constructed an indicator for the level of EPL in a country. According to this indicator the Netherlands takes an intermediate position in the OECD when it comes to EPL. Hiding behind the intermediate score for the Netherlands is strict employment protection of permanent workers in combination with a liberal stance towards temporary work. The strict EPL for regular employment in international comparison reflects large procedural inconveniences, a high difficulty of dismissal and high compensation for individuals with long tenures. Chapter 2 also gives some international data on institutions that may interact with EPL. What stands out is that the duration of unemployment insurance is relatively high in the Netherlands, and so is union coverage. The bargaining coordination gets an intermediate score from the OECD. Finally, EPL is believed to affect skill formation, the Netherlands does reasonably well in terms of continuing vocational training. Below we first consider the effects of EPL in theoretical and empirical studies. After this overview we will return to the Dutch setup, consider the potential drawbacks in more detail and analyse some reform options.

In Chapter 3, we first consider the pros and cons of EPL in theory, under the headings ‘the good’, ‘the bad’ and ‘the ugly?’. On the positive side, EPL may provide additional income insurance, help to internalise externalities and it may promote match specific investments. On the negative side, EPL may hamper the adoption of new technologies, may deter experimentation (in *e.g.* ICT), reduce the matching of workers to jobs and increase shirking. Moreover, EPL may lead to additional wage pressure and a loss of skills in unemployment. An important aspect of EPL is that the gains and losses are not evenly distributed over individuals. Prime-age male workers seem to benefit, while new entrants and females with intermittent spells of non-participation may lose. Hence, efficiency as well as equity considerations play a role. This also holds for the dichotomy between temporary jobs with relaxed EPL and permanent jobs with strict EPL, which also has pros and cons in terms of efficiency. On the one hand, temporary contracts may give workers and firms a way to work around strict EPL for permanent contracts, and may act as stepping stones for permanent contracts. But on the other hand, temporary contracts may also serve as dead-end jobs and may act as a buffer for insiders to demand higher wages. At the end of Chapter 3 we give an overview of the role of the government. An important question is whether ‘the good side’ of EPL calls for government

intervention, imposing EPL on all labour contracts, or that EPL can be left to the discretion of contracting parties. Government intervention can be justified by adverse selection problems, externalities, political economy failures in *e.g.* trade unions, short-sightedness on the part of *e.g.* workers, and/or for equity reasons. However, government intervention typically requires considerable knowledge of the extent of the market failures and the government may itself be subject to rent seeking, in particular, to older incumbents to the detriment of younger newcomers.

Following the overview of pros and cons of EPL in theory we then review some simulation studies in Chapter 4, which are best characterised as ‘theory with numbers’ as the models remain rather abstract. We look for assumptions that make it more likely that a positive or negative effect on *e.g.* employment results, and review the quantitative simulation results. The overall effect on employment and unemployment varies between studies, but EPL is more likely to reduce employment when EPL is used to claim higher wages via *ex post* bargaining or when EPL leads to a fall in labour supply. Simulation studies that allow for a positive effect of EPL on productivity via specific investments or learning-by-doing sometimes show a rise in overall productivity. However, most studies find a negative effect of EPL on productivity, with an average elasticity in the order of $-.03$ to $-.04$. Simulation studies that consider both permanent and temporary contracts typically conclude that a full reform of EPL leads to better results than liberalising temporary contracts. Finally, the handful of studies that look into severance pay and notice periods suggest that they may give more favourable results than firing costs.

Since many effects of EPL are ambiguous in theory, the ‘verdict’ has to come from empirical studies. Chapter 5 gives an overview of the findings of empirical studies. One of the robust findings is that EPL reduces the flows between employment and unemployment. Hence, EPL increases the difference between employment opportunities for employed and non-employed workers. This may also enhance ‘insider-outsider’ effects, increasing *e.g.* wage claims by insiders. The impact on the flows is also found to depend on country specific conditions, like the state of the economy and the rule of law. The overall impact of EPL on the stocks of unemployment, employment and labour supply is limited though. Both the flow into and out of *e.g.* employment decrease when EPL rises, with a small net effect on the stocks. We calculate an average elasticity of unemployment and employment with respect to EPL from the empirical studies of $.13$ and $-.06$, respectively. However, the standard deviations are large. The impact of EPL on employment and unemployment differs between groups. Higher EPL increases the employment rate of prime-age males, but reduces the employment rate of newcomers and women with intermittent spells of non-participation. EPL is more likely to raise unemployment with an intermediate degree of centralisation/coordination in wage bargaining. The impact of EPL on productivity is mixed in empirical work. Some studies suggest a negative effect, others a positive. Others still suggest that the relation is non-linear, with low EPL raising productivity and high EPL lowering productivity. Finally, temporary employment often acts as a stepping stone for regular employment and makes it easier for firms to adjust their

employment stock in response to shocks. However, they also lead to additional turnover and may increase wage dispersion.

Chapter 6 applies the findings to the Dutch case. We start with a brief historical overview of the Dutch dual dismissal system, consider some of the strengths and weaknesses of the current Dutch system and end with three reform options. The Netherlands has a dual system of employment protection, firms can choose to go to either a public administrative body (the CWI) or to a court for a dismissal, which has survived for many decades. The former is time consuming but there is no mandated severance pay, the latter is quick but typically entails severance pay. Smaller firms often take the CWI route, large firms often take the route via the court.

Apart from its dual character, the Dutch system stands out in a number of other respects. First, EPL for permanent contracts is rather strict. This reduces the flows in and out of employment, which are particularly low for the Netherlands. Furthermore, the growing number of newcomers like immigrants and women with intermittent spells of non-participation are likely to suffer in terms of reduced employment opportunities. The rise in female participation has also reduced the insurance gains from EPL. Furthermore, insofar as reallocation is becoming more important for productivity growth, low flows may put more of a drag on economic growth than in the past. Second, the protection of older workers with long tenures is particularly high in the Netherlands. Indeed, the Netherlands is in the top league when it comes to the protection of older workers (together with Spain, Portugal and Turkey). They receive a lot of severance pay in the case of a dismissal through the court, and also are less likely to be fired in the case of a mass layoff. This may directly and indirectly (via the bargaining power of workers) push up labour costs. Third, the Netherlands is 'Number 1' when it comes to procedural conveniences related to dismissal, according to the OECD. Contrary to severance payments, which are just a transfer from the employer to his or her former employee, the cost of procedural inconveniences are just red tape, waste that harms efficiency. However, fourth, there is also a flexible side to Dutch EPL, the regulation for temporary contracts is limited in the Netherlands, and they have become increasingly popular. A recent study on Dutch data suggests that the rise in temporary contracts has reduced unemployment durations, but has not increased the speed at which workers obtain a permanent contract.

Theory suggests that EPL may have a productive role to play, but the current Dutch setup seems to have a number of potential downsides. With this in mind we come to the following reform options: 1) Reducing employment protection for regular contracts. This will increase the rather low flows between employment and unemployment. Furthermore, it may lead to a rise in overall employment, in particular for newcomers and women whose role on the labour market is increasing. In the short run, older workers may lose. They are the ones whose protection will fall the most, and their job prospects once unemployed are not very favourable. However, things are different in the medium to long run. Wages for older workers may fall, which leads to less firing and more hiring of older workers. Furthermore, the fall in protection may stimulate

older workers to keep up their human capital, and workers will get a stronger incentive to move from a less productive job to a more productive one (*e.g.* start a second career). 2) Replacing procedures by financial incentives. EPL is currently largely regulated directly by the government. Pricing the perceived ‘externalities’ may be a more cost effective way to organise EPL. The ‘externalities’ may be particularly relevant for the Netherlands, where unemployment insurance remains rather generous (in terms of the maximum duration) and taxes on labour are substantial. 3) Further differentiation and decentralisation of EPL may help different sectors and different groups of workers to tailor the working conditions to their specific needs.

In this study we have brought together the findings of theoretical and empirical studies and tried to infer some lessons for the Dutch case. However, research typically raises more questions than it answers, and this study is no exception. In particular, we plan to study the effect of EPL on productivity using micro data. Also, we want to explore the rationale for the difference in employment protection for younger and older workers, and how EPL interacts with *e.g.* social security and wage profiles? Furthermore, we will analyse the reform options quantitatively in a model calibrated to the Dutch case.

1 Introduction

Employment protection legislation (EPL) is a hotly debated topic, in The Netherlands and abroad. International institutions like the OECD, the IMF and the European Commission have been pushing for reform of EPL. In the Netherlands, EPL reform also appears high on the political agenda.¹ However, experiences in the recent and more distant past indicate that the support for reform of EPL by individual citizens and various representative bodies like trade unions is mixed at best. Indeed, the protests in France against the reform of EPL for younger workers are still fresh in our memory. A recent example from the Netherlands is the failure of the representatives of workers, firms and the government in the Social Economic Council to come to an agreement regarding EPL reform. Indeed, some argue that the last time there has been a fundamental reform of EPL in the Netherlands was during World War II.²

With this paper we want to bring some order in the debate by reviewing the theoretical and empirical studies on EPL. From the overview it is not hard to understand why the support for EPL reform is mixed. EPL reduces some distortions at the cost of introducing or increasing others. As a result, *a priori* the effect on *e.g.* employment, productivity and welfare is unclear. Empirical studies have tried to determine whether the net effect on these variables is positive or negative. However, a fair conclusion of these studies seems to be that the impact of EPL is ambiguous in practice as well. Furthermore, insofar as the empirical studies suggest more definite results, *e.g.* employment and unemployment durations increase, they also indicate that the gains and losses of these changes are not evenly distributed over different groups of workers. This further complicates the debate on EPL reform. Hence (unsurprisingly), no reform options with clear-cut welfare implications emerge out of the confrontation of the Dutch system with the theoretical and empirical overview. However, by returning to the functions of EPL and making use of the empirical findings we still try to come to some interesting reform options.

This is not the first paper to review the literature on EPL, or to apply insights from this literature to the Dutch case.³ However, when asked to provide some input on EPL for a review of the Dutch welfare state⁴, we came to the conclusion that the existing reviews on the impact of EPL left many questions unanswered. Indeed, an overview of the theoretical work on EPL was missing, as was a review of simulations studies.⁵ Furthermore, the existing overviews of empirical studies typically focus on cross-country studies, paying less attention to micro-economic studies. Finally, applications to the Dutch case suffer from a number of limitations, such as a weak link between the theoretical and empirical findings in the literature and the analysis of policy options. Furthermore, other applications have a fairly narrow focus (they consider only a limited number of effects) or are phrased in rather general terms. We hope to

¹ See *e.g.* the reform suggestions in the programs of various political parties for the recent election.

² See *e.g.* Barendrecht (2004).

³ See *e.g.* the studies by the OECD (1999, 2004) and Young (2003), and for the Netherlands Nyfer (2000) and STAR (2003).

⁴ See De Mooij *et al.* (2006).

⁵ Although Ljungqvist (2002) gives an excellent overview of part of the studies.

overcome some of these limitations with this study, although we realise that this study too is still limited in many ways.

The outline of the paper is as follows. In Section 2 we first define EPL, consider the construction method of the popular OECD indicator for EPL, and compare the level of this overall indicator and its components for the Netherlands with those in other OECD countries. Section 3 then considers the good and bad sides of (various types of) EPL for the ‘average’ employee and for different subgroups. Furthermore, in Section 3 we also consider the role of market failures and the role of the government. We next turn to simulation studies in Section 4, which are typically best characterised as ‘theory with numbers’. Here we try to trace the results back to the assumptions/mechanisms of the models, and also review the quantitative impact of EPL in simulation studies. Section 5 then reviews the findings of empirical studies into the effects of EPL. We consider both macroeconomic and microeconomic studies. Equipped with the qualitative and quantitative knowledge of sections 2 to 5 we then turn to the Dutch system. After a brief overview of the system in the past and the present, we consider some potential downsides of the current setup and explore some reform options. The reform options we consider are: i) reducing EPL for permanent contracts, ii) replacing firing procedures by firing taxes, and iii) allowing for more differentiation and decentralisation in EPL. Section 7 concludes.

Box 1 Some quotes on employment protection legislation

“The debate over the influence of labour market flexibility on performance ... in which priors dominate evidence.” - Freeman (2005)

“... time spent worrying about ... employment protection ... is probably time largely wasted.” - Nickell and Layard (1999)

“A lack of conclusiveness does not, however, imply insignificance.” - Young (2003)

“... a proper evaluation of employment protection requires a model where there is a need for it.” - Pissarides (2001)

“Unemployment benefits and ... layoff taxes ... are essential components of the optimal architecture. The presence of the first requires the presence of the other.” - Blanchard and Tirole (2004)

“... the expansion of temporary jobs as a way of increasing labour market flexibility may be undesirable.” - Booth *et al.* (2002a)

“... the focus of policy makers is on politically feasible, incremental reforms, with little sense of the ultimate goal.” - Blanchard and Tirole (2004)

“Policy recommendations have ... evolved towards a more balanced view of the dilemma opposing the need for flexibility expressed by firms to the importance of protecting workers against labour market risks.” - OECD (2004).

2 Definition and indicators

Before we consider the pros and cons of EPL it is useful to first consider what is meant by EPL, and to get an idea of where the Netherlands stands relative to other OECD countries in terms of EPL and some related variables.

2.1 Definition

EPL refers to the institutions related to the dissolution of matches between firms and workers. Most notably, administrative and legal procedures including notice periods, severance pay and firing taxes. These arrangements may be the result of government legislation, collective labour agreements and/or individual contracts.

To consider the empirical impact of EPL one needs a quantitative measure. Comparing EPL arrangements across countries is a difficult task, given the broad range of relevant institutions and country specific peculiarities. Refining the work of Grubb and Wells (1993), the OECD has constructed a measure of employment protection regulation that is widely used by researchers. A brief digression on the construction of the popular OECD indicator will clarify the quantitative concept of EPL.⁶

The overall EPL indicator is a weighted average of 18 basic items. The items are grouped into EPL for: i) employment protection of regular workers against individual dismissal, ii) specific requirements for collective dismissals⁷, and iii) regulation of temporary forms of employment. Within the EPL items for regular workers against individual dismissal we can again distinguish three subgroups: i) procedural inconveniences that the employer may face when starting the dismissal process, ii) legislative provisions that state under which conditions a dismissal is justified or fair, and iii) regulations on notice periods and severance pay. For each item the score is normalised on a scale from 0 to 6, where a higher score represents more strict regulation on the relevant item. Box 2 below gives some examples.

Clearly, the OECD indicator like most indicators has several limitations. In particular, the mapping of arrangements to index scores is subjective as is the weighting scheme to arrive at the aggregate EPL indicator. Furthermore, scores are attributed on the basis of legislative provisions, while in practice provisions may deviate from these legal standards. Indeed, the minimal requirements set by legislative provisions can be extended by contractual provisions, which are typically not incorporated in the indicator. Also, the interpretation of the regulations by the court generates variation in EPL strictness over time and across countries that is not captured by the indices, *e.g.* court decisions may be affected by underlying labour market

⁶ A more detailed description of the OECD EPL indicator can be found in OECD (2004).

⁷ Most countries have specific legislation for collective dismissals. The OECD sub-index for collective dismissals refers only to additional delays and procedures required which go beyond those applicable to individual dismissal. The Dutch sub-index for collective dismissal is in line with the OECD-average (both are 3.0, see Table 2.1).

Box 2 Some items of EPL concerning dismissal of individual workers with regular contracts (index score)

Item 1: Notification period

The employer cannot proceed to dismissal without authorisation from a third party (6);
A third party (such as a Works council or the competent labour authority) must be notified (4);
A written statement of the reasons for dismissal must be supplied to the employee (2);
an oral statement is enough (0).

Item 5: Definition of justified or unfair dismissal

Worker capability cannot be ground for dismissal (6);
A transfer and/or a retraining to adapt the worker to different work must be attempted prior to dismissal (4);
Social considerations, age or job tenure must when possible influence the choice of workers to dismiss (2);
Worker capability or redundancy are adequate and sufficient ground for dismissal (0).

Item 7: Compensation following unfair dismissal in months pay

≤3 (0), ≤8 (1), ≤12 (2), ≤18 (3), ≤24 (4), ≤30 (5), >30 (6)

conditions). Hence, the numerical values should be interpreted with these limitations in mind.⁸

2.2 EPL indicators

Figure 2.1 ranks OECD countries according to the summary index for EPL in 2003. To add some historical perspective, we also include the indicator for 'the late 1980s'.⁹ Like most continental Western European countries, The Netherlands stands between flexible labour markets like those of the US and UK (and Denmark) and the more regulated labour markets of southern European countries (and France). Furthermore, as in most other European countries, the index for the Netherlands has fallen since the late 1980s, where the largest drops are typically observed for countries that started with a relatively high index in the late 1980s. Compared to the drop in other countries the drop between the late 1980s and 2003 in the Netherlands is not particularly large.

Hiding behind the average score for the Netherlands is relatively strict employment protection for permanent workers combined with a liberal stance towards temporary work, see Figure 2.2. The figure indicates that the drop in EPL in the Netherlands since the late 1980s, as in most countries that witnessed a drop in overall EPL, was mostly due (in the Dutch case

⁸ Still, the OECD indicator presumably better captures the broad range of EPL than did the indicators of the early 1990s that focussed on severance pay.

⁹ The OECD has constructed two versions of its indicator: version 1 (data available from the late 1980's onwards) only includes EPL for individual dismissals, while version 2 also includes EPL for collective dismissals (available from the late 1990's only). In the graphs we use version 1.

Figure 2.1 Overall OECD EPL indicator (version 1), late 1980s and 2003

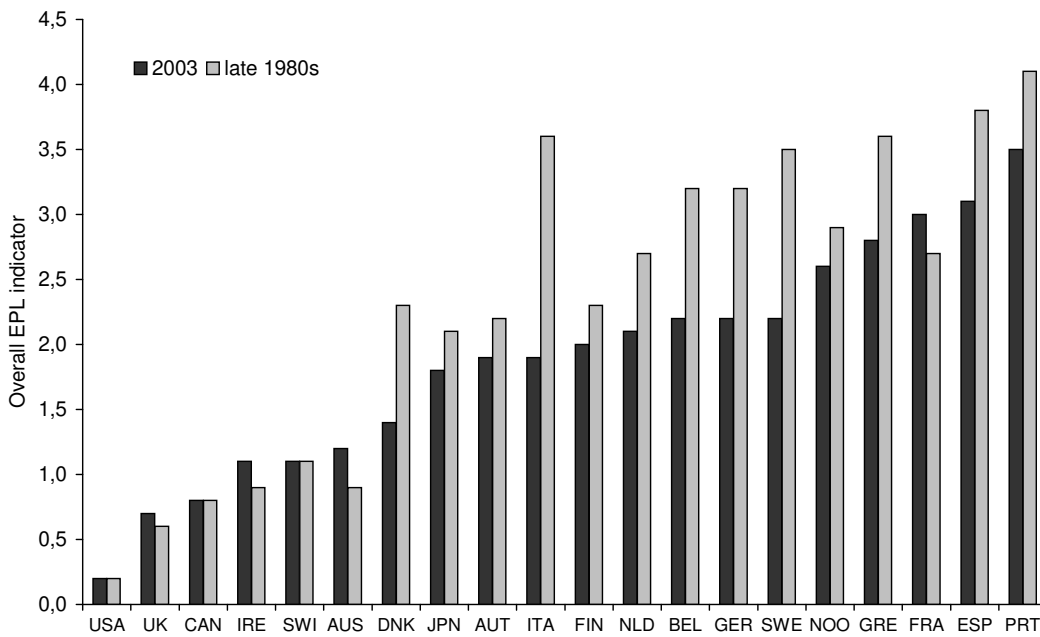
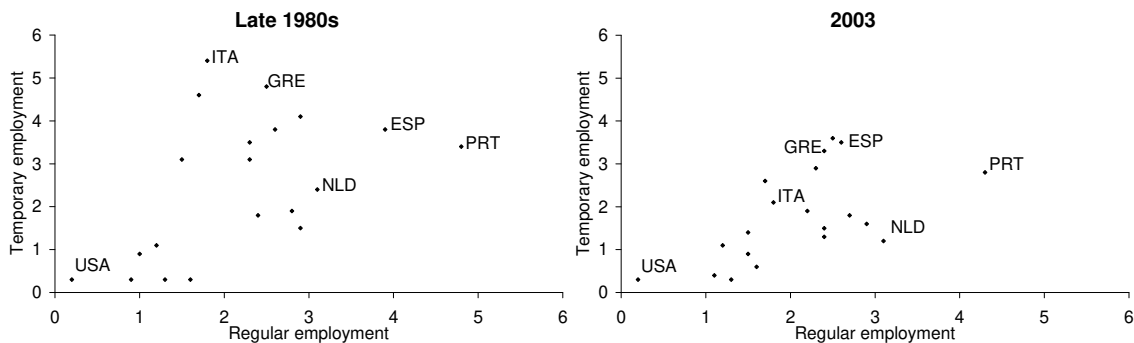


Figure 2.2 EPL for regular contracts and temporary employment, late 1980s and 2003



Source: OECD (2004).

entirely due) to the drop in protection related to temporary work.¹⁰

Table 2.1 shows that the relatively strict EPL for regular employment in international comparison reflects relatively large procedural inconveniences, a high difficulty of dismissal and high compensation for unfair dismissal (in particular for long tenures). ‘Difficulty of

¹⁰ The last ‘major’ reform in the Netherlands was the Flexibility and Security Act of 1999 (included in the OECD EPL-index for the late 1990s). The original aim of the law was to provide more room to extend the duration of fixed term contracts, to strengthen the legal position of temporary workers and stand-by workers and to allow for temporary contracts to be used over a longer period (under certain restrictions). The law of 1999 allows for a maximum of three repeated contracts and a maximum period of three years of repeating contracts: if the work relation exceeds the maximum period of 3 years, the contract is automatically transformed into a regular contract. In practice, many sectors use the possibility to deviate from the rules concerning repeating use of temporary contracts through collective labour agreements. In this way they can use temporary contracts for a longer period.

dismissal' is somewhat higher than the OECD-average (the index amounts to 3.3 for the Netherlands against 3.0 for the OECD average). The underlying sub-indices (not in Table 2.1) show the following. First, the definition of justified or unfair dismissal is quite strict by international comparison. For example, social considerations and job tenure play a role in the evaluation of a planned dismissal. Second, trial periods preceding eligibility to employment protection are relatively short in the Netherlands (Netherlands: 2 months, OECD: 3,7 months), although contracts may deviate from this standard period. Third, unfair dismissal compensation at 20 years of tenure is relatively high (18 months salary against 14 months on average for the OECD). On the other hand, options for reinstatement into the previous job, after a finding or ruling of unfair dismissal, are infrequent in the Netherlands.

Table 2.1 Summary indicators of EPL-strictness: the Netherlands versus OECD-28 average (2003)

	The Netherlands	OECD-28 average
Regular employment	3.1	2.0
– Procedural inconveniences	4.0	2.2
– Notice periods and severance pay for no-fault individual dismissal	1.9	1.8
– Difficulty of dismissal	3.3	3.0
Temporary employment	1.2	1.8
– Fixed term contracts	0.8	1.7
– Temporary work agency employment	1.6	1.9
Collective dismissals	3.0	3.0
Overall EPL (version 1)	2.1	2.0
Overall EPL (version 2)	2.3	2.2

Figure 2.3 plots another feature of EPL in which the Netherlands stands out. Figure 2.3 plots an index for the use of notice periods and severance pay against an index for procedural inconveniences. We see that while the level has dropped, as in other countries with relatively high scores for procedural inconveniences in the late 1980s, the Netherlands remains number 1 when it comes to procedural inconveniences. The high score for 'regular procedural inconveniences' results from the fact that a third party must be notified and that there is a delay involved before the dismissal process can start.

Figure 2.4 and 2.5 zoom in on the relative weight of notice periods and severance payments applying to different lengths of tenure of regular contracts. According to these figures, on average, notice periods in the Netherlands are fairly moderate, while severance payments are relatively high in European perspective. Comparing the sub panels of figures 2.4 and 2.5 (note that the y-axis differs) shows that notice periods are only modestly higher for very long tenures whereas severance payments are markedly higher the longer the tenure (due to the so-called 'ABC-formula' used to determine severance payments, see Section 6.2 below).

Figure 2.3 Notice and severance pay index vs. regular procedures index, late 1980s and 2003

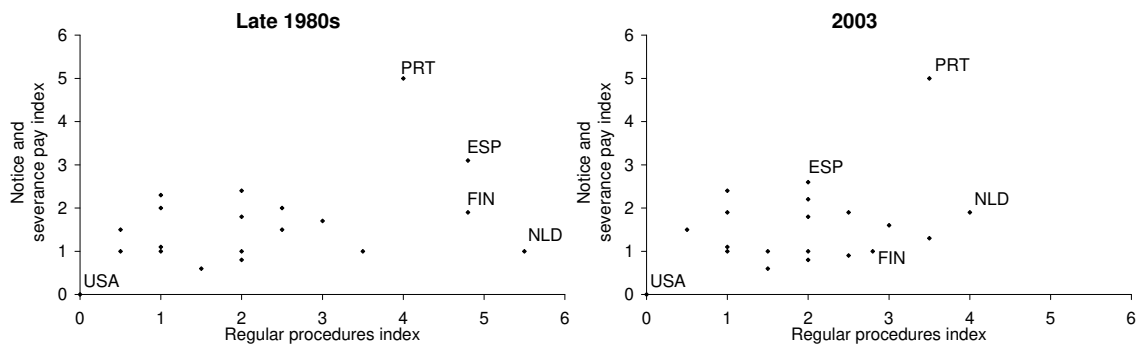


Figure 2.4 Severance payments and notice periods: indices for weighted periods and indices relating to the situation after 9 months of employment, 2003

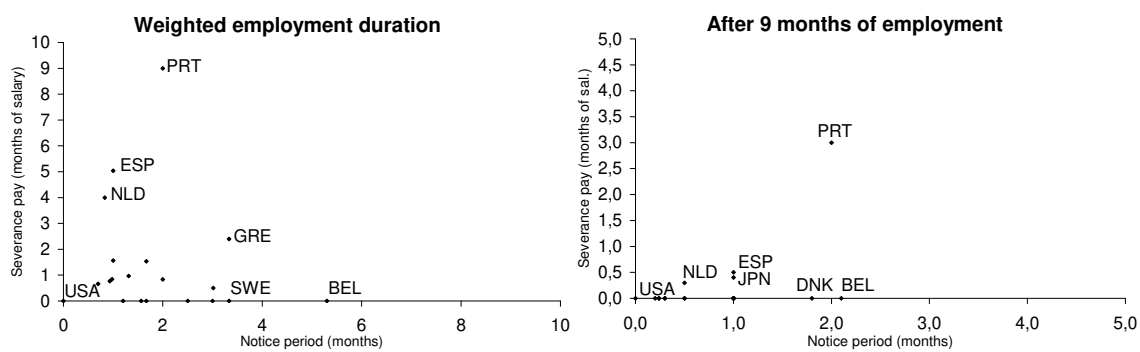
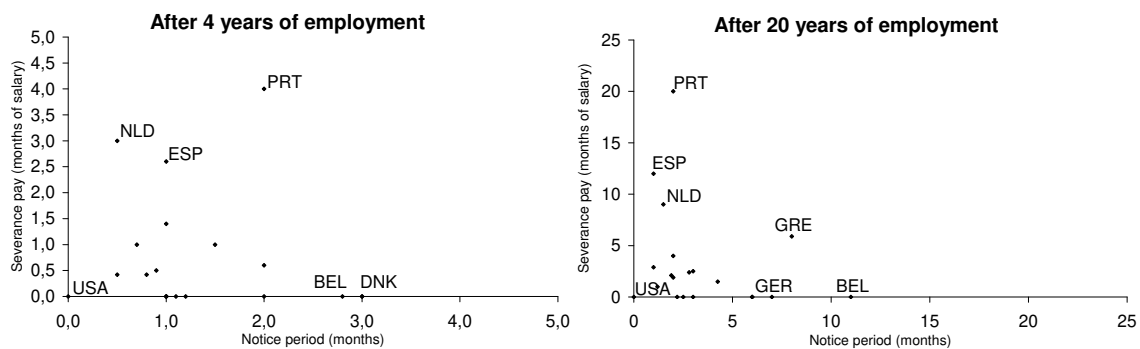


Figure 2.5 Severance payments and notice periods: indices relating to the situation after 4 years and 20 years of employment, 2003



Source for figures 2.3-2.5: OECD (2004).

High severance payments for long employment durations are the main cause for the relatively high overall score for the Netherlands, see Figure 2.5 panel b. After 20 years of employment the average severance payment in the Netherlands is equal to 9 months of salary. This is calculated as a weighted average over the two dismissal routes: severance payments are zero for dismissal via the 'CWI-route' and are equal to 18 months of salary for termination via courts, both at 20 years of tenure¹¹. In international perspective this is high: only Portugal and Turkey have

¹¹ If we would apply the ABC-formula to a representative worker with a tenure of 20 years we end up at a severance payment level even higher than the 18 months of salary the OECD assumes.

higher severance payments (both 20 months). Among the remaining OECD-countries, the United Kingdom is one of the most generous (20 weeks of severance payments for tenures of 20 years), almost all other countries have more modest levels of severance payments for long tenures.

2.3 Indicators for related institutions of interest to EPL

2.3.1 Unemployment insurance, active labour market policies and bargaining institutions

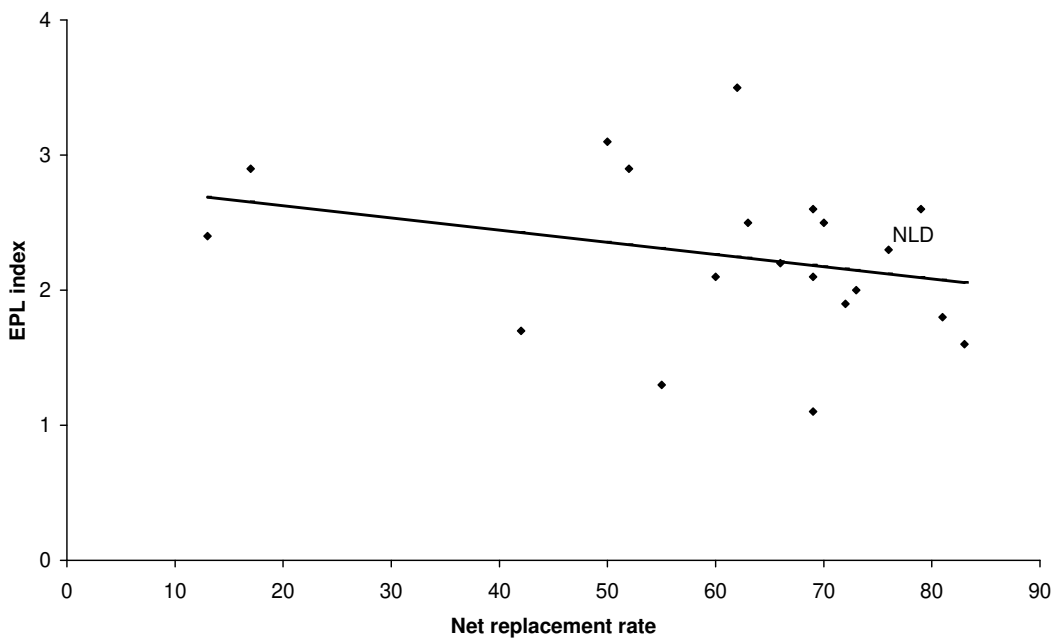
The impact of EPL on the economy is likely to depend on the interaction with other institutions, such as unemployment insurance, active labour market policies (ALMPs) and bargaining institutions. More on this in Sections 3-6. Here we focus on some numbers of relevant other institutions. Table 2.2 gives an overview for a selection of OECD countries and shows that compared to this set of countries, union density is somewhat below average but due to the extension of collective agreements union coverage is high (as in most Western European countries), while spending on ALMPs is somewhere in between the Scandinavian countries and continental Europe (at least in 2002). Union and employer coordination is intermediate, due to the sectoral bargaining structure in the Netherlands.

Year	EPL ^a	Union density ^b	Union coverage ^c	Bargaining coordination ^d	UI replacement rate ^e	UI max. duration ^f	DI replacement rate ^g	Spending on ALMPs as a % of GDP ^h
	2003	2001			2002		2000	2002
NL	3.1	22.6	3.0	2.0	70	60	71	0.9
Austria	2.4	35.7	3.0	3.0	56	10	68	0.4
Belgium	1.7	55.8	3.0	2.0	60	No limit	-	0.9
Denmark	1.5	73.8	3.0	2.3	90	60	75	1.7
Finland	2.2	77.8	3.0	2.0	90	25	63	0.7
France	2.5	9.6	3.0	2.0	75	60	-	0.8
Germany	2.7	23.5	3.0	3.0	60	12	61	0.9
Ireland	1.6	35.9	3.0	2.0	Flat rate	15	-	0.6
Spain	2.6	13.8	3.0	2.0	70	24	-	0.6
Sweden	2.9	78.3	3.0	2.3	80	15	62	1.4
United Kingdom	1.1	30.7	2.7	1.3	Flat rate	6	29	0.1
United States	0.2	14	1.0	1.0	50	6	-	-

^a Source: OECD (2004). The index ranges from 0 (low protection) to 6 (high protection).
^b Source: Baker *et al.* (2004). Percentage of employees that are members of unions.
^c Source: Addison and Texeira (2006). The index ranges from 1 (low coverage) to 3 (high coverage).
^d Source: Addison and Texiera (2006). The index ranges from 1 (weak coordination) to 3 (strong coordination).
^{e,f} Source: OECD (2002). Maximum entitlement to unemployment insurance, in months.
^g Source: Hansen (2000).
^h Source: Eurostat (05-04-2005).

Boeri *et al.* (2003) post the hypothesis that EPL and unemployment insurance are substitutes, since they both provide insurance against the income shock that occurs when a job is terminated. Figure 2.6 plots EPL against the net replacement rate. The data suggest that the Netherlands has somewhat stricter EPL than one would expect on the basis of its replacement rate (see Boeri *et al.* (2003)). Taking into account the coverage rate in the Netherlands and abroad, Boeri reports that the generosity of Dutch unemployment benefits takes up an intermediate position.¹² We should note that the correlation between EPL and unemployment insurance is actually not that strong, if we include OECD countries like the US (which has both low EPL and a low replacement rate) the negative relation disappears.

Figure 2.6 Trade off between employment protection and unemployment benefits in Europe



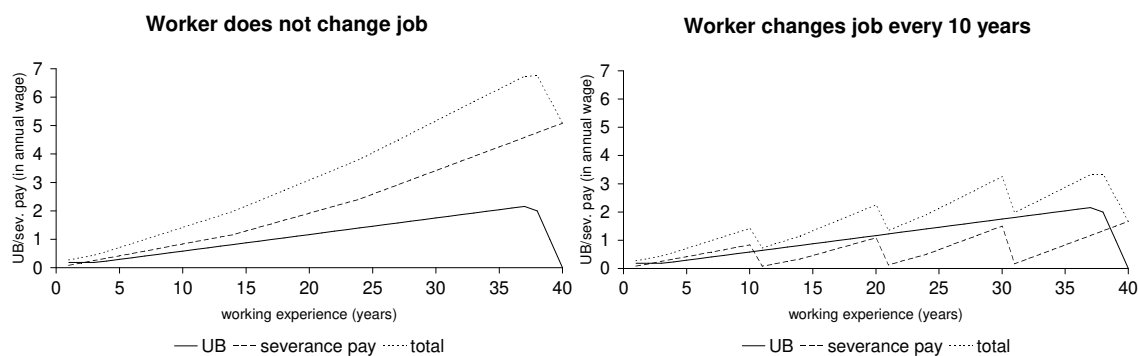
Again, differences appear when we look beyond the average. For an individual worker in the Netherlands, the replacement rate and severance payments depend mainly on tenure and age.¹³ The formula for severance payments rises with age, in discrete steps. Years worked below the age of 40 count for 1, years worked above the age of 40 count for 1,5 and years worked above

¹² Boeri *et al.* (2003) plot the EPL-index against the net replacement rate in the first year of unemployment times the coverage of unemployment insurance and unemployment assistance (the fraction of unemployed receiving some form of UI benefits). They explain that low coverage of UI benefits may be associated with high unemployment rates among the young - which tend to be positively correlated with EPL - as first time job seekers typically do not qualify for UI benefits.

¹³ From 1-10-2006 onwards, the unemployment benefit amounts to 75% of the former wage during the first two months of unemployment (currently 70% of the former wage), and 70% after that (as before). Eligibility for UI benefits requires that the unemployed has been employed (for at least 52 days each year) during four out of the five years preceding unemployment. The maximum duration will be reduced to 38 months. The figure assumes time period 40 to coincide with retirement at age 65, so in the preceding years the UI benefit level is truncated, which causes the sharp drop at the right hand side.

the age of 50 count double.¹⁴ Figure 2.7 below gives the relation between tenure and unemployment benefits and severance payments for two stylised cases. The first case (left panel) refers to an employee who spends his or her entire career with one employer, the second to an employee who changes to a different employer every ten years. A change of employer does not affect the UI benefit level, although a temporary leave from the labour market (not illustrated here) is likely to affect UI eligibility. Figure 2.7 illustrates that in the Netherlands, the importance of severance payments relative to UI benefits increases with tenure and age. Furthermore, UI benefits are truncated at a certain wage level while severance pay is not. Hence, severance payments are more important for workers with high wages.

Figure 2.7 Dutch unemployment benefits (UB) and severance payments for two stylised cases: working for one and the same company (left) and changing jobs every 10 years (right)



2.3.2 Investment in human capital

Some authors argue that EPL stimulates investments in firm specific knowledge and skills (see Section 3 below). Unfortunately it is rather hard to find data on *specific* investments. Indeed, they are presumably less likely to be in the official statistics than general investments in human capital because they are less standardised. Think of a new employee working extra hours to get to know the specifics of the organisation that has hired him or her. With these considerations in mind we do present some data on investment in workers captured in official statistics.

Table 2.3 gives some internationally comparable data on continuing vocational training (CVT) in enterprises, which are training measures or activities financed in full or in part by enterprises on behalf of their employees.¹⁵ The first column shows that in the Netherlands, 88 percent of firms offer CVT, a relatively high percentage (only Denmark and Sweden have a higher score on this indicator). However, the percentage of workers that participate in training in the Netherlands is close to the EU-15 average. But still, training hours as a percentage of total working hours are relatively high in the Netherlands, as are the costs of CVT courses

¹⁴ The formula for severance pay is given in Section 6 below.

¹⁵ The statistics indicate that expenditures on internal and external courses arranged by firms more than tripled in the Netherlands over the period 1986-1999.

relative to total labour costs.¹⁶ Overall, when we take these numbers as an indicator for specific investments, the Netherlands does not appear to do particularly badly.

Table 2.3 International comparison of continuing vocational training (CVT) by enterprises

	Training enterprises as % of all enterprises	Participants of CVT courses as % of all employees in all enterprises	Hours in CVT courses per 1000 working hours	Total cost of CVT courses as % of total labour costs (all enterprises)
EU-15	62	40	7	2.3
Belgium	70	41	8	1.6
Denmark	96	53	14	3.0
Germany	75	32	5	1.5
Greece	18	15	3	0.9
Spain	36	25	6	1.5
France	76	46	10	2.4
Ireland	79	41	9	2.4
Italy	24	26	5	1.7
Luxembourg	71	36	8	1.9
Netherlands	88	41	11	2.8
Austria	72	31	5	1.3
Portugal	22	17	4	1.2
Finland	82	50	11	2.4
Sweden	91	61	12	2.8
United Kingdom	87	49	7	3.6
Norway	86	48	10	2.3

Source: Eurostat, 2002, European Social Statistics (Continuing Vocational Training Survey (CVTS2)).

2.3.3 Temporary employment

The share of temporary employment has risen steadily over the last decades (from 2,7% of the total amount of labour years in 1980 to 5,8% in 1995¹⁷). There are various types of temporary jobs. In 2003 on average 32% of the total number of flexible workers worked for a temporary work agency (TWA), more than 22% worked on a contract for stand-by worker or replacement worker and the rest (46%) was in flexible work of other types. Flexible jobs are filled mostly by young workers, about 25% of the workers in the age group from 15 to 24 years have a flexible job (employment is typically not their main ‘occupation’).

Table 2.4 gives an international comparison of the share of temporary jobs. According to these data, 15% of all employees is in a temporary job in the Netherlands, in line with (actually somewhat above) the average for the Euro-zone.¹⁸ As Table 2.5 shows, the greater part of temporary jobs are part time jobs. Both tables show that female employees are more likely to be

¹⁶ A closer look reveals that mainly large firms (over 250 employees) are responsible for this relatively high figure, training expenditures by small and medium sized firms are again closer to the EU-15 average.

¹⁷ Figures for more recent years are not directly comparable to these figures, due to a difference in definition (percentage of total hours instead of labour years) and data revisions (according to the new definition temporary work amounted to 4,9% of total labour years in 2004).

¹⁸ Data are taken from the European Union Labour Force Survey.

in a temporary job than male employees. As for age groups, again younger workers (here up to 24 years of age) are overrepresented in temporary jobs. Workers over 55 are underrepresented.

Table 2.4 Temporary employment as a percentage of total employment, 2004^a

	Men and women	Men	Women
Austria	8.7	8.9	8.5
Belgium	8.6	6.3	11.4
Denmark	8.8	7.7	9.9
Finland	14.7	11.4	18.0
France	12.6	12.0	13.4
Germany ^a	12.4	12.6	12.1
Ireland	3.6	3.2	4.1
Italy	12.0	9.8	15.1
Netherlands	15.1	13.7	16.8
Portugal	19.4	18.4	20.4
Spain	32.9	31.1	35.6
Sweden	15.2	13.5	16.8
UK	6.0	5.4	6.5
EU-25	13.8	13.3	14.3
EU-15	13.5	12.9	14.3
Euro-zone	15.3	14.5	16.3

^a Data refer to the fourth quarter of 2004 (for Germany to the second quarter).

Source: OECD, 2005, Statistics in Focus, no. 6.

Table 2.5 Dutch regular and flexible jobs by sex and job type (fulltime / part time) (average 2001-2004, in percentage of total employment)

		Men and women	Men	Women
Regular contract	Fulltime	52.4	40.3	12.1
	Part-time	39.0	11.2	27.8
	Total	91.4	51.5	39.9
Temporary contract	Fulltime	1.1	0.7	0.4
	Part-time	7.5	3.3	4.2
	Total	8.6	4.1	4.6
Total		100.0	55.6	44.4

Source: CBS, Arbeidsrekeningen.

Table 2.6 Dependent employment by permanency of the (main) job and gender - Netherlands 2004 (in percentage of total employment)

Age group	Permanent job		Temporary job		Total
	Men	Women	Men	Women	
15 to 24	5.4	5.2	3.3	3.2	17.1
25 to 54	36.1	29.6	3.5	3.8	72.9
55 to 64	5.7	3.2	0.3	0.3	9.4
65+	0.2	0.0	0.2	0.1	0.4
Total	47.4	38.0	7.2	7.4	100.0

Source: OECD, 2005, Labour Market Statistics.

2.4 Summarising

The main points of Section 2 are:

- EPL refers to institutions related to the dissolution of matches between firms and workers. These institutions include administrative and legal procedures including notice periods, severance pay and firing taxes. They may be the result of government legislation, collective labour agreements or individual contracts.
- The Netherlands takes an intermediate position regarding EPL according to the OECD indicator. As in most European countries, the EPL indicator has fallen since the late 1980s and this fall has been mostly (for the Netherlands only) due to the liberalisation of temporary employment. For the Netherlands the result is relatively high EPL for permanent employment, in particular for older workers with high tenure, combined with a relatively liberal stance towards temporary employment.
- According to the OECD index, the Netherlands is 'Number 1' when it comes to the procedural inconveniences involved in EPL.
- The impact of EPL depends on the interaction with other institutions. Regarding bargaining institutions, as in most European countries union coverage is high. However, union coordination is intermediate. The replacement rate of unemployment insurance is not exceptional, but the maximum duration is high. Spending on active labour market policies is not exceptionally low or high.
- One way through which EPL may affect the economy is through its impact on specific investments in the worker-job match. No data on specific investment are available, but the Netherlands does reasonably well in terms of reported continuing vocational training (CVT).
- Temporary jobs have been on the rise in the Netherlands. Younger workers and females are more likely to hold a temporary job. The share of temporary employment in total employment was in line with (actually somewhat above) the EU average in 2004.

3 EPL in theory

As most institutions that persist, EPL presumably has some good sides, at least for a large group in society. The fact that EPL presumably has some good sides is also reflected in the presence of EPL in individual contracts.¹⁹ That EPL presumably also has some bad sides seems to motivate the recurring discussion of EPL in the policy arena, where it is often associated with the apparent poor performance of (continental) European labour markets. In this section we consider the main good and bad sides of EPL encountered in theoretical work. Furthermore, we also consider the implications of the differential impact of EPL on different groups, which may give rise to political economy problems and equity considerations, and the up- and downsides of differences in EPL for different workers, *e.g.* relatively weak EPL for workers on temporary contracts and relatively strong EPL for worker on permanent contracts. After a brief recap of the potential market failures and the role of the government in EPL we conclude with an overview of the main findings of theoretical studies.

3.1 The good²⁰

The analysis of employment protection legislation has become more balanced. A number of recent papers have stressed the productive sides of EPL. To start on a positive note, we first consider the papers that see a productive role for EPL.

3.1.1 Providing additional insurance

Some recent papers, *e.g.* Fella (2006) and Pissarides (2001, 2004) highlight the productive role of EPL as (additional) insurance against income risk. The most direct forms of EPL for providing this (additional) insurance are severance pay and notice periods. Even if the insurance of EPL results in moral hazard (for example, the insurance increases the probability that a match becomes unproductive), the insurance gains may be sufficient to make severance pay or a notice period welfare improving. Furthermore, Bertola (2004) shows that the additional insurance via severance pay may also result in a productivity gain in the spirit of Acemoglu and Shimer (1999), making workers more willing to leave their low-productive job to look for a more productive one.

However, next to moral hazard, there are several factors that limit the role of EPL as

¹⁹ See *e.g.* Box 2.1 in OECD (2004) for some data on the incidence of EPL in individual contracts in countries that have little or no government endorsed EPL.

²⁰ Maurits Barendrecht reminded us that many issues that are relevant for *employment* protection legislation can also be found in the literature on protection legislation for other types of matches *e.g.* marriage and divorce, housing agreements *etc.* Indeed, in general there are many similarities between the analysis of the labour market and these topics, and there are probably many insights from the analysis of protection legislation on these other topics that are also relevant for EPL but have so far not been considered formally in the literature on EPL.

an insurance instrument. First, unemployment insurance reduces the insurance gains from EPL.²¹ Similarly, a working partner (which is on the rise in the Netherlands) also reduces the insurance gains of EPL by making the family income less dependent on the income of one of the partners. Finally, lower interest rates and less capital market ‘imperfections’ in general, may have made it less costly for workers to deal with the unemployment risk by saving and borrowing on the capital market, again reducing the gains from insurance via EPL.²²

3.1.2 Internalise externalities

Above we consider the role of EPL as a substitute for unemployment insurance. However, EPL may also be complementary to unemployment insurance (as noted by *e.g.* Blanchard and Tirole (2004)). When a firm and a worker separate they typically do not take into account that this leads to a fall in tax receipts and a rise in transfers. To internalise these ‘fiscal externalities’ in the decision of the firm and the worker, the government can levy a firing tax.²³ This is essentially the basis for the experience rating system of the US.

The argument extends to other types of externalities like the search externalities explored in *e.g.* Diamond (1982) and Pissarides (2000). Another relevant externality that springs to mind is the additional social cost when there is a mass layoff on *e.g.* the local community. This can be a motivation for special rules for mass layoffs, as we observe in practice. The idea that EPL may prevent ‘excessive’ separations also applies to the case of downward wage rigidities. Whenever there is a surplus when the firm and worker decide to separate, a firing tax can improve welfare.²⁴ Furthermore, as with environmental externalities, a firing tax seems a relatively cost-effective way to deal with these externalities relative to *e.g.* regulation via government officials.

²¹ There are some differences though. For example, severance pay is a one-time transfer whereas unemployment insurance is a flow of payments conditional on remaining unemployed. The latter probably provides better insurance against the uncertain duration of the unemployment spell but at the cost of reducing the search effort and raising the reservation wage of the unemployed. Severance pay only has an income effect on the search behaviour of the unemployed. Also, severance pay may be paid out when a worker moves to another job rather than unemployment.

²² Some authors present back-of-the-envelope calculations of the optimal level of severance pay and notice periods. Pissarides (2004) suggests that optimal severance pay is typically positive. Fella (2006) finds the same result, and goes a step further by calculating the optimal level for blue and white collar workers for a number of countries. He finds that *for the average worker*, optimal severance payments in The Netherlands are quite close yet somewhat above actual severance pay (whereas Portugal pays far too much, and Ireland far too little). Pissarides (2004) also considers a back-of-the-envelope calculation regarding notice periods, and finds that typically no notice period is optimal (notice periods result in reduced job search by the worker, severance payments do not). But he suggests that his model is too stylised to make real-life recommendations. In general, Pissarides (2004) and Fella (2006) seem too stylised to infer policy recommendations. For example they do not consider *e.g.* the effect on worker effort or try to find the optimal system of EPL and unemployment insurance.

²³ Blanchard and Tirole (2004) suggest that hiring subsidies can be motivated along similar lines.

²⁴ However, when wage rigidities are the source of excessive turnover, increasing wage flexibility may be preferable to introducing EPL, see *e.g.* Lazear (1988).

3.1.3 Increase specific investments

Finally, some authors indicate that employment protection can promote specific investments, and this may be welfare improving when we start from a situation of underinvestment.²⁵ These specific investments may take the form of *e.g.* acquiring specific job-related skills, building a social network or buying a house in the vicinity of the workplace. The underinvestment may be the result of a hold up problem, where the worker or the firm under-invest in match specific productivity because the other party will claim part of the gains through *ex post* bargaining.

Again, a number of qualifications are in order. First, as noted above, we need underinvestment initially. If the investments are truly specific, the parties will be more eager to overcome any problems since they are the main beneficiaries, limiting the case for underinvestment in the case of specific investments.²⁶ Second, EPL only indirectly stimulates specific investments via longer match durations, which may come at the cost of reduced match quality (see below). Third, EPL may reduce overall employment by reducing job creation. This may reduce investment in general skills.^{27,28} Finally, EPL may not be the optimal policy response, as noted by Lazear (1988). Alternatively, the government could also reduce the hold up problem by facilitating explicit contracts on the returns of the investment for each party.

3.2 The bad

3.2.1 Sclerosis

The data suggest that EPL reduces the sum of job creation and job destruction (see below). Driving the processes of job creation and destruction are *e.g.* embodied technological change and preference shifts. EPL reduces the reallocation of workers to production sites with better technologies or a higher demand. The production structure becomes 'sclerotic' in the words of Bentolila and Bertola (1990).²⁹ This is analysed in detail in Caballero and Hammour (1998a, b). MacLeod (2005) extends the argument to the matching process by which workers look for the jobs most suited for them. Workers may be less willing to look for or accept a match that makes better use of their skills when they have to give up their accumulated rights to severance pay and/or a notice period.

EPL may also reduce productivity when it increases the average unemployment duration and as a result more unemployed incur a loss of skills. For an analysis along these lines

²⁵ See *e.g.* Belot *et al.* (2004). Nagypál (2002) further considers the additional gains from longer job durations via (exogenous) learning-by-doing.

²⁶ Indeed, the problem may be more with general investments, where the firm is only partly protected from the worker taking his or her newly acquired skills to a competitor.

²⁷ Provided the income effect of a higher return to investing in general skills does not dominate the substitution effect, as noted in *e.g.* Lindbeck and Snower (1988) and Young (2003).

²⁸ There may also be a more direct trade-off between the two types of investment via *e.g.* a time constraint.

²⁹ Furthermore, life may be somewhat more complicated still. Specifically, although many studies suggest that there is underinvestment in R&D for which there are good theoretical reasons (inter- and intra-temporal spillovers), theoretical studies also point to the likely result that the step-size of new innovations is probably too small (see *e.g.* Grossman and Helpman (1991) and Aghion and Howitt (1998)). This may result in excessive job flows in the situation without EPL.

regarding the effect of unemployment insurance see *e.g.* Pissarides (1992) and Ljungqvist and Sargent (1997).³⁰

Again, the costs outlined above depend on the empirical relevance of the various channels. For example, one may wonder how much technological progress is in fact embodied, although the large job flows even within sub sectors (see *e.g.* Davis *et al.* (1996)) suggest it is empirically relevant. Regarding the matching of workers to jobs, the internal labour market may act as a substitute to the external labour market and soften the impact of EPL on these flows. However, insofar as the role of technology adoption, demand shifts and match quality in general is rising, and the duration of unemployment has risen to a level where skill loss becomes important, so is the sclerosis effect of EPL.

3.2.2 Higher labour costs

EPL may raise labour costs, but then again it may not. This depends on whether workers compensate firms for EPL via *e.g.* lower wages. Firing costs are likely to push up labour costs directly, even though labour may bear part of the burden via lower wages. Whether firing taxes raise labour costs is less clear, the receipts can be used to compensate firms via *e.g.* lower unemployment insurance premiums (as in Blanchard and Tirole (2004)). Indeed, if EPL reduces the inflow in unemployment insurance, labour costs may actually fall. Severance pay and notice periods are a transfer from the firm to the worker, and it is not unlikely that workers will compensate firms for this transfer.³¹

However, there is the potential problem that workers will use the protection of EPL to claim higher wages.³² EPL may strengthen the outside option of workers and worsen the outside option of firms in the wage bargain. As a result, EPL may result in a higher bargained wage. When EPL pushes up labour costs, because it is an actual cost or because the government or workers do not compensate the firm for their transfers, firms will reduce their hiring until expected costs are in line with expected profits again. Then adverse ‘insider-outsider’ dynamics may exacerbate the initial rise in labour costs. When the unemployment duration increases, the share of long-term unemployed will increase. The insiders may be less willing to trade off wages for additional employment opportunities for long-term unemployed outsiders. Furthermore, due to a loss of skills and/or ranking of candidates by firms according to the unemployment duration, the effective competition of unemployed for the jobs of the insiders

³⁰ The latter explain the high level of European unemployment since the 1980s by the incentive problem that the unemployed face, induced by the existence of generous unemployment compensation benefits being a function of past earnings. Low search intensities and high reservation wages result in longer spells of unemployment and an increased share of long term unemployed. EPL could have a comparable detrimental effect, where high severance pay reduces job search and raises reservation wages. Furthermore, reduced hiring by firms may further increase unemployment durations and thereby skill depreciation.

³¹ Pissarides (2001) gives an example where workers take wage cuts so as to leave the hiring decision unaffected.

³² See *e.g.* Lindbeck and Snower (1988), Bentolila and Dolado (1994) and Garibaldi and Violante (2005). The adverse effects are presumably larger in countries where labour is relatively strong in the bargaining game, but does not take into account the interests of outsiders, see *e.g.* Calmfors and Driffill (1988).

may fall (see also Blanchard and Summers (1986)³³, Lindbeck and Snower (1988), and for the ranking hypothesis Blanchard and Diamond (1994)). This may lead to higher wage claims.

3.2.3 Increase shirking

EPL may reduce employment not only at the ‘extensive’ margin, *i.e.* via reduced hiring, but also via the ‘intensive’ margin, by reducing worker effort. If workers are caught shirking, they are less likely to be fired when they are protected by EPL. As a result, there will be more shirking.³⁴ This is explored in *e.g.* Galdon-Sanchez and Güell (2003).

To remedy this adverse effect on effort one would like to exclude workers that were found shirking from EPL. Indeed, a number of theoretical papers explore this avenue, and find a positive effect of EPL on *e.g.* employment in an efficiency wage context.³⁵ They argue that EPL increases the surplus of a match and workers will therefore require less wages to motivate them. However, the latter effect depends crucially on the assumption that shirking workers are excluded from EPL. Whether the worker was in fact shirking or not is information that is typically not readily available to a third party, and firms will always claim that fired workers were shirking while workers will always claim the opposite.^{36, 37}

3.3 The ugly?

The gains and losses of EPL do not seem to be evenly spread across different types of workers. Below we consider which workers are more likely to benefit, which workers are more likely to lose, and the associated potential political economy failures. A related topic is the difference in EPL for different groups of workers, in particular the difference between workers on temporary contracts and workers on permanent contracts. Below we therefore also consider what are the pros and cons of this ‘two-tier’ system of EPL.

3.3.1 Different results for different groups

It seems that the benefits of EPL in terms of employment rates are mostly to be had by prime-age male workers, whereas EPL seems to reduce the employment rates of new entrants and women with intermittent spells of non-participation (around *e.g.* child birth, see Section 5). In

³³ Blanchard and Summers (1986) show that, in case of a sequence of adverse shocks, insider-outsider dynamics (see Lindbeck and Snower (1988)) result in persistently higher unemployment. After a shock the number of insiders is reduced. The still employed workers set wages in such a way that the lower level of employment becomes permanent. EPL may make it easier for insiders to claim higher wages and thereby increase persistence, though EPL will also make it less likely that workers are fired when a negative shock occurs.

³⁴ The cost is in terms of lost output, but can also be in terms of higher labour costs as firms have to pay workers more to motivate them in the presence of EPL.

³⁵ See *e.g.* Saint-Paul (1995) or Fella (2000).

³⁶ Note that the bad here also depends on a market imperfection, *i.e.* incomplete information on worker effort (due to *e.g.* costly information gathering).

³⁷ Note that this is one way to motivate the procedures for firing workers in the Netherlands. To the extent that *e.g.* the CWI is cost-effective in screening for shirkers, this type of procedure can be efficient as it reduces wage claims to motivate workers.

general, EPL will make firms more reluctant to hire new workers and they will become more selective in their hiring policies.³⁸ Next to a more unequal distribution of employment opportunities, a loss of skills in unemployment and an increased likelihood to run into credit constraints due to longer unemployment spells may increase the difference between the winners and losers of EPL.

The differential impact of EPL on different groups may give rise to political economy considerations (see *e.g.* Saint-Paul (1997)). When government or trade union policies are dominated by prime-age male workers, they may try to push for excessive employment protection which benefits the marginal voter but not society as a whole.

3.3.2 Pros and cons of temporary work

Following calls from *e.g.* the OECD to reform EPL, various European countries have reduced employment protection. However, the reduction has been mostly partial in the sense that governments have typically deregulated the use of temporary employment, whereas protection of regular contracts has been more or less stable (see Section 2 above). The question is whether this has made matters better or worse? Again, there are pros and cons.

Some papers stress that outsiders may benefit from temporary contracts which act as ‘stepping stones’.³⁹ Firms and workers can first try a match before the firm has to commit to the strict EPL of a permanent contract. However, other papers suggest that temporary jobs are ‘dead end jobs’, where workers are stuck flowing between unemployment and temporary contracts.⁴⁰ Indeed, even if temporary contracts may be a way for outsiders and firms to work around excessive EPL⁴¹, a government imposed restriction on the number of renewals of fixed-term contracts may still lead to excessive turnover. Whether temporary work acts mainly as a ‘stepping stone’ or a ‘dead end job’ is an empirical matter, which we take up in Section 5.

Another issue is whether temporary contracts strengthen or weaken the bargaining power of workers. On the one hand, the threat to employ more workers on a temporary contract rather than on permanent contracts may moderate wage claims by insiders. However, temporary work may also act as a buffer, effectively reducing the adverse effects of additional wage claims, in particular when workers on permanent contracts set the conditions for workers on temporary contracts.⁴² This too seems to be an empirical matter.

Overall the literature indicates important potential pitfalls related to partial reform in the sense of deregulating temporary contracts, and most authors seem to favour a reduction in EPL for permanent contracts.

³⁸ Kugler and Saint-Paul (2004) show that firing costs increase the discrimination against unemployed outsiders. Firing costs reduce the average productivity of a worker that is fired. Hence the pool of unemployed is more unproductive. Firms use this as a signal and will reduce hiring from the pool of unemployed, increasing their unemployment spell.

³⁹ See *e.g.* Nagypál (2002).

⁴⁰ See *e.g.* Booth *et al.* (2002).

⁴¹ This would also imply that workers could be paid higher wages in temporary contracts, which at first glance is not supported by the data.

⁴² See *e.g.* Blanchard and Landier (2002) and Bentolila and Dolado (1994).

3.4 Potential market failures and the role of the government

We conclude the theoretical section with an explicit overview of the efficiency and equity role of the government when it comes to setting (the optimal level of) EPL. Most of the relevant mechanisms and issues points were already made above, but perhaps it is best to give an explicit recap of potential market failures and the role of the government.

3.4.1 Efficiency

With knowledge of the diverse empirical effects of EPL one could make a type of 'behind the veil of ignorance' evaluation and select the welfare optimising set of EPL. However, will the market provide the optimal level of EPL? Below we consider some reasons why it may not, and hence there is potentially a role for the government.

Adverse selection

Adverse selection may cause the market to produce insufficient EPL. Consider two firms which offer the same total compensation to workers, but firm 1 offers more wages and less EPL than firm 2. Assuming that less productive workers are more likely to benefit from EPL, firm 2 will attract and retain more low-productive workers. Hence, for the same labour costs, the workers in firm 2 will produce less output. As a result, firm 2 will not survive in the market, and only firms of type 1 survive. In general, when EPL attracts less productive workers, firms will be inclined to offer less EPL, even when this is socially undesirable. The problem is that firms cannot offer different levels of EPL to different workers when workers have more information about their productivity than firms. A government imposed level of EPL can then be welfare improving. However, the task for the government is not easy: it has to set the optimal level where the gains exactly balance the losses at the margin.

Whether adverse selection problems play an important role in real life remains an open question. The fact that we observe EPL in private contracts suggests that the problem does not deter all EPL. The level may still be too low though.

Externalities

As the government levies taxes and typically dictates the rules of unemployment and disability insurance, it seems natural to let the government act as a third party to levy the firing tax. Furthermore, the government may also be the most natural agent to levy firing taxes for other externalities in *e.g.* the case of mass layoffs. Again, the task is not easy, as the government has a hard time in determining the level of the externality in each individual case.

When we believe that liquidity constraints are important we may also follow Bertola (2004) by suggesting government mandated severance pay for workers, in response to which workers become more mobile. Firms themselves will not be willing to pay a mobility cost for workers to

move to another firm even if this is desirable from a societal point of view. The mobility benefits are not internalised.

Political economy failures

Adverse selection and externalities may lead to an under-provision of EPL in the market. However, insider power may have the opposite effect. In particular, unions (and the government) may suffer from a political economy failure where the majority of workers benefit from strict EPL but where the losses for outsiders dominate the gains of the insiders.⁴³ The same holds for temporary work. The insiders may set the rules for temporary work, which may make things worse rather than better for the outsiders to the benefit of the insiders. For example, the insiders may demand that firms pay workers on temporary contracts the same wages. Hence, the government has to ensure that the interests of outsiders are taken into account when it comes to the bargaining over the package of wages, EPL and other working conditions.

3.4.2 Equity

Next to efficiency considerations, the government may want to regulate EPL because the results differ between groups. Indeed, if the starting position of outsiders is relatively unfavourable this too may be a reason to set a somewhat lower level of EPL at the expense of *e.g.* insurance losses. However, due to the diverse effects on different groups, governments and trade unions run the risk of being used as a rent seeking device rather than an efficiency enhancing device. Indeed, the choice of EPL is not the result of a careful optimisation process over various efficiency effects behind a veil of ignorance, but decisions on EPL are made beyond the veil of ignorance where an individual's position is 'revealed' (see *e.g.* Caballero and Hammour (1998b)). Indeed, representative bodies have to look carefully at policy proposals as rent seeking may be sold under the heading of efficiency gains.

The list above is not exhaustive, there may be other roles for the government that have not been treated formally in the literature so far. In the proto-typical model the firm does not fire a worker unless it is profitable to do so. However, it is conceivable that intermediate managers fire workers for personal reasons, even if this is not in the interest of the firm. The government can mitigate this potential problem by promoting internal procedures that bring all the relevant information on the table. Another role for the government may be to protect a minimal level of decency in firing. It may not be very costly for an employer to inflict personal damage on a worker when he or she is fired. Indeed, the government may wish to guarantee a minimum level of decency to prevent behaviour for personal interest that serves no social interest. Finally, perhaps (at least some) workers and/or firms suffer from short-sightedness when it comes to the issue of EPL, and government endorsed standards can bring the distant future into the present.

⁴³ Even though the young may expect to be middle-aged at some point, they can not credibly commit to a certain voting strategy when they are young.

3.5 Summarising

From the theoretical studies we conclude the following:

- On the positive side, EPL may provide additional insurance (in particular in the form of severance pay and/or notice periods), it may internalise externalities (in the form of firing taxes) and it may promote match specific investments.
- On the negative side, EPL may reduce the adoption of new technologies and the matching of workers to jobs. Furthermore, EPL may lead to shirking, additional wage pressure and a loss of skills.
- The gains and losses are not evenly distributed across individuals. Prime-age male workers seem to benefit, while new entrants and females with intermittent spells of non-participation may lose. Hence, efficiency as well as equity considerations play a role. Furthermore, there is a risk of rent seeking via EPL.
- A two-tier EPL system with temporary and permanent contracts may give workers and firms a way to work around strict EPL for permanent contracts, and temporary contracts may serve as stepping stones for permanent contracts. But temporary contracts may also serve as dead end jobs, and may act as a buffer for insiders who could use the two-tier system to demand higher wages.
- Government intervention can be justified by adverse selection problems, externalities, political economy failures in *e.g.* trade unions and because of equity considerations. However, government intervention typically requires considerable knowledge of the extent of the market failures and the government may itself be subject to rent seeking.

4 Simulation studies

The theoretical overview in Section 3 suggests that the overall impact of EPL on *e.g.* employment, productivity and welfare is not easily determined. In the subsequent two sections, we consider studies that try to determine the overall effect. In this section we consider the findings of simulation studies, Section 5 then considers the findings of empirical studies. Given the high level of abstraction of the simulation models we chose to include them after the theory part and before the empirical part, as they are perhaps best characterised as ‘theory with numbers’. By reviewing the simulation studies we hope to trace the results back to the assumptions, and get a quantitative feel for the impact of different types of EPL. Most empirical studies focus on the impact of a summary index for all types of EPL.⁴⁴ Our review of simulation studies is not exhaustive, but we believe it covers most of the influential studies (with a bias towards more recent studies). We conclude with an overview of the main findings.

4.1 Tracing the results back to the assumptions

We divide the simulation studies into two groups. In the first group we have studies that consider the impact of firing costs, firing taxes and experience rating. We group them together because for individual matches they work broadly in the same way; they are a cost to the individual match at separation. The general equilibrium effects may differ though, see Box 3 below. In the second group we have studies that consider the impact of severance pay and notice periods. These types of EPL are not a cost to the individual match, but a transfer from the firm to the worker. Hence, already on the individual level the results are likely to differ from the types included in the first group.

4.1.1 Firing costs, firing taxes and experience rating

We start with the seminal paper on ‘eurosclerosis’ by Bentolila and Bertola (1990). They consider the optimal hiring and firing policy of a firm in the presence of a firing cost. Labour productivity follows a random walk. Firing costs affect the critical productivity levels at which workers are hired and fired. They find that a reduction in firing costs has a negligible effect on the hiring decision, the discounted value of firing costs is low. The effect on the firing decision is somewhat larger, but overall they report that average labour demand is “hardly affected” by the reduction in firing costs.⁴⁵ The study of Bentolila and Bertola highlights the opposing effects on employment (less firing but also less hiring), which makes the impact of firing costs on employment typically ambiguous in theoretical work.

⁴⁴ Relevant micro data on natural experiments are scarce (see Section 5 below).

⁴⁵ Bentolila and Bertola (1990), p. 396.

Box 3 Firing costs, firing taxes and experience rating - differences in general equilibrium

Firing taxes, firing costs and experience rating all have broadly the same impact on individual matches, they imply a cost at separation. However, the general equilibrium results may differ. In the abstract models we consider firing costs are a pure deadweight cost (many authors use the example of administrative and judicial procedures), and hence *ceteris paribus* they constitute a loss for society. Firing taxes are not a cost to society. Indeed, the receipts of the tax can be used for *e.g.* lump sum transfers. Hence, the welfare effects of a firing tax in abstract models are typically more positive than for a firing cost. Experience rating can be thought of as a firing tax combined with a reduction of unemployment insurance premiums. In the US system of experience rating firms indirectly pay for the unemployment benefits that their former employees receive. The contribution of firms to the unemployment insurance fund are 'experience rated'; the more employees a firm has fired recently the higher the contribution to the UI fund. We like to think of experience rating as a tax, because the UI rights of the employee do not depend on the contribution by the firm. However, it is not only a firing tax because the contribution is a substitute for UI premiums. Hence, the 'receipts' of the firing tax flow back to individual matches in the form of a lower UI premium. This is likely to generate a more positive result than a firing tax that is used for lump sum transfers, because labour costs do not rise directly. For a formal treatment of the different effects of these types of EPL in a vintage model see Jongen and Visser (2007). They also consider the difference with severance pay.

An insightful paper by Ljungqvist (2002) shows that also in general equilibrium, the overall effect of 'firing costs' (actually in the form of firing taxes that are redistributed to workers in the form of lump sum transfers) on employment is ambiguous.⁴⁶ However, more importantly, he shows that the overall effect on employment is more likely to be negative when firing costs push up wages or reduce labour supply. He considers the impact of a rise in firing costs in three prototype models. Ljungqvist starts with an analysis of firing costs in a search model, where workers search for jobs. In his preferred calibration of this model, higher firing costs result in higher employment. It becomes more costly to look for another job. The drop in the outflow from employment dominates the drop in the inflow into employment. Only when search effort would fall dramatically, reduced job creation results in a fall of overall employment. Next, Ljungqvist considers a matching model, where firms do the searching. In this matching model wages are determined by bargaining *ex post*. When firing costs do not reduce the outside option of the firm in the wage bargain, employment rises (like in the search model). However, when firing costs reduce the outside option of the firm in the wage bargain, employment falls. A weaker outside option for the firm implies that workers will be able to claim higher wages, which in turn implies less hiring. Finally, Ljungqvist considers an (intriguing though probably unrealistic) employment lottery model.⁴⁷ The idea underlying this model is that there are indivisibilities in employment, and as a result it is optimal to have less than full employment combined with full insurance for unemployed individuals. Like the matching model where firing costs reduce the outside option of the firm, there is a negative effect of the firing cost on employment that can only be reversed by "fairly extreme parameterisations."⁴⁸ Firing costs

⁴⁶ See also Ljungqvist and Sargent (2004).

⁴⁷ Inspired by the seminal thought experiment of Hansen (1985).

⁴⁸ Ljungqvist (2002), p. 848 (footnote 5).

reduce the benefits from working, which causes individuals to substitute leisure for employment. Hence, the employment lottery model captures the negative effect of firing costs on employment via labour supply. Ljunqvist (2002) further shows that the effect on welfare may be different from the effect on employment, as zero EPL is optimal in all his settings. The setups considered by Ljunqvist (2002) capture most simulation studies that were published on the impact of firing costs during the 1990s. Perhaps the vintage models by Caballero and Hammour (1994, 1996, 1998a,b) deserve special mention. Still, the long run effect of firing costs in their setup are more or less the same as in the matching model where firing costs reduce the outside option of the firm. Due to firing costs, workers can claim higher wages (*ceteris paribus*), which deters job creation and overall employment.^{49,50}

Belot *et al.* (2006) introduce specific investments by the worker in a framework with *ex post* bargaining. The worker and the firm cannot protect the returns on the specific investments with a contract (because *e.g.* the investment is hard to verify by a third party). With *ex post* bargaining this results in a hold up problem where workers under-invest, i.e. the social returns are higher than the private returns. Firing costs have an indirect benefit in this setup. An increase in firing costs lengthens match durations and hence the return period for specific investments. When specific investments raise enough with an increase in match durations, firing costs may cause a rise in employment and welfare. Belot *et al.* (2006) further show that an additional welfare gain may result if the firm and the worker do not consider the fiscal externalities, a separation implies a fall in the tax base and a rise in unemployment insurance premiums, which make the social return to a job match higher than the private return. Hence, job durations are too short in the absence of firing costs. Firing costs may then have another social gain by lengthening job durations. To conclude, Belot *et al.* (2006) show that firing costs may raise employment and welfare even if there is *ex post* bargaining (and the firing cost lowers the outside option of the firm), because of under-investment and fiscal externalities.

The effects may also differ across different groups of workers. Belot *et al.* (2006) show that the same level of firing costs for all workers may generate winners and losers. The winners are workers for whom specific investments are important (and face a hold up problem). The losers are workers for whom specific investments are not important. Next to different effects for different types of workers, firing costs also have a different effect on employed and unemployed workers within these groups. Kugler and Saint-Paul (2004) study the effect of firing costs on discrimination against unemployed job seekers. In their setup workers can be hired from the pool of employed (job-to-job mobility) or from the pool of unemployed. Firing costs result in a lower productivity threshold at which workers are fired. As a result the average

⁴⁹ Caballero and Hammour (1998a) also consider the transition path following a change in firing costs (and other institutional variables like the replacement rate and taxes), under the assumption of perfect foresight.

⁵⁰ Also without *ex post* bargaining, firing costs may generate a problem for job creation and hence employment. When wages are downwardly rigid, due to *e.g.* minimum wage regulation, workers cannot compensate firms for the rise in labour costs by taking a wage cut. Joseph *et al.* (2003) illustrate how rigid wages aggravate the impact of firing costs on employment.

productivity of the pool of unemployed falls. This makes firms more reluctant to hire the unemployed. The difference in employment probabilities between insiders and outsiders rises. Finally, Dolado *et al.* (2005) study the interaction with the initial level of unemployment. In their model, when the unemployment-to-vacancy-ratio is high (a 'sclerotic' labour market in their words), job creation is more sensitive to a fall in labour costs. Hence, a fall in labour costs due to a fall in firing costs has a bigger effect on hiring when unemployment is high. To return to worker heterogeneity, this may be particularly relevant for the low-skilled who have high unemployment rates. To conclude, the studies that consider heterogeneous workers suggest that an important dimension of firing costs is the differential impact for different groups. Therefore, the overall effect depends on the relative size of these groups. Furthermore, distributional issues become relevant.

Another interesting extension, in particular for the Dutch case, is the introduction of temporary contracts. Various authors consider whether the rise in temporary contracts in European labour markets has made things better or worse, and for whom. We can think of the rise of temporary contracts as a special case of changing firing costs. Blanchard and Landier (2002) consider the role of temporary contracts as a screening mechanism. They find that when firing costs for temporary contracts are reduced this increases the hiring rate, the destruction rate and the average time it takes an outsider to gain permanent employment. However, the overall effect of this partial labour market reform on employment, output and welfare are ambiguous, in line with the findings on an across-the-board reduction in firing costs. However, they conclude that "if anything, the effect of the fixed-term contracts on the welfare of young workers appears to have been negative" and that "such partial reform may be a very poor substitute for broader reform."⁵¹ This suggests that when they would reduce firing costs on permanent contracts they would get more favourable results. Cahuc and Postel-Vinay (2002) consider a broadly similar setup and also conclude that the combination of stringent EPL and the accommodation of temporary contracts is "a poor weapon to fight unemployment." Nagypál (2002) introduces learning-by-doing in a setting with temporary and permanent contracts. Permanent contracts are protected by firing costs, temporary contracts are not. We have two opposing forces of firing costs on productivity. By increasing job durations higher firing costs lead to more learning-by-doing, but at the expense of productivity losses due to reduced reallocation. In this setup, temporary contracts are a way to reduce firing costs, and work as a "compromise" between a situation with and without firing costs.⁵² To conclude, the results from the models with 'two-tier' systems of employment protection suggest that partial reform also leads to ambiguous results in terms of overall employment and productivity. Promoting temporary contracts makes it easier for firms to screen for productive matches, but this may come at the cost of increased churning. Furthermore, distributional concerns seem to play a potentially important role, a two-tier system may create or enhance a dual labour market.

⁵¹ *Supra* note 1, p.244.

⁵² Nagypál (2002), p.20.

4.1.2 Severance pay and notice periods

The 'earlier' papers (of the 1990s) focussed mainly on firing costs, firing taxes and experience rating. An interesting new line of research considers the role of severance pay and notice periods. In a world with risk neutral workers these types of EPL typically have no productive role to play.⁵³ However, when workers are risk averse severance pay and notice periods may have a productive role.

In two papers, Pissarides (Pissarides (2001, 2004)) considers the rationale for severance pay and notice periods. He assumes that workers are risk averse, and face incomplete insurance and capital market imperfections. Firms on the other hand are risk neutral and do have access to the capital market. In this setup workers can use firms as a banker and an insurer. Pissarides shows that in this setup some positive level of severance pay is always optimal. Severance pay acts as insurance against the uncertain duration of a job. However, notice periods are typically not optimal. Notice periods act like unemployment insurance, the worker gets paid until he or she has found a new job, and for realistic values for unemployment insurance and risk aversion they have little to add.⁵⁴ Regarding macroeconomic outcomes, in his setup Pissarides (2001) finds that when the severance pay and notice period are set optimally (hence, in the case of notice periods potentially at zero), job creation remains the same. Workers compensate firms for the additional expenses by taking a wage cut. Job destruction falls when there is a positive notice period. Hence, in this setup, employment will if anything rise and the same holds for welfare. However, this depends in part on the assumption that firms and workers can commit to a wage profile posted at the beginning of the match. Jongen and Visser (2007) show that when there is *ex post* bargaining and severance pay enters the fallback position of firms and workers, job creation and employment may fall.⁵⁵ Jongen and Visser (2007) further show that with specific investments (to increase productivity) the overall effect of severance pay on productivity is unclear. Severance pay leads to shorter job durations which may reduce sclerosis but may also deter specific investments.

Bertola (2004) shows that there may be an additional gain from severance pay in terms of worker mobility. When workers are credit constrained, workers may not want to give up the income of a job that has become less productive to look for a more productive one. Severance pay can make the cost of mobility lower for these workers (and indeed, unemployment insurance and active labour market policies can perform the same function, as noted by Bertola (2004)).

To conclude, models that allow for risk aversion of the part of workers suggest that severance pay and/or notice periods may raise welfare and employment.

⁵³ Furthermore, these types of transfers could be nullified by a private contract (Lazear (1988, 1990)).

⁵⁴ A model with optimal severance pay, notice periods *and* unemployment insurance is still future research though.

⁵⁵ Furthermore, in their setup, it is the initial (when a new match starts) rather than the final (when a match is terminated) level of severance pay that matters for job creation, see Jongen and Visser (2007).

4.2 Quantitative simulation results

Tables 4.1 and 4.2 below give an overview of some of the quantitative findings of the simulation studies. In Table 4.1 we consider studies that have no temporary contracts. Studies that consider both permanent and temporary contracts are in Table 4.2. In both tables we first report the type of EPL reform, *e.g.* a firing cost (an actual resource cost), a firing tax (which the government redistributes via a lump sum transfer), experience rating (the firing tax receipts are used to lower UI premiums), severance pay or a notice period. We further indicate whether the model has *ex post* bargaining (so that EPL may raise wage pressure), whether the model features specific investments or learning-by-doing (which may counteract the sclerosis effect on productivity), and some other characteristics (like the process that drives changes in productivity). We then report the impact on unemployment, employment and productivity, (when this information is directly or indirectly reported in the study). Specifically, we calculate the elasticity of these variables with respect to EPL. We report the findings in terms of an elasticity to ease the comparison between studies and the comparison with the findings in the empirical section below.

Above we already discussed which assumptions are important for the qualitative results, here we briefly consider the quantitative simulation results. We observe that overall, the impact on unemployment and employment is ambiguous, this is true for studies that considered an economy with temporary contracts (Table 4.2) and those without (Table 4.1). All studies that (explicitly or implicitly) give the impact on productivity show a drop in productivity when EPL rises, in the order of 3 to 4 percent. Still, it is not clear how much weight we should put on this. When all studies for which we have numbers do not consider specific investments, they might all overstate the negative effect on productivity. The studies further seem to suggest that when EPL worsens the fallback position of firms and there is *ex post* bargaining, unemployment is more likely to rise, although the presence or absence of *ex post* bargaining is not sufficient for a positive respectively negative effect on unemployment. Regarding the difference between firing costs/firing taxes and severance pay/notice periods, the studies that consider the latter without *ex post* bargaining find more positive results.

Table 4.1 Elasticity's of unemployment, employment and productivity with respect to EPL, simulation studies without temporary contracts

	Study characteristics				Elasticity with respect to EPL		
	Type of EPL reform	Ex-post bargaining	Specific inv./ learning-by-doing	Other	u	e	Productivity
Average elasticity (s.d.)					0.04 (0.81)	- 0.01 (0.03)	- 0.04 (0.02)
Number of papers					14	9	6
Bentolila and Bertola (1990)	firing cost	no	no	Productivity Wiener process	.	- 0	.
Hopenhayn and Rogerson (1993)	firing tax	no	no	Productivity Markov process	.	- 0.03	- 0.02
Caballero and Hammour (1998a)	firing cost	yes	no	Vintage production structure	0.93	- 0.03	.
Ljungqvist (2002)	firing tax	no	no	Search model	- 0.63	0.02	- 0.04
	firing tax	yes	no	Matching model, no EPL in fallback	- 0.63	0.02	- 0.05
	firing tax	yes	no	Matching model, EPL in fallback	1.25	- 0.04	- 0.07
	firing tax	no	no	Employment lottery model	1.88	- 0.06	- 0.05
l'Haridon and Malherbet (2002)	firing cost	yes	no	Matching model, EPL in fallback	- 0.02	.	.
	experience rating	yes	no	Matching model, EPL in fallback	- 0.06	.	.
Joseph <i>et al.</i> (2003)	firing cost	yes	no	Matching, EPL in fallback for protected workers, wage rigidity	- 0.67	.	.
Belot <i>et al.</i> (2004)	firing cost (small)	yes	yes	Matching model	- 0.42	0.03	.
Kugler and Saint-Paul (2004)	firing cost	no	no	Matching model, on-the-job search	- 0.51	.	.
Alessie and Bloemen (2004)	firing cost	no	no	Productivity Wiener process	.	+	.
Ljungqvist and Sargent (2005)	firing cost	yes	no	Matching model, productivity Markov process	- 0.63	.	.
	firing cost	no	no	Search model, productivity Markov process	- 0.19	.	.
	firing cost	no	no	Employment lottery model, productivity Markov process	0.57	.	.
Pissarides (2001)	notice period	no	no	Matching model	- 0.37	0.02	- 0.02

Table 4.2 Elasticity's of unemployment, employment and productivity with respect to EPL, simulation studies with temporary contracts

	Study characteristics				Elasticity with respect to EPL		
	Type of EPL reform	Ex post bargaining	Specific inv./ learning-by-doing	Other	u	e	Productivity
Average elasticity (s.d.)					0.23 (0.47)	0.03 (-)	- 0.03 (0.02)
Number of papers					8	1	4
Cahuc and Postel-Vinay (2002)	firing tax	yes	no	Matching, EPL in fallback for protected worker, no temporary contracts	-	.	.
	firing tax	yes	no	Matching, EPL in fallback for protected worker, only temporary contracts	+	.	.
Cahuc and Malherbet (2004)	firing tax	no	no	Matching, flexible labour market	0.40	.	.
Blanchard and Landier (2002)	firing cost	yes	no	Matching, EPL in fallback, partial reform (only EPL on temporary jobs)	+/-	.	.
Nagypál (2002)	firing cost	yes	yes	Matching, EPL in fallback, both learning-by-doing and learning about match quality	- 0.15	.	- 0.03
Dolado <i>et al.</i> (2005)	firing cost	yes	no	Matching, EPL in fallback, comprehensive reform, sclerotic labour market, low-skilled	0.23	.	- 0.06
	firing cost	yes	no	Matching, EPL in fallback, comprehensive reform, sclerotic labour market, high-skilled	- 0.47	.	
	firing cost	yes	no	Matching, EPL in fallback, comprehensive reform, tight labour market, low-skilled	0.41	.	- 0.01
	firing cost	yes	no	Matching, EPL in fallback, comprehensive reform, tight labour market, high-skilled	0.44	.	
Alonso-Borrogo <i>et al.</i> (2005)	severance pay	no	no	Productivity Markov process	- 0.12	0.03	- 0.03
Osuna (2005)	severance pay	yes	no	Matching	1.06	.	.

4.3 Summarising

From the review of the simulation studies we conclude the following

- In both partial and general equilibrium simulation analyses, the effect of firing costs on employment is ambiguous, and depends on the assumptions made. When firing costs are used to make additional wage claims or result in less labour supply, the overall effect on employment is more likely to be negative.
- The effect on productivity depends on the relevance of EPL for specific investments and learning-by-doing. Studies that consider a positive effect of EPL on productivity via specific investments or learning-by-doing sometimes show a rise in productivity. This may be more important for certain types of workers than others, for example the high-skilled. However, when the importance of reallocation for productivity is large, productivity falls. Quantitatively, most studies calculate a drop in productivity, with an average elasticity in the order of $- .03$ to $- .04$.
- The simulation results for a partial reform, a reform that boosts the share of temporary jobs in total employment, are mixed. Again, both the inflow into and outflow from employment rise. A screening period may lead to better matches, increasing productivity, but the incentives for specific investments and the period for learning-by-doing may fall, reducing productivity. Liberalising temporary work further has the potential risk that it creates a dual labour market, and most authors conclude that a full reform leads to better results.
- The handful of studies that look into severance pay and notice periods suggest that they may give more favourable results than firing costs. These ‘transfers’ are beneficial to the worker. Hence, they may be more willing to compensate the firm by means of *e.g.* a wage cut. Also for productivity, severance pay may give better results when it stimulates workers to look for a more productive match. Employment, productivity and welfare may rise. However, again, when they lead to additional wage claims, employment may fall.

5 Empirical studies

5.1 Introduction

In this section we turn to empirical studies on the effects of employment protection legislation. First, section 5.2 describes the findings from macro level studies that use cross-country data on EPL and variables like employment, unemployment, job flows and productivity. In this section we also calculate the average elasticity of the latter variables with respect to EPL from the cross-country studies. Section 5.3 then consider the findings from micro level studies, and section 5.4 covers empirical papers on the effect of temporary employment. The main conclusions are summarised in section 5.5.

5.2 Macro studies on EPL

Since the 1990's cross-country studies have become increasingly popular in the analysis of the effects of labour market institutions on unemployment, employment and, to a lesser extent, productivity growth. Interesting overviews of this type of macro-level study of the last 15 years are given by Addison and Teixeira (2001), Baker *et al.* (2002, 2004) and OECD (2004). As we are not the first to review the findings of EPL in cross-country studies we will not try to be exhaustive, but we focus on studies that we believe have been particularly influential. In the overview we first survey the effects of EPL on reallocation and the stocks of employment and unemployment. Subsequently, we turn to the effects on productivity growth.

Before we proceed it is important to remark that the cross-country approach has several weaknesses. This is also true for cross-country studies that look into the effect of EPL. First, the possibility of reverse causation makes the interpretation of cross-country regression results difficult. For example, countries with high budgets for active labour market policies (ALMP) may show better unemployment results. The causal relationship may however not be that ALMP reduces unemployment but instead that low unemployment leaves more money to spend on ALMP. Likewise, the level of EPL strictness may depend on labour market conditions. Second, missing variables may be a problem, EPL may pick up the effect of correlated other factors that drive the cross-country differences in labour market performance (competition policy for example). Third, cross-country studies focus on differences across countries but do not explain developments over time. Fourth, specific to studies on EPL is that most cross-country studies focus on overall EPL, without distinguishing between fixed-term employment and permanent contracts or different types of EPL (like firing costs and severance pay). Finally, a few studies also include non-Western countries, which may reduce the applicability of the results.

5.2.1 Reallocation

A robust result from empirical studies is that EPL diminishes reallocation. This confirms the theoretical idea that EPL diminishes job destruction and may also hamper job creation. Two

Figure 5.1 The incidence of unemployment vs. the EPL-index

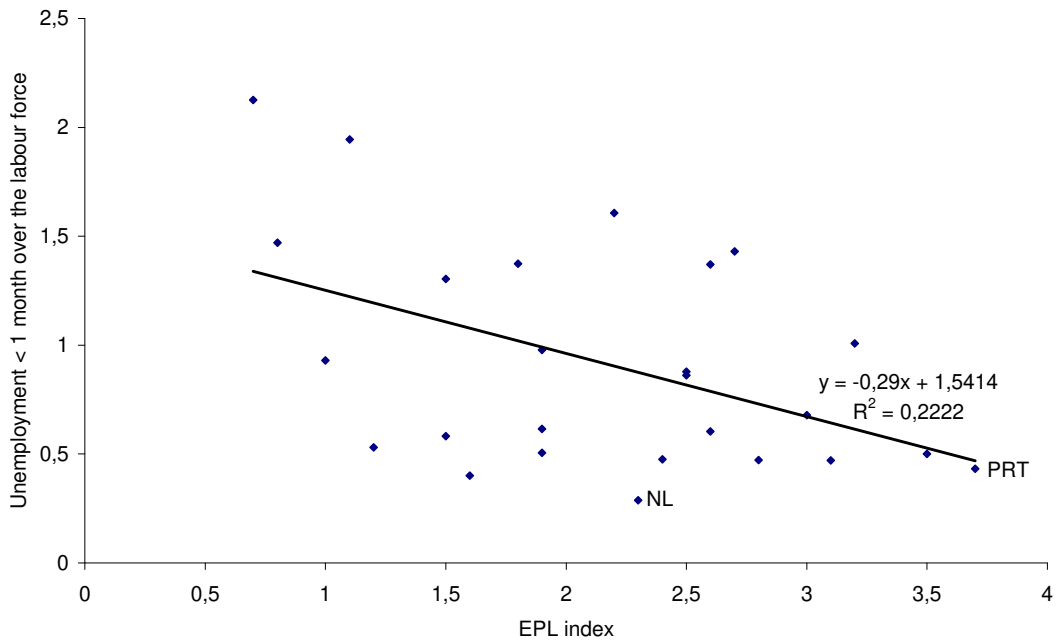
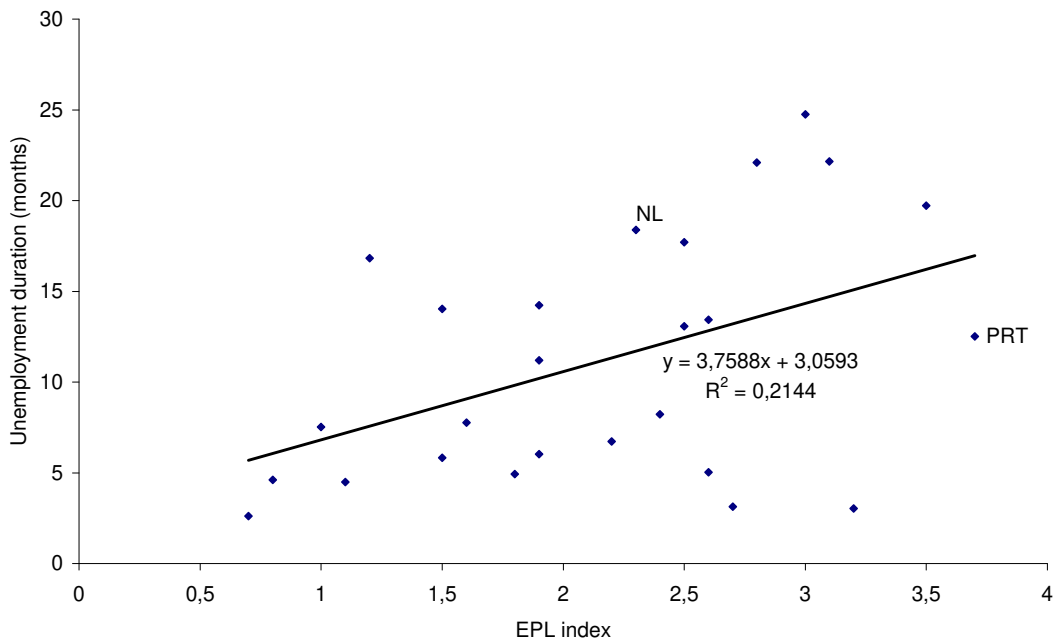


Figure 5.2 Unemployment duration vs. the EPL-index



Source for figures 5.1 and 5.2: OECD (2006).

Table 5.1 Unemployment incidence, unemployment duration and the unemployment rate in The Netherlands, the US and the OECD, 1990-2004

	Incidence	Duration	Unemployment rate	Share of long term unemployment
The Netherlands	0.3	18.4	5.3	41.5
US	2.0	2.6	5.5	9.3
OECD	0.9	10.7	7.6	31.0

Source: OECD (2006).

related stylised facts are presented in figures 5.1 and 5.2. First, higher EPL is associated with a lower incidence of unemployment and second, higher EPL is correlated with longer unemployment durations.⁵⁶ Table 5.1 gives the unemployment rate, the incidence and the average duration (on a monthly basis) for the Netherlands, the United States and the average for the OECD. The table shows that the incidence of unemployment in the Netherlands is below the OECD-average, while the unemployment duration is high in international perspective. The high average duration is also reflected in the relatively high share of long term unemployment in the pool of unemployed. Although the Netherlands scores ‘average’ for the overall indicator in the OECD, the simple univariate relations in figures 5.1 and 5.2 suggest that EPL may play a role in the low flows in the Netherlands. Empirical studies that control for other factors confirm the simple negative relation between flows and EPL suggested by the figures above.

Gómez-Salvador *et al.* (2004) explore the effect of labour market institutions on job flows by way of a cross country study, using a database for 13 countries (1992-2001). The dependent variables are the job creation rate (JC), the job destruction rate (JD) and the sum of the former two, the job reallocation rate (JR). The explanatory variables are the EPL-index of the OECD and variables describing union coordination, benefit duration, the tax wedge, subsidies and the role of temporary contracts. The strictness of EPL has a negative and statistically significant impact on job reallocation. Both job creation and job destruction are lower if the EPL index is higher, but only the coefficient on JC is statistically significant. The coefficient on JD is not. The duration of benefits and the degree of wage setting coordination also have negative effects on JC, JD and JR. Gómez-Salvador *et al.* find an elasticity with respect to a 1% change in EPL-strictness of -0.2 for job creation, -0.1 for job destruction and -0.3 for job reallocation.

According to Wolfers (2005) firing costs are unlikely to hamper the adjustment to permanent shocks (these jobs will be destroyed anyway), but job protection does retard labour allocation when shocks are not persistent. He investigates the effect of EPL on job flows. In particular, he analyses whether a significant effect can be found using quarterly data.⁵⁷ He finds that job protection does significantly reduce seasonal job reallocation. A simulation gives

⁵⁶ Figure 2.1 gives an update for the period 1990-2004 of figures published in Blanchard and Portugal (2001).

⁵⁷ Wolfers (2005) uses quarterly data for 1994 for 14 OECD countries and for 3 sectors: agricultural, industrial, services. The dependent variable is the rate of seasonal reallocation, *i.e.* job flows due to the seasonal cycle. Independent variables are the employment protection measure * industry and the OECD summary measure of employment protection.

insight into the quantitative effects: if Portugal would adopt a US style system of employment protection, the quarterly rates of seasonal reallocation would rise from their current level of 1% to a level of 3%. Wolfers finds an elasticity of job reallocation in response to a 1% change in EPL-strictness of -0.45 .

The effect of EPL has on reallocation may also depend on the macroeconomic conditions. Snower *et al.* (2001) find that during macroeconomic downturns a rise in firing costs mainly affects the hiring decision and not the firing decision, thereby reducing employment. By contrast, in a period of high growth and positive shocks, firing costs raise employment.

Besides the macroeconomic conditions of a country, socio-economic institutions and cultural features of countries may also be of influence. For instance, the rule of law in a country can affect the impact EPL has on the speed of reallocation. Caballero *et al.* (2004) develop a small model in which the speed of adjustment after a shock depends on the level of EPL. They make a distinction between the official and the effective labour market regulation, where the latter both depends on the official labour market regulation and the rule of law in a country. Their dataset contains 60 countries. They find that labour market regulation reduces the adjustment speed of the labour market, especially when a country has a stringent rule of law. Their results imply that in countries with a strong rule of law, moving from the 20th to the 80th percentile in job security reduces the speed of adjustment by about a third and diminishes annual productivity growth by almost 1%. For countries with a weak rule of law these effects are almost zero.

To conclude, in line with simple univariate relations most studies find that higher EPL is associated with lower reallocation. Specific features of countries, like the macroeconomic conditions and the strictness of the rule of law, are also of influence.

That higher EPL leads to less flows may be problematic in itself, the employment prospects of insiders increase at the cost of the employment prospects for outsiders. However, in Section 3 we noted that this may also lead to a further fall in hiring when these lower flows increase 'insider-outsider' effects in wage formation. How strong are these 'insider-outsider' effects in practice? Lindbeck and Snower (2002) give an overview of the international empirical evidence. They state that 'a large number of studies indicate that the long-term unemployed exert considerably less (downward) pressure on real wages than do short-term unemployed'⁵⁸ For the Netherlands, the main reference is Graafland (1990). Graafland finds (for the period 1966-1988) that the insider-outsider model has some empirical relevance for the Netherlands, in the sense that unions attach a higher weight to the interests of employed workers than to the interests of the unemployed.

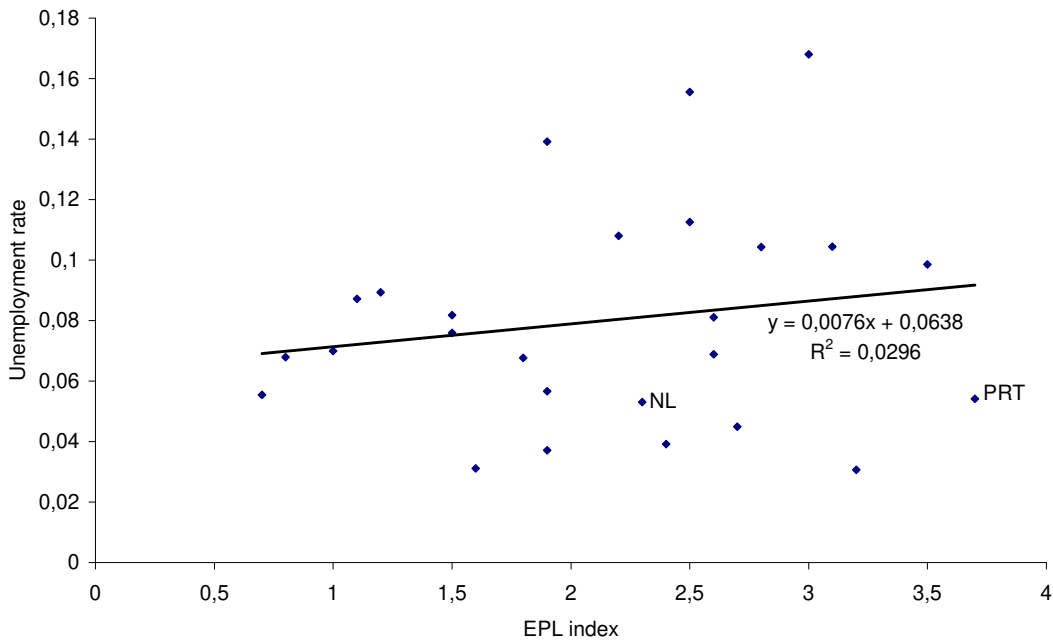
⁵⁸ Lindbeck and Snower (2002), page 34.

However, the study does not find support for the hypothesis that long-term unemployment has less impact on wages than short-term unemployment.⁵⁹

5.2.2 Unemployment, employment and labour supply

Economic theory suggests that the effect of EPL on the unemployment rate is ambiguous, EPL not only decreases firing but also brings down the hiring rate (and potentially labour market participation). Figure 5.3 below indeed shows no significant relationship between the unemployment rate and the EPL-index.

Figure 5.3 The unemployment rate versus the EPL-index



Results from empirical studies that control for other factors still find that the effect of EPL on unemployment is ambiguous (more on this below), although the studies that find a positive relation between EPL and unemployment are more numerous than studies that find the opposite.

One of the first studies with clear-cut findings on the effects of EPL was Lazear (1990). He considers only a few explanatory variables. Indeed, the independent variables include only the amount of severance pay and a quadratic time trend. The severance pay variable is specified as the (statutory) number of months salary given to a blue collar worker at a dismissal after ten years of service. This specification is applied to several dependent variables, like the unemployment rate, the employment/population ratio and the average hours worked by production workers. Data apply to 22 countries for the time period 1956-1984. The results of

⁵⁹ In the regressions of Graafland, the lay off rate (representing the employment perspectives of the employed workers) has a significant negative effect on wages, whereas the rate of short term unemployment (which can be interpreted as representing the employment opportunities of entrants) is not found to have a depressing influence on wages. If the lay off rate is dropped as explanatory variable, the rate of short-term unemployment is found to have a similar effect on wages as long-term unemployment.

the regressions show that severance payments decrease employment and labour supply, while they increase unemployment.⁶⁰ In his preferred estimate, moving from no severance pay to three months of severance pay for employees with ten years of service, the employment-population ratio in the United States decreases by about 1 percent and the unemployment rate rises by 5.5%. Average hours worked falls by 5%.⁶¹

The results in Scarpetta (1996) also give support to the hypothesis that stringent employment protection legislation contributes to high unemployment and long term unemployment.

Di Tella *et al.* (2005) too find clear-cut results, using a new data set based on surveys among businesspeople in 21 OECD countries regarding, among other things, their personal perception of the flexibility of their respective economies. The regressions reveal that employment as well as labour participation is positively related to flexibility. There is some evidence that unemployment is reduced when flexibility increases. The reported effects are large. For example, if France would make its labour market as flexible as that of the U.S., employment would rise by 1.6%.

Heckman and Pagés (2000) also report a drop in employment. They study the effect of EPL using a data set for OECD countries and countries of Latin America and the Caribbean (LAC). The results are robust to different estimation methods. The elasticities they find are quite large: "an increase in expected dismissal costs equivalent to one month of pay is associated with a 1.8 percentage point decline in the employment rate." The effects on unemployment are positive and significant, but only in regressions on separate samples for OECD and LAC countries.

Nickell (1997) finds that EPL reduces short term unemployment but increases long term unemployment (with duration over 1 year)⁶². This is in line with what theory predicts: EPL will reduce the inflow from work into unemployment, while firms will become more cautious about hiring, reducing the flow out of unemployment into work. However, the impact of EPL on the overall unemployment rate found by Nickell is small, as these effects cancel out. Nickell concludes that strict EPL does not appear to have serious implications for the level of unemployment. He does find however that EPL reduces labour supply.⁶³

⁶⁰ Both regressions are carried out using raw data, without including country dummies, as regressions on country means would render the same results. Lazear also does a within-country analysis, although severance pay laws do not change often over time. The results are mixed, but for some countries, as Lazear concludes, 'severance pay can go a long way towards explaining the changes in unemployment over time'.

⁶¹ Conditional on the fact that part-time jobs are exempt from the severance pay legislation.

⁶² Nickell investigates the relations between unemployment and labour market institutions using data for 20 OECD countries for two time periods, 1983-1988 and 1989-1994. Dependent variables of the various regressions are the logs of total unemployment, long-term and short-term unemployment and some labour supply measures. The independent variables, intended to capture key labour market regulations, are an indicator for employment protection, the replacement rate, the unemployment benefit duration, spending on active labour market policy (per unemployed worker as a percentage of GDP per employed worker), the union density percentage, a union coverage index, a bargaining coordination index, the total tax rate and a few control variables.

⁶³ Nickell, however, downplays this result by referring 'culture' as a missing variable. In southern European countries, Nickell suggests, 'culture' could cause low female participation as well as strong EPL, protecting prime age males positions.

In turn, Baker *et al.* (2002) test the robustness of the main results of Nickell (1997). They too conclude that employment protection legislation has no systematic effect, although it does significantly reduce unemployment if the analysis is confined to the 1980-1999 time period. Also Groot *et al.* (2004) find that employment protection does not have a clear impact on the unemployment rate. They do find a negative effect of EPL on employment though, so implicitly they find that EPL reduces labour supply.

Finally, according to the empirical literature overview by Lindbeck and Snower (2002) the insider-outsider theory's prediction that (un)employment persistence increases with the level of labour turnover costs is confirmed by various empirical publications.

Effects for sub-groups

Where the overall effects on total unemployment and employment are not always that clear, there is some evidence of a significant effect for subgroups. In particular, employment of prime-age men is found to be protected by strict EPL at the expense of the employment opportunities of newcomers and women with intermittent spells of non-participation.

Regressions by Lazear (1990) indicate that young workers are likely to bear a disproportionate share of the costs imposed by severance pay, decreasing their employment rate and increasing their unemployment rate. Heckman and Pagés (2000) find that EPL decreases the employment of prime-age men only half as much as it decreases total employment, while the effect of EPL on the employment rate of young workers is almost double the effect on total employment. Nickell (1997) finds that overall labour supply is negatively related to employment protection, but for males aged 25-54 the regressions show no correlation. Scarpetta (1996) finds that the effect of EPL on unemployment is larger for young workers than for the overall population (elasticities of 0.30 for overall unemployment and of 0.79 for the unemployment among young workers). Finally, the analysis in OECD (2004) finds that EPL significantly reduces the employment of prime-age women, while it does not appear to play a significant role for employment of prime-age men.

Complementarities

Many recent studies consider the interaction of EPL with bargaining institutions and other institutional variables. Elmeskov *et al.* (1998, page 224) find that "the positive effect [of EPL] on aggregate unemployment is stronger and statistically significant in countries with an intermediate degree of centralisation/co-ordination, i.e. where sectoral wage bargaining predominates with limited co-ordination." This is consistent with the hypothesis that when insiders have strong bargaining power they are less likely to take a wage cut for higher EPL. Nickell (1997) also concludes that high unionisation combined with collectively bargained wages without coordination between unions and employers in wage bargaining has detrimental effects on unemployment.

Belot and Van Ours (2000) consider policy complementarities, *i.e.* they study interaction effects. The specification without interaction terms suggests that stricter EPL reduces unemployment. However, when including all interaction terms (EPL-index interacted with the tax rate; replacement rate, union density, union coverage and/or the coordination index) they find a positive effect of EPL on unemployment is found. The effect of EPL on unemployment is enhanced by high taxes and union coverage and counteracted by high union coordination. In a more recent study, Belot and Van Ours (2004) include only one interaction variable (EPL-index*centralisation index) and actually find a negative effect of EPL on unemployment.

Baker *et al.* (2004) give a critical assessment of cross-country evidence that rigidities (like high EPL or high unemployment benefits) are a major reason for unemployment in Europe. They find that the evidence is inconclusive. However, one result that emerges from the literature as fairly robust, is that increased use of wage bargaining coordination may allow for lower unemployment without large welfare reductions to workers. They present some simulations based on IMF-regression results. When European levels of social protection (replacement ratio, EPL and labour taxes) are replaced by US levels, European unemployment would fall by 3¼% points. Their results are not robust however, since the inclusion of an interaction term (union density and bargaining coordination) strongly mitigates the effect of adopting the US levels of bargaining coordination. They also present a simulation for the Netherlands. If the Dutch institutional levels were replaced by US levels, unemployment would be reduced by almost 15%. Including the interaction term, however, unemployment would not change, since the reduction in wage bargaining coordination offsets the effect of increased flexibility in other variables. According to an alternative specification, unemployment would even increase. They conclude that the lack of conclusiveness and robustness of cross-country results make them unsuitable for policy makers to base their decisions on.

Blanchard and Portugal (2001) compare the labour markets of Portugal and the US. Both countries have fairly similar unemployment rates, although EPL is stricter in Portugal. Blanchard and Portugal consider three regression models (using data for 19 OECD countries) of worker flows, unemployment duration and the unemployment rate on the OECD EPL-index. They find that an increase in employment protection leads to lower flows into unemployment and higher unemployment durations, while there is no effect on the unemployment rate since these two effects cancel out. This explains why Portugal and the US have similar unemployment rates combined with different levels of EPL. The fact that Spain, having a similar level of EPL as Portugal, faces a much higher level of unemployment is ascribed to differences in union power and unemployment insurance.

5.2.3 A quantitative summary of the effects on employment, unemployment and labour supply

The overview above indicates that some studies find that EPL increases unemployment, but a number of other studies find no or even a negative effect. Most studies that look at interaction effects between EPL and the wage bargaining system find that these matter. To get an idea of

Table 5.2 Elasticities of labour supply, unemployment and employment for a change in EPL

	Labour supply	Total unemployment	Long term unemployment	Total employment	Period	# Countries
Average elasticity (s.d.)	- 0.04 (0.02)	0.13 (0.26)	0.40 (0.35)	- 0.06 (0.04)		
Number of papers	2	13	3	5		
Lazaer (1990)	- 0.03	0.09		- 0.03	1956-'84	22
Scarpetta (1996)		0.30	0.79		1983-'93	17
Nickell and Layard (1997)		- 0.03	0.26	- 0.12	1985-'94	19
Elmeskov <i>et al.</i> (1998)		0.35			1983-'95	19
Belot and Van Ours (2000)		0.61			1960-'95	18
Heckman and Pagés (2000)		0.27		- 0.05	80's,90's	36
Blanchard and Portugal (2001)		- 0.03			1985-'94	19
Baker (2002)		- 0.04			1990-'99	20
IMF (2003)		0.18			1960-'98	20
Belot and Van Ours (2004)		- 0.17			1960-'99	17
Ederveen, Thissen (2004)		- 0.19			1960-'99	21
Groot <i>et al.</i> (2004)		- 0.17		- 0.04	1960-'95	18
Di Tella <i>et al.</i> (2005)	- 0.06	0.48	0.14	- 0.08	1984-'90	21

the quantitative effect of a change in EPL, we have calculated elasticities for a selection⁶⁴ of studies, presented in table 5.1.⁶⁵

The first row of table 5.1 reports the average elasticities for all studies for which elasticities could be calculated. For employment we find an average elasticity of -0.06 . Furthermore, all papers considered report a negative effect on employment. For unemployment we find an average elasticity of $.13$ (on the basis of thirteen studies). This suggests that, for instance, a reduction in the Dutch EPL-index presented by the OECD from 2.3 to 1.8 (a 22% reduction), would reduce the unemployment rate by approximately $.14$ percentage points (evaluated at an unemployment rate of 5%). An EPL-index of 1.8 corresponds to the index of e.g. Denmark. The spread of the elasticities, to both positive and negative values, is however substantial. The standard deviations (in parentheses) the average effect reflect this. If anything, the negative relation between EPL and the employment rate seems more robust than the positive relation between EPL and the unemployment rate.

5.2.4 Productivity

The overall impact of EPL on productivity is also ambiguous in theory. More EPL may reduce productivity because of 'sclerosis' in the production structure, a loss of skills in unemployment, and when employees shirk more. However, more EPL may also promote specific investments

⁶⁴ Elasticities could only be calculated if the sample means of the EPL-variable and of the dependent variable could be extracted from the paper.

⁶⁵ The elasticity is defined in the usual way, *i.e.* the percentage change in the dependent variable as a result of a 1 percent change in de EPL-variable.

and result in more learning-by-doing, which may increase productivity. What is the net effect in practice?

According to Nickell and Layard (1999) 'there seems to be no evidence that either stricter labour standards or employment protection lowers productivity growth rates'. They argue, based on descriptive statistics, that reallocation may not easily be hampered by EPL since firms can reduce employment by about 10% every year just by relying on workers leaving. In addition, they show that levels of job creation and job destruction are not strongly correlated with the level of employment protection. In many countries job creation and destruction are at a level comparable to that in the US, although EPL is much lower in the US. This can be explained, according to Nickell and Layard, by the fact that wages are very flexible at the firm level in the US, which increases job stability *ceteris paribus*. Hence, employment protection and wage flexibility are substitutes in keeping job turnover at a reasonable level. For their empirical analysis, Nickell and Layard use data for 20 OECD countries. As a dependent variable they use the average productivity growth for the period 1976-1992. In some specifications they actually find a positive effect of EPL on the growth rate of labour productivity (the elasticity of productivity growth with respect to 1% stricter EPL is .65 (own calculations)). They also find a positive effect of EPL on total factor productivity, but this effect disappears in other specifications.

On the other hand, Bartelsman and Hinloopen (2005) find that EPL has a significant negative effect on investments in ICT (relative to total investment). They run regressions for the periods 1991-2000 and 1995-2000 using data for 13 OECD countries. They conclude that EPL reduces the incentive for firms to invest in innovative activities, since by increasing hiring and firing costs "the relative market share gains of successful innovators are reduced" (Bartelsman et al., page 25). They conclude that firms in countries with low EPL are more likely to choose more risky investments and thereby more able to push the technological frontier. By contrast, countries with high EPL choose a more gradual and secure path of innovation. In the long run, productivity and output growth probably will not differ that much between these two types of countries, but low EPL-countries may be on a higher productivity path.

The degree of centralisation/coordination in wage bargaining may contribute to the effect that EPL has on productivity growth. Strict EPL makes it more costly for a firm to adjust its workforce through the external labour market. This is even more detrimental if circumstances for adjusting the workforce internally through training are unfavourable. Low coordination in wage bargaining can constitute such unfavourable circumstances, because this implies lower returns on internal training as other firms can poach a firm's skilled workforce by offering higher wages. A change in EPL will only create a direct effect on productivity under the condition that adjustment costs associated with EPL are not offset by an adjustment of wages or the level of internal training. Scarpetta *et al.* (2002) find that strict EPL has a significant negative impact on productivity only in countries with an intermediate degree of centralisation/coordination in wage bargaining (like the Netherlands). They analyse the effects

of institutions on firm productivity and firm dynamics using firm level data for 19 countries, over the period 1984-1998. Their results are as follows. A reduction of EPL by two standard deviations will reduce the multifactor productivity (MFP) gap by about 20 percent over the long run in countries like Belgium, France and Portugal (*i.e.* increasing productivity). However, centralised and coordinated wage bargaining may also influence productivity growth positively, by increasing the rents on the training of low-skilled workers.

Belot *et al.* (2004) suggest that higher firing costs imply a longer return period for specific investments in the match by the firm. On the other hand, higher firing costs raise separation costs, increase the bargaining power of the worker, and thereby raise wages. Formalised in a model, they find a non-linear (hump-shaped) relationship between EPL and GDP-growth. Their empirical analysis, a regression on cross-countries time series data for 1960-1994, confirms this hump-shaped relationship. Only at low levels of employment protection is an increase in EPL-strictness beneficial to GDP-growth. At higher levels such a change slows economic growth. The optimal level of EPL differs over workers, firms and countries, and the positive effects of employment protection are larger in sectors where firm-specific skills matter more.

Finally, above we noted that EPL may also affect productivity by increasing the unemployment duration, which may result in a loss of skills. Is there empirical evidence for such a loss of skills? There is indirect evidence. For the Netherlands Graafland (1990) finds that long term unemployment has not tempered the rise of the vacancy rate (during the period 1983-1987), which suggests that long term unemployed are less effective in matching with a firm. Abbring (1997) finds the presence of negative duration dependence in the transition rate from unemployment insurance to work and Van der Klaauw (2000) negative duration dependence in the transition rate from welfare to work, both for the Netherlands. Skill loss might be a possible explanation.

To conclude, an overall negative or positive effect of EPL does not appear to jump out of the data. Perhaps the most intriguing is the finding by Belot *et al.* (2004), who suggest that EPL enhances productivity at lower levels of EPL, but the effect is reversed at higher levels of EPL.

5.3 Micro studies

There is also a handful of papers that looks at natural experiments with EPL within countries. The findings from these studies are in line with the findings of the cross-country studies. In that EPL reduces reallocation and potentially overall employment.

Bauer (2004) applies a difference-in-difference approach to study the effects of a policy change concerning German dismissal protection legislation. In Germany, firms with less than 5 employees were exempt from dismissal protection in the period before 1996 and also between 1999-2003. In the period 1996-1998 this exemption applied only to firms up to 10 employees. The effect of a change in the coverage of the dismissal protection code is analysed using an administrative data set for firms with less than 30 employees. In contrast with the theoretical

expectations of a significant negative correlation between worker flows and the stringency of dismissal protection, his robust results indicate the absence of such an effect. Boeri and Jimeno-Serrano (2003) also exploit the fact that firms below a certain size-threshold are exempt from the most restrictive EPL rules. They find that workers in regular contracts employed in firms exempt from EPL are more likely to be laid-off, which suggests that EPL reduces the outflow from employment. Micco and Pagés (2004) analyse the difference in the effects of EPL across sectors within a certain country. They argue that EPL is more binding in sectors that are more susceptible to technological and demand shocks. They use data for the manufacturing sector for 18 countries during the 1980s and 1990s. They find that EPL slows down job reallocation and that this effect is stronger in sectors with a higher need for flexibility.

Acemoglu and Angrist (1998) analyse the effects of the Americans With Disabilities Act (ADA), which bans discrimination against the disabled in wage determination, hiring and firing and requires employers to offer a workplace reasonably adapted to the needs of employees with a disability. Since the majority of ADA charges are for wrongful termination, the ADA possibly acts as a form of employment protection. They use data for the period 1988-1997. They find that the ADA had a negative impact on the employment of disabled men and on the employment of women aged 21-39. These employment effects are the result of a negative impact on hiring, not of a reduction in separations.

Experience rating

According to the OECD there is little government endorsed EPL in the US. However, there is a form of employment protection that plays an important role in the US, experience rating. Specifically, firms have to contribute to the UI fund based on their firing experience in the past. On average, about 50 percent of the unemployment benefits in the US are subject to experience rating. The system of experience rating is incomplete because there are minimum and maximum premium levels for individual firms.

Empirical studies for the US suggest that more experience rating reduces unemployment. Feldstein (1978) was one the first who came to this result, exploiting the fact that the incompleteness in experience rating differs between US states. Feldstein calculated that half of the temporary job layoffs in the US are the result of incomplete experience rating. Topel (1983) did a similar exercise and found that about 30 percent of temporary layoffs can be explained by incomplete experience rating, while Anderson and Meyer (1994) can explain only 20 percent. Although the effect seems to fall with more recent studies, they do suggest that there is a sizeable negative impact of experience rating on the firing rate.

The Netherlands does not have experience rating in UI, at least not on the individual firm level. Using estimates for the firing decisions of firms, Alessie and Bloemen (2004) simulate that the introduction of experience rating in UI in the Netherlands⁶⁶ increases employment by 3.3 percent (the impact of insiders' wage reactions is included in this effect). They also find that

⁶⁶ The study assumes premium differentiation based on half of the unemployment expenditures.

the employment gains are larger for older workers who face a relatively high probability of being laid off.⁶⁷ In the Netherlands we do have some experience with experience rating for disability insurance premiums, since the late 1990s. Koning (2004) finds evidence that inflow rates into disability are reduced by 15% for firms that face this financial incentive from experience rating.

5.4 Temporary employment

In many European countries reform of EPL has been largely partial, *i.e.* by liberalising temporary employment. In line with the more liberal stance towards temporary employment, the use of temporary employment has gone up.⁶⁸ In the Netherlands the percentage of temporary jobs increased from about 8% in 1990 to about 15% in 2004. What was the impact of this policy change? Have employment rates risen or fallen, and has this policy change stimulated the development of a dual labour market? We discuss a number of empirical studies that shed some light on these issues.

Booth *et al.* (2002) analyse whether temporary jobs in the United Kingdom are ‘dead end jobs with poor pay and prospects’ or ‘stepping stones to permanent employment in good jobs’. They use the British Household Panel Survey (BHPS) over the period 1991-1997. They find that the young and the old hold a disproportional share of the temporary jobs. They also find that employees in temporary jobs have a lower probability of receiving work-related training compared to employees on permanent contracts. Moreover, temporary workers report lower levels of job satisfaction than permanent workers. On the upside, the fixed term contracts may act as stepping stones to permanent contracts. The transition rate from fixed duration jobs (average duration 3 to 3.5 years) into permanent jobs is about 35%. Starting a career with a number of consecutive fixed term contracts creates a negative wage gap, which however gradually decreases over time, to zero for women after 10 years but some effect remains for men.⁶⁹

Blanchard and Landier (2002) also consider the effect of introducing fixed term contracts. They use data for France over the period 1983-2000, focussing on the 20-24 age group. For this group, the proportion of fixed term contracts increased from 2% to 10% of salaried employment over the period 1983-2000. They find evidence that the partial reform has led to increased job turnover for young people. Moreover, they find no evidence that the increase in fixed term

⁶⁷ Simulations for the US give similar results, see *e.g.* Albrecht and Vroman (1999) as do simulations for a prototypical European labour market in Cahuc and Malherbet (2004).

⁶⁸ Holmlund *et al.* (2002) show that changing macroeconomic conditions have been the driving force behind the rise in temporary work in Sweden, not changes in EPL or workers preferences. In Sweden and Finland, temporary work rose sharply in the 1990s, when these countries experienced a deep recession. In other Nordic countries both the recession and the growth of temporary work were less outspoken.

⁶⁹ Booth *et al.* (2002) suggest that for men a temporary job is a signal of low ability, but for women it is merely a way to clarify their career or location preferences.

contracts has improved the relative welfare of the young. Blanchard and Landier conclude that partial reform is a poor substitute for an across-the-board reduction in EPL.

Dolado *et al.* (2002) show that in Spain the liberalisation of fixed term contracts since 1994 has created a segmented or dual labour market. Following the liberalisation, the percentage of fixed term contracts surged in the second half of the 1980s and remained high (above 30%) in the 1990s. In the 1990s, several attempts have been made to reduce the strictness of EPL for permanent contracts (for example, by relaxing the conditions for 'fair dismissal' and by reducing mandatory firing costs). However, the percentage of fixed term contracts did not come down. As a result unemployment durations have come down and the increased flexibility has contributed to higher employment growth. However, turnover rates have risen as well making the effect on the unemployment rate unclear. Furthermore, investment in human capital has fallen, wage pressure has risen, the distribution of unemployment durations has become more unequal, labour mobility has fallen, fertility rates have fallen (due to increased uncertainty), and the wage dispersion amongst higher educated workers has risen due to the difference in bargaining power between permanent and temporary workers.

A recent study by Zijl (2006) looks at the effects of the partial liberalisation in the Netherlands. Using data for the period 1988-2000 she finds that temporary jobs hardly increase the rate at which individuals obtain permanent contracts (temporary work as a stepping stone). However, temporary employment is found to reduce the duration of unemployment spells. Hence, her results suggest that in a situation with temporary jobs the unemployed have to search just as long for a regular job as in a situation without temporary jobs, but in the meantime they work in temporary jobs rather than being unemployed.

However, for the US, Autor and Houseman (2005) find that temporary help-placements crowd out productive search for direct-hire jobs, and hence may reduce the rate at which individuals gain permanent employment. Based on a policy-experiment in Michigan among low educated welfare-to-work clients, they find that "because the short-term earnings gains from temporary help jobs are offset over time by foregone earnings in direct-hire employment, it appears that temporary help placements primarily serve to displace future direct-hire employment rather than to help workers transition to direct-hire jobs".⁷⁰

Finally, regarding the impact of the business cycle on employment, Saint Paul and Bentolila (1992) analyse the effect of the availability of flexible contracts on the level and the dynamics of employment. They construct a model that predicts that the availability of flexible contracts increases the responsiveness of employment to aggregate shocks. The model is tested with Spanish data, which confirms the increase in the cyclical response of employment due to the availability of flexible contracts.

To summarise, on the positive side, empirical studies show that temporary employment often acts as a stepping stone for regular employment and makes it easier for firms to adjust their

⁷⁰ Autor and Houseman (2005), p. 30.

employment stock in response to shocks. However, on the downside, the increased flexibility also leads to additional turnover and may increase wage dispersion. Indeed, most authors conclude that an across-the-board reform leads to better results than a partial reform.

5.5 Summarising

We conclude with a brief recap of the main findings of Section 5. For the interested reader we also give an overview table with the qualitative findings of all studies, both cross-country and micro level studies, see Table 5.2 below. Furthermore, Box 4 below gives a short overview of how the IMF, OECD and European Commission judge the effects of EPL. The main findings in this section are:

- EPL reduces the flows between employment and unemployment. The impact on these flows depends on country specific conditions, like the state of the economy and the rule of law.
- The overall impact of EPL on unemployment, employment and labour supply is limited. We calculate an average elasticity of unemployment and employment with respect to EPL of .13 respectively -.06. However, the standard deviations are large.
- EPL increases unemployment duration. There is evidence that insider-outsider effects to contribute to unemployment persistence. Increasing unemployment duration may result in a loss of skills, reducing productivity.
- The impact of EPL on employment and unemployment differs between groups. Higher EPL increases the employment rate of prime-age males, but reduces the employment rate of newcomers and women with intermittent spells of non-participation.
- EPL is more likely to raise unemployment with an intermediate degree of centralisation/coordination in wage bargaining.
- The impact of EPL on productivity is unclear. Some studies suggest a negative effect, others a positive. Perhaps the relation is non-linear, with low EPL raising productivity and high EPL lowering productivity.
- Temporary employment often acts as a stepping stone for regular employment and makes it easier for firms to adjust their employment stock in response to shocks. However, they also leads to additional turnover and may increase wage dispersion.

Table 5.3 Summary of empirical findings on the effects of stricter employment protection

	Jobflows	Unemployment	Employment	Productivity growth
Lazaer (1990)		+	0 / -	
Scarpetta (1996)		+		-
Acemoglu (1998)			-	
Elmeskov (1998)		+		
Nickell and Layard (1999) and Nickell (1997)		0 / -		0 / +
Belot and Van Ours (2000)		+		
Heckman and Pagés (2000)		+	-	
Blanchard and Portugal (2001)		0 / -		
Snower (2001)			+ / -	
Baker <i>et al.</i> (2002)		0 / -		
IMF (2003)		+		
Baker <i>et al.</i> (2004)		0 / -		
Belot <i>et al.</i> (2004)				+ / -
Belot and Van Ours (2004)		-		
Caballero (2004)	-			-
Gómez-Salvador (2004)	-			
Groot <i>et al.</i> (2004)		-	-	
Ederveen and Thissen (2004)		-		
Micco <i>et al.</i> (2004)	-			
Bartelsman and Hinlopen (2005)				0 / -
Di Tella (2005)		+	-	
Wolfers (2005)	-			

Box 4 How do the IMF, OECD and European Commission look at EPL? A brief overview

The IMF (2003) suggests there is a direct link between the persistence of high unemployment in continental Europe and the existence of labour market rigidities, although it admits that the empirical evidence is limited due to insufficient data. Simulations with their Global Economy Model suggests that the unemployment rate in the euro area could fall substantially (about 3½ %-points) if the replacement ratio, employment protection and labour tax were brought down to U.S. levels.

The OECD emphasises that both theoretically and empirically, the effect of EPL on aggregate unemployment is ambiguous. Studies do confirm that there is a negative effect on the employment rate of specific groups, like the young and prime-age women, and a positive effect on the employment rate of prime-age men. Differences in the strictness of EPL for regular and temporary work may exacerbate labour market duality, since certain workers (mainly the low-skilled and the young) get trapped in jobs with little opportunities for upgrading their human capital. The OECD states that a reasonable degree of EPL is desirable in order to promote workers' effort and firm specific human capital formation. An optimal policy would combine some EPL with active labour market policies, counteracting the negative effects on firms' hiring decision. The precise balance between the institutions (EPL, ALMPs and unemployment insurance) may differ over countries, depending on their characteristics.

The European Commission stresses that simplicity and transparency of EPL should be increased, by minimising lengthy, costly and uncertain procedures as these procedures imply a deadweight loss without benefiting employees. Furthermore, and in line with the OECD, they recommend a smaller discontinuity between EPL for fixed-term and permanent contracts. Finally, they emphasise that an assessment of EPL should take into account other policies and institutions, like wage bargaining and the unemployment benefit system. For example, lower EPL might be feasible when it is accompanied by increased coverage of an efficient unemployment benefit system. On the other hand, stringent EPL is more worrisome in a situation where it reinforces a high degree of insider-power in wage bargaining.

World Economic Outlook, IMF, 2003; OECD Employment Outlook 2004; European Commission, Economic Papers No.186, 2003.

6 The Dutch case

In the sections above, we considered what is meant by EPL, where the Netherlands stands in terms of EPL internationally, what the effects are in theory, and what we know empirically. Equipped with this knowledge we now focus on the Dutch case. After a brief historical overview of the Dutch system in Section 6.1 we analyse the current Dutch system in more detail in Section 6.2. Subsequently, we consider some potential drawbacks of the current system (Section 6.3) and discuss what we believe to be interesting reform options (Section 6.4). Again we end with a brief summary of the main points, in Section 6.5.

6.1 A brief history of Dutch EPL

Dutch employment protection legislation dates back to the year 1907 in which the Law on the employment contract (*‘Wet op de arbeidsovereenkomst’*) was introduced. For the first time, this law offered (limited) protection to the Dutch worker in the form of a notice period prior to the termination of a permanent contract, which in practice never exceeded more than one week irrespective of the duration of employment (see Nyfer (2000)). The institution charged with the enforcement of this protection was the civil court.

The situation remained unaltered until World War II when the Germans introduced an *ex ante* (preventative) check on dismissals, the procurement of a permit required to terminate the employment contract issued by the government. The Dutch government upheld this procedure in the Special resolution on labour contract (*‘Buitengewoon Besluit Arbeidsverhoudingen’*) introduced in 1944 (amended in 1945).⁷¹ Hence was born the duality in Dutch dismissal law, with two institutions enforcing employment law. A public body offers an *ex ante* check on dismissal, and the courts offer an *ex post* (repressive) check.⁷² A check on the reasonableness of the dismissal by the courts was introduced in 1954. In addition to the introduction of this check, the 1954-revision of the Law on the employment contract extended legal notice periods and established so-called prohibitions of dismissal (*‘opzegverboden’*).⁷³ Initially, infraction on these prohibitions meant that the employer was liable to pay damages, but from 1976 onwards they were sanctioned with nullity. In 1968, the EPL applicable to older employees was tightened⁷⁴ and in 1976, the Law notification of collective dismissals (*‘Wet melding collectief ontslag’*) was

⁷¹ The requirement to gain permission prior to dissolving an employment relation was originally imposed asymmetrically, namely on the employer only. Soon after, it gained a dual target group when it also became applicable to the unilateral termination by an employee. This provision had to be revoked in 1999 however, to ensure the conformity of the Dutch dismissal law with international obligations, specifically the right to free choice of labour as recognized by the ILO treaty numbers 29 and 105 as well as article 1 paragraph 2 of the European Social Charter. See Stichting van de Arbeid (2003)

⁷² In law, the timing of the different checks is sometimes recognized as the primary facet of duality, See Scholtens (2005).

⁷³ In 1954, the dismissal on account of sickness or due to military service was prohibited. From 1971 onwards, membership of the works council (*‘ondernemingsraad’*) protected an employee from dismissal. Dismissals on account of marriage and childbirth or during pregnancy were prohibited in 1976. See van den Heuvel (1996).

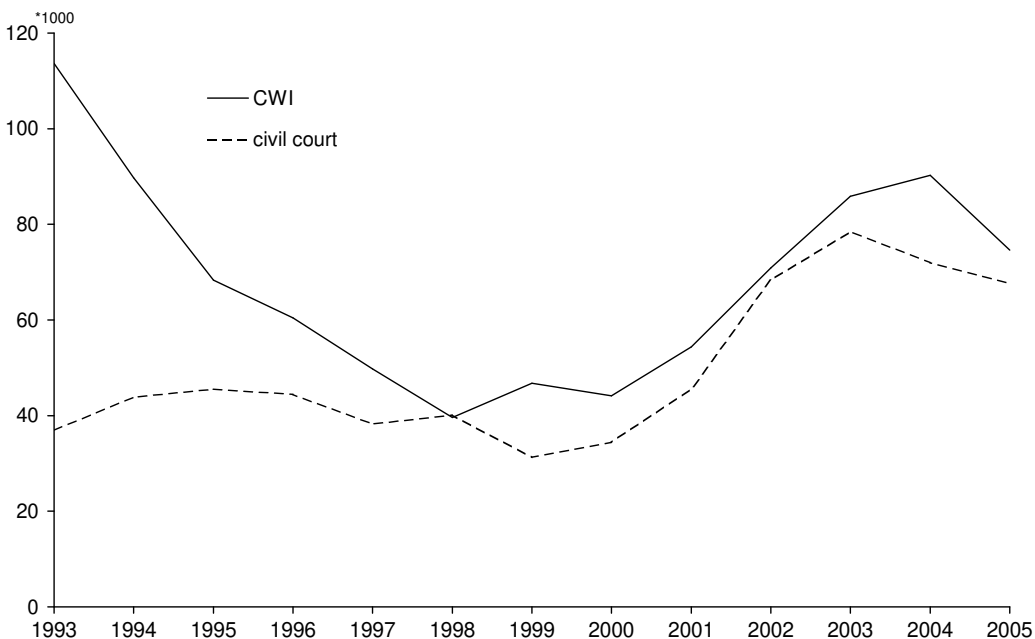
⁷⁴ Van de Heuvel (1996).

introduced (including the so-called LIFO system for collective dismissals).⁷⁵ Since then there have been a number of smaller modifications. In 1980, Dutch EPL was extended with a prohibition on discrimination in dismissals while additionally a form of EPL was introduced for members of parliament.⁷⁶ The year 1999 witnessed some further changes in Dutch EPL with the introduction of the Law flexibility and security (*‘Wet flexibiliteit en zekerheid’*). Among others things, this law made it somewhat easier for firms to use temporary employment contracts, while in return it aims to increase the prospect of a permanent contract for temporary workers.⁷⁷

6.2 The current Dutch dismissal system

The rather unique dual character of the Dutch dismissal system has survived until today. Dutch employers can either go to court to dissolve an employment contract, or they can request permission from a public administrative body (currently the Centre for Work and Income (CWI)). The court route has become increasingly popular during the last decades. As a result, in recent years about half of all dismissals go through court, compared to only 10% in the 1980s, see also Figure 6.1 below.⁷⁸

Figure 6.1 Use of different routes for dismissal



⁷⁵ The Dutch Dismissal Resolution (*‘ontslagbesluit’*) includes the selection-criteria an employer should use in determining which employees are to be dismissed during collective dismissals. They included the so-called last-in-first-out (LIFO) principle (*‘ancienniteitsbeginsel’*) which is applicable to both individual and collective dismissals for economic reasons and the reflection principle (*‘afspiegelingsbeginsel’*) which is applicable to collective dismissals. See Nyfer (2003).

⁷⁶ Nyfer (2000).

⁷⁷ For a more detailed analysis of this law see Nyfer (2000), pp.30-34.

⁷⁸ The OECD takes into account that the court method has become more widely used during the 1990s in the calculation of the OECD EPL-index, by increasing the weight of severance payments and decreasing the weight of procedural inconveniences. However, on balance these shifts had no impact on the overall index.

Before we consider the court and CWI route in more detail, let us first consider the cases in which no dismissal permit is needed. The employer does not need a permit in the case of a summary dismissal (*'ontslag op staande voet'*), when the employee is still in the trial-period or when the dismissal is due to bankruptcy.

When none of the above applies, the firm can choose to go to court to dissolve the contract or to ask for a permit from the CWI. First consider the CWI-route. The CWI grants a dismissal permit when the dismissal meets the criteria of the Dutch Dismissal Resolution (*'Ontslagbesluit'*). First the CWI checks whether the dismissal does not involve any of the groups for which it is forbidden to fire them (see footnote 72). If not, the CWI proceeds and weighs the interests of the employer and employee as well as interests for the society as a whole, according to the rules laid down in the resolution. For example, the CWI takes into account the degree to which employees have a weak position on the labour market. When the CWI decides that a dismissal is not reasonable, no permit is supplied and this decision is binding. However, firms and employees can then turn to court. The employee can also start a procedure on account of 'apparent unreasonable dismissal' at the civil court, but this too is exceptional (about 1 500 cases per year). The CWI-route can be time consuming, but within 6 weeks 70% of the applications is treated. There is a mandatory notice period of 1 month per 5 years of tenure, with a minimum of 1 month (but to compensate for the CWI-procedure 1 month is deducted).⁷⁹ The CWI is not allowed to judge on any possible severance payments. However, the CWI-route does not preclude severance payments, when this is agreed upon in a so-called 'social plan' or some other type of agreement between the firm and the worker. Finally, the CWI-route is particularly popular among small firms. By choosing the CWI-route they do not run the risk of having to pay high damages in case of unfair dismissal (see below), the worst that can happen is that the permit is denied.

The other route to dismissal is via the civil court. They use the so-called ABC-formula to determine a severance payment. where the severance pay is given by A times B times C, where:

- A= the (weighted) tenure length. Years of tenure fulfilled under 40 years of age get weight 1, years worked between 40 - 50 years of age get weight 1.5 and years worked when over 50 years of age get weight 2.
- B= the monthly salary of the employee.
- C= a correction factor. In standard situations C equals 1. The judge can deviate from this because of wrongful behaviour on either part (less than 1 if the worker is to be blamed in part, more if the firing is due to some misbehaviour on the part of the firm).

Once the court has reached its verdict there is no notice period before the dismissal can be executed. The average duration of the civil court procedure for simple cases (80% of all cases)

⁷⁹ The mandatory notice period of the employer can be shortened by collective labour agreement and lengthened by written agreement.

is 11 days,⁸⁰ and for cases with objections⁸¹ it takes between 6 and 8 weeks. There is no mandatory notice period, which is left to the courts discretion. The route through the civil court is usually taken by large firms. It offers a possibility to buy off dismissals that otherwise would not be given a permit for, for example because it (potentially) does not meet the criteria of the Dismissal Resolution ('*Ontslagbesluit*'). No appeal is possible to the verdict of the court.

Table 6.1 gives a rough indication of the total costs of both routes, in 1994.⁸² The civil court route has lower costs in the form of notice periods, but this is only a small cost advantage compared to the higher costs related to solicitors and severance payments. Table 6.2 gives some other characteristics of both routes.

Table 6.1 Average costs of two routes to dismissal in the Netherlands

	CWI-route	Civil Court-route
Costs of the procedure	0	1316 – 1883 euro
Time spell of the procedure	6 weeks	6 weeks
Time spell of the procedure expressed as wage costs	2471 euro	2471 euro
Severance payment	-	16700 euro
Notice period	7.5 weeks	max. 3 weeks
Notice period expressed as wage costs	3355 euro	max. 1236 euro
Total average costs	5826 euro	21722-22289 euro

Source: Hassink *et al.* (1998).

Table 6.2 Characteristics of the two routes in the Dutch dismissal system

	CWI-route	Civil Court-route
Costs (to employer) of procedure	low	high
Uncertainty of outcome	high	low
Binding decision	yes, if no permit is supplied	yes
Mainly used by small / large firms	small/medium sized firms	large firms
Channel for collective dismissals	yes	no
Severance pay	no	yes
Notice period	long	short
Preventive judgement for unemployment benefit eligibility	yes	no

Finally, the employer and employee can always terminate the employment relationship without any permit. However, if the worker quits he or she loses the entitlement to unemployment insurance benefits. One way around this is the so-called 'big lie' in Dutch dismissal law. The employer and the employee have already come to an agreement on the termination of the employment relation. The employer and the employee then ask the CWI or the court for a pre-

⁸⁰ But this includes the *pro forma* cases to ensure entry into unemployment insurance, see below.

⁸¹ In Dutch: 'geregelde zaken' (*pro forma*) and 'zaken op tegenspraak'.

⁸² Excluding costs for *e.g.* filling out forms and collecting 'evidence' (like statements by witnesses).

emptive irreproachability check to show that the employee has resisted his or her dismissal and is granted access to unemployment insurance. Recent policy proposals aim to reduce the 'wasteful' *pro forma* procedures, the employee does not have to resist being fired anymore if he or she want to enter UI (but can still not quit), see below.

Debate on the dual system

Opinions differ on the Dutch dual system. In November 2000, the Advisory Committee on the Dual Dismissal System (the 'Rood committee'), published a report in which it assessed the Dutch 'dual system'. The committee was established by the government to study alternatives after several attempts to reforms the dismissal system had failed. The Rood committee called for abolition of the dual system and expressed a preference for a system in which dismissal decisions would only be tested by a civil court in retrospect. The current pre-emptive check would be replaced by a legally prescribed hearing procedure organised within the company. The committee argued that the proposed system was more transparent, more in line with the systems in other European countries and that it would rule out inappropriate government intervention in the relationship between employer and employee.

The bipartite Labour Foundation (STAR), which represents employer organisations as well as labour unions, disagreed with the views of the Rood committee. In its report, published in 2003, the STAR argued that the practical advantages of the current 'low-threshold' of the CWI-route, the in their view relatively inexpensive, swift and very predictable procedures are more important than principles on the role of the government. Another drawback of the Rood proposal, according to the STAR, is that the check for reasonable grounds for dismissal would no longer precede the actual dismissal. This would lengthen the period of uncertainty for both employers and employees. Finally, the STAR also expressed concerns about the degree of protection for groups with a relatively weak labour market position.

Recent policy proposals/changes

To limit the *pro forma* pre-emptive checks, the government has recently implemented some policy changes. The policy change implies that if an employee does not resist a planned dismissal, he or she can no longer be accused of being blamefully unemployed and hence can enter UI. This change of the unemployment law has come into force in October 2006.⁸³

Another issue is the use of the LIFO-system for business-economical dismissals, which in general gives preferential treatment to older employees at the expense of younger workers or workers with shorter job tenures. In January 2006, the government has implemented a measure which states that in case of a dismissal on business-economics grounds, the employer is required to use a different system in selecting candidates for dismissal. Instead of the 'LIFO-system', employers must now apply the so-called 'reflection principle'. In the latter system,

⁸³ Staatsblad 304, 29 juni 2006.

employees in similar jobs are categorised in age-groups, and subsequently the LIFO-principle is applied to each of these age groups.

Finally, as of March 2006, the check on the business-economic necessity of collective dismissals undertaken by the CWI is eliminated in situations where the employer and the relevant unions have already reached agreement on this necessity.⁸⁴

6.3 Evaluation of the current Dutch system

Above, we already mentioned some potential pitfalls of the current system and how recent policy changes/proposals try to overcome some of the shortcomings of the current system, in this section we look for potential drawbacks in two systematic ways. First, in Section 6.3.1 we look at where the Dutch employment protection system stands out from an international perspective, and what the theoretical and empirical literature suggest about the effect of this deviation. In Section 6.3.2 we take another approach, and analyse what role EPL has to play in the Dutch setting, and whether and how the current Dutch system plays this role.

6.3.1 Where does the Netherlands stand out and what are the associated effects?

The analysis in Section 2 and Section 5 suggests that the Netherlands stands out in terms of:

- Overall employment protection is not exceptional and neither is the unemployment rate.
- However, employment protection for permanent jobs is relatively strict and the protection/regulation of temporary jobs is relatively lenient.
- The strict EPL for permanent jobs is partly due to high severance payments for long tenures, high procedural inconveniences and a ‘difficulty of dismissal’ that is somewhat above average.
- The flow rates between employment and unemployment are very low.

Strict EPL for permanent contracts (combined with the relatively long duration of unemployment benefits (see Section 2)) contributes to the low flows into and out of unemployment. The overall effect on employment is probably limited. However, the empirical studies also suggest that newcomers and women are more likely to see their employment opportunities reduced. Strict EPL for permanent contracts may then put a drag on employment growth, with the rise in the share of non-natives (and their siblings) in the Dutch labour force and the rise in female labour supply. Furthermore, the lower flows may lead to a loss of skills in unemployment and may put upward pressure on wages, in particular in a country with high but incomplete bargaining coordination in wage setting.

But as noted above, there is also a flexible side to Dutch EPL. Following the deregulation of temporary work, the Netherlands has witnessed a strong rise in the use of temporary work. Currently, about 15 percent of total employment is in the form of temporary work (which is

⁸⁴ *Id.*, p.48.

actually not that different from the average for the euro-area). As noted above, temporary work may make things better, when they act as stepping stones for regular employment and provide additional competition for workers on regular contracts. However, the temporary jobs may also turn out to be dead end jobs, and act as a buffer for regular workers who may then push for higher wages. For the Netherlands, the impact of temporary work seems to be not particularly good or bad. A recent study by Zijl *et al.* (2006) suggests that temporary work does not act as a stepping stone for regular employment. However, temporary work does improve the employment rate, reducing unemployment durations.

A related issue is whether the current distribution of workers over temporary and regular jobs reflects the preferences of workers for different types of contracts, or is merely the result of ‘insider-outsider’ dynamics. Wage-differentials between temporary and regular jobs may be informative in this respect. Assuming that workers are risk averse, one would expect that temporary contracts pay higher wages to comparable workers than regular contracts. A negative wage differential for temporary versus regular contracts may, on the other hand, be an indication of insider-power in wage bargaining. Zijl (2006) states that in general, according to the literature, a negative wage differential is found for temporary contracts versus regular workers, adjusted for workers characteristics.⁸⁵ An empirical analysis for the Netherlands indicates a negative wage differential for fixed term contracts. Zijl (2006) attributes this wage differential to two opposing factors. On the one hand, there is a wage penalty for ‘quality uncertainty’ associated with temporary workers (an employer who is uncertain about a workers ability is willing to pay him less). On the other hand, a wage premium is paid to temporary workers because they are taking over the ‘quantity uncertainty’ originating from imperfect foresight in future product demand. Zijl (2006) concludes that the first effect dominates. However, another explanation might still be that this is the result of insider-outsider effects. Finally, although the studies by Zijl *et al.* suggest that the deregulation of temporary work may not have been that negative or actually positive for the Netherlands, most authors still suggest that reducing EPL for regular contracts is preferable to such a ‘partial reform’.

One way to reduce the protection for regular contracts would be to limit the severance pay for very long tenures; these are particularly high in the Netherlands according to the OECD. The protection of workers with long tenures is further enhanced by the LIFO-principle (recently there has been some relaxation of this principle by introducing LIFO within cohorts of tenure, see Section 6.2) and by the fact that the job market prospects of workers are also taken into account (which may be relatively poor for workers with long tenures). The strong protection of workers with long tenures may be particularly problematic in the Dutch setting, where union density is low but coverage is high due to the extension of the collective labour agreement to the whole sector. In this way, a small group of older workers protected by relatively strict EPL may set the rules for all workers in the sector. Another way to reduce the protection for regular contracts would be to limit the ‘procedural inconveniences’. According to the OECD, the

⁸⁵ Zijl (2006, Chapter 4).

Netherlands is number 1 when it comes to reducing procedural inconveniences. One reason why the Netherlands is number 1 is the relatively long notice period for firms requesting permission for dismissal from the labour authority (CWI).⁸⁶ ‘Difficulty of dismissal’ is slightly higher than the OECD-average (the index amounts to 3.3 for The Netherlands against 3.0 for the OECD average). This is due to the relatively strict rules for justified or unfair dismissal by international comparison⁸⁷ and because trial periods (before a worker becomes eligible for employment protection) are relatively short in the Netherlands.⁸⁸

6.3.2 Pros and cons of EPL in the Dutch setting

Another way to evaluate the Dutch system is to consider what role EPL has to play in the Dutch setting. Specifically, we consider how relevant the channels in the good, the bad and the ugly of EPL are for the Dutch case.

First, consider the relevance of the good sides of EPL for the Netherlands. EPL may provide income insurance in case of job loss. This is a potential motivation for the notice periods included in the CWI route and the severance pay in the civil court route. However, one may wonder how large the insurance gains are in a country like the Netherlands. Unemployment benefit levels are relatively high and of relatively long duration. Also, the steep rise in female participation has made households less dependent on the income of one of the partners.⁸⁹ Furthermore, real incomes of workers have been rising and capital market imperfections have probably become smaller, making it less costly for workers to deal with the risk of job loss privately. Hence, one may question the need for EPL as insurance in the Netherlands, and if there is a need, it is probably falling over time.

Another way to motivate EPL is the presence of externalities. In particular, individual employers and employees do not take into account the rise in unemployment insurance premiums and the fall in the tax base when a worker is fired. As both unemployment insurance levels and tax rates are relatively high, this seems particularly relevant for the Netherlands. A firing tax seems a cost-effective way to internalise these fiscal externalities. In the Netherlands, excessive inflows into unemployment insurance are reduced to some extent by procedures that check whether a dismissal is ‘justified’, *i.e.* based on business conditions and on past worker and firm behaviour. However, many authors question whether the benefits of involving third parties like the CWI or civil courts are sufficient to motivate the associated costs (see *e.g.*

⁸⁶ However, ‘every disadvantage has its advantage’ (a famous quote from Johan Cruijff), workers get a longer notice period and these inconveniences may also reduce the inflow into unemployment insurance.

⁸⁷ For this sub index on “Definition of justified or unfair dismissal” The Netherlands scores 1.5, corresponding to a position in between sub index=1 (“when social considerations, age or job tenure must when possible influence the choice of which worker(s) to dismiss”) and sub index=2 (“when a transfer and/or a retraining to adapt the worker to different work must be attempted prior to dismissal”). The most flexible option (sub index=0) refers to a situation “when worker capability or redundancy of the job are adequate and sufficient ground for dismissal”. The ‘reflection principle’ gets a score of 1.

⁸⁸ The possibility of reinstatement of workers into their previous job, after dismissal is found to be unfair, is limited though.

⁸⁹ See also Bovenberg (2005).

Pissarides (2001) and Blanchard and Tirole (2004)). Indeed, a system of firing taxes (perhaps combined with some notice period and severance pay) may be a more cost-effective way to internalise the externalities.

Finally, there may be an indirect gain from EPL if it leads to more specific investments. However, little is known internationally on their share in productivity and the return to an additional unit of specific investment, let alone in the Netherlands. Furthermore, if there is a gain in terms of more specific investments, the gains should be large enough to counteract the ‘sclerosis’ effect on productivity. Indeed, EPL may not be the optimal way to deal with underinvestment in match specific skills as mitigating the contractibility problem directly may be a more interesting policy option.

On the downside, EPL may reduce the speed at which individuals flow to their most productive match. To the extent that technology adoption and perhaps also the increased heterogeneity in match specific productivities have become more important over time, the cost of EPL in terms of ‘sclerosis’ is increasing over time (as suggested by *e.g.* Ljungqvist and Sargent (1997)).

Also on the downside, there is a risk of additional wage pressure from EPL, in particular in a country like the Netherlands where union density is relatively low but the influence of the union is large because a collective agreement applies to all workers in the sector. Hence, there is a risk that a small group of insiders, *i.e.* union members with long tenures protected by relatively strict EPL, may use their strong bargaining position due to EPL to demand high wages.

Finally, turning to the ‘ugly’, the empirical studies teach us that even though the overall effect on employment may be ambiguous, the effects for subgroups are more clear. EPL increases the employment rates of prime-age male workers, but reduces the employment rate of newcomers like immigrants, and of persons with intermittent spells of non-participation like women. As noted above, the inflow of immigrants and the rise in female participation rates over the past decades may have shifted the balance towards less EPL. Furthermore, the flows in- and out unemployment are very low, which makes EPL rather costly in terms of further reducing the employment opportunities of the unemployed.

6.4 Reform options for Dutch EPL

Above we have highlighted some potential drawbacks of the current Dutch system, and considered the relevance of the pros and cons of EPL in the Dutch case. We conclude with a qualitative analysis of three broad directions for reform. In the first reform option we consider the case for reducing employment protection for permanent contracts. In the second reform option we consider the case for replacing procedures by financial incentives. Finally, in the third reform option we consider the case for more differentiation and decentralisation of EPL.

6.4.1 Reducing differences

As noted above, reform of the EPL system in the Netherlands has, as in most other European OECD countries, been mainly partial. Many authors suggest that more gains are to be had by reducing employment protection for permanent contracts. An extreme version is that the government restricts employment protection legislation to a small number of easily identifiable groups like employees on sick leave, pregnant women and union members, and no longer mandates employment protection for other workers. Furthermore, assume that this also removes the basis for the severance pay claims in civil courts (if this is not the case, the government could curb these payments directly by legislation/regulation). More limited reforms are also conceivable, *e.g.* reducing notice periods, but these would typically imply a scaled-down version of the effects of the reform we consider here and would require a careful analysis of all details. Here we are more interested in the qualitative impact of reducing EPL for permanent contracts. We note that even if there is basically no government-endorsed EPL, this will probably not be the end of employment protection for Dutch workers though. Indeed, many contracts in countries like the US and Japan, where there is little legislated employment protection, contain privately negotiated severance pay and/or notice periods, see *e.g.* OECD (1999, 2004). But still, employment protection is likely to fall substantially even if part of it might be ‘repaired’ in individual (or collective labour) agreements.

What are the effects of lowering employment protection for regular jobs? A robust empirical finding is that a reduction in EPL increases the flows into and out of employment. As a result, the chances for employment will be more evenly distributed over insiders and outsiders. This may be particularly beneficial for prime-age women with intermittent spells of non-participation and newcomers like young job seekers and immigrants. These groups may also increase their labour supply. Furthermore, the flow rates between employment and unemployment are so low in the Netherlands, that the difference in discounted lifetime utility between employed and unemployed workers is particularly high (think of the difference between an employed and an unemployed worker in his fifties in the Netherlands). Also, given the high duration of unemployment, increasing flows may help to mitigate a loss of skills and ‘insider-outsider’ forces in wage formation, increasing the matching of workers to jobs and increasing the effective competition for jobs by the unemployed.

The net effect on total employment is ambiguous, but a more positive effect may result when the reduction in EPL for permanent contracts causes wage moderation due to the diminished bargaining power of insiders. When employment rises and unemployment falls, there are gains in tax receipts and savings on unemployment benefits. Furthermore, not only the government, but also firms and workers may benefit from a fall in the administrative costs of EPL.

The effect on productivity is not clear beforehand. On the one hand, workers are more likely to flow to positions with better technologies or firms that have more promising (product) demand prospects. Furthermore, the matching of workers’ skills to job requirements will

improve. Also, when EPL reduces shirking, productivity may rise (and wages may fall). On the other hand, employers and employees may invest less in specific knowledge because job durations will fall, and learning-by-doing may fall due to reduced job durations. When there is substantial underinvestment in specific skills/knowledge and/or learning-by-doing is important, productivity may fall. However, when reallocation is important for productivity, productivity may rise. There is little empirical knowledge about the effect on productivity (though the simulation studies suggest it would rise if EPL falls). However, if we believe that reallocation is becoming more important for productivity growth (as suggested by *e.g.* Ljunqvist and Sargent (1997)), the optimal level of EPL is probably falling over time.

Apart from a potential loss in productivity, there are some other potential pitfalls. First, insofar as notice periods and severance pay act as additional insurance against job loss, lowering EPL will reduce the insurance for workers against job loss. However, as noted in above, unemployment insurance (and active labour market policies) also provide insurance in case of a separation. Furthermore, individuals can 'self-insure' via the capital market or a working spouse, again limiting the insurance loss from less EPL. Furthermore, the studies suggest that unemployment durations will fall, this too limits the utility loss associated with less EPL for workers.

When it comes to EPL reform, in particular of permanent contracts, one group of workers deserves special consideration: older workers. Indeed, the job finding rate of older worker is relatively low. Hence, they may suffer from less EPL. However, part of the problem behind the low job finding rate of older workers may be the strict EPL they enjoy. The strict EPL for older workers with long tenures makes it possible for them to receive high wages relative to their productivity, and the same holds for the relatively long potential unemployment insurance duration for workers with long tenures. Strict EPL and generous UI are perhaps not the only reason why wages for older workers are relatively high (another good reason may be to motivate workers when they are young (see *e.g.* Lazear (1995))). However, insofar as they do contribute to the relatively high wages of older workers, a fall in their EPL may result in lower wages. This will reduce the firing and increase the hiring of older workers. Furthermore, when workers know that there will be less EPL for them when they are old they may engage in behaviour that reduces the chances of being fired, *e.g.* by maintaining their human capital or by switching to a more productive job before the current job becomes unproductive. Because the current older workers could not anticipate the policy change, it could be preferable to introduce less EPL for longer tenures for new cohorts only or to at least have a separate treatment of the current generation of older workers. Finally, regarding the timing, the transition phase in which older workers may have to look for alternative employment may become more costly over time, due to the ageing of the working population. Hence, it may preferable to reform sooner rather than later. Also, one has to consider lower EPL for older workers in combination with other institutions like unemployment insurance, *i.e.* with more reallocation for older workers, one

might want to reconsider the relation between the duration of unemployment benefits and tenure.

6.4.2 Replacing procedures by financial incentives

The Dutch system of employment protection depends heavily on CWI and civil court procedures. An important function of these procedures seems to be the reduction of the inflow into social security. However, the costs in terms of resources for firms (they have to make a case at the CWI or the civil court which may be a costly and lengthy process) and for the government (*e.g.* CWI employees and costly hours of the judicial process) seem substantial. Rather than using costly CWI or court procedures, one could also bring the societal costs into the individual firing decision by introducing a firing tax (there is an analogy with the economics of pollution, where optimal behaviour can be induced by costly regulation or by 'simply' pricing the externality). Like current procedures, the firing tax could take into account the differences in the social costs of dismissals of different (groups of) individuals, as well as any possible additional costs in the case of massive layoffs. One could think of a lower firing tax for young workers than for older workers (provided this does not result in excessive wage claims, see above). In general the firing taxes could depend on other characteristics related to the expected unemployment spell. As far as it is cost effective, one can also take into account the efforts put in by the employer to limit the welfare costs of the dismissal, for example by providing training opportunities to workers. Furthermore, one could let the firing tax depend on firm size, so that small firms with positive discounted value but facing credit constraints do not go bankrupt in an economic downswing. Also, to prevent firms from getting into financial trouble due to the firing tax, one could allow firms to pay the tax over a number of periods (as in the American system of experience rating of unemployment insurance premiums).

Two further design issues are whether the firm should pay a firing tax in all cases and if there is still a role for court or other procedures (see also Blanchard and Tirole (2003)). Typically, we would not like to impose a firing tax on the firm when the worker quits, as long as it is voluntary. When a worker quits for another job the separation has little or no external effects (via tax receipts and/or social security expenditures), hence there is no need for a firing tax. When a worker quits to non-employment and forgoes his or her UI or welfare benefits entitlements again it seems largely unnecessary to levy a firing tax, though one still might want to levy some tax on the worker or the firm because of the fall in the tax base (in general we would like non-participants to pay taxes so as to reduce the participation distortion, but this seems infeasible in practice). In this case there might be a role for the courts. When the worker files a complaint the court has to make sure that the quit did not result from harassment by the firm so as to circumvent the firing tax. Finally, when the separation is the result of bad behaviour on the part of the worker one might also not want to impose a firing tax. When the worker is fired because of criminal behaviour he or she loses the UI or welfare benefits entitlement (though again we still might want to levy a firing tax on the worker due to the fall in

the tax base). Also when the worker is caught shirking (an x number of times) and shirking workers lose the entitlement to UI and welfare benefits, the firm does not need to pay a firing tax. In this case the firm would have to show to the court that the worker was indeed shirking, and the legislator has to be clear on the evidence the firm has to be able to show to 'prove' shirking.

What changes for employees, employers and the government when we move from regulation to pricing of dismissals? For employees of employers who originally would choose the CWI route in the current system, replacing procedural inconveniences by a firing tax will not make much of a difference, the firing tax can give a comparable amount of protection. For employees of employers who choose the civil court route in the current system, it will make a difference because they lose their entitlement to severance pay. However, they too are now 'protected' against excessive dismissal by means of the firing tax. The insurance against the income loss is provided by UI or welfare benefits (or other channels like the working hours of a partner). The government gains due to the savings on costly CWI and court procedures. However, firms and employees may also benefit from this. The firing tax is not a cost to society. Indeed, the receipts can be used to reduce premiums for UI and welfare benefits, which would reduce labour costs or raise net wages.

A potential drawback of replacing procedures by taxes seems to be the loss of tailor made procedures. Indeed, current procedures may be more tailored to specific situations. However, on the other hand, there may be an additional gain if clear firing tax rules replace somewhat uncertain procedures in which firms and workers are not certain of the outcome *ex ante*.

6.4.3 Differentiation and decentralisation

Individuals have increasingly heterogeneous (working) lives. Jobs have become more heterogeneous and an increasing number of individuals has more than one career and/or has multiple jobs. A third direction for reform is to allow for more differentiation and decentralisation of employment protection. In particular, employers and workers would get some room to set the level of employment protection in labour contracts. This could be done at the individual level but also via *e.g.* collective labour agreements. In this way, sectors or firms for which *e.g.* specific investments are important could opt for more employment protection, while sectors in which specific investments are less important could opt for less employment protection. Another way to motivate further differentiation and decentralisation is differences in risk aversion. For example, younger cohorts or workers with high ability may be less in need of insurance via *e.g.* EPL. Allowing for more differentiation in EPL may then increase welfare.

Another interesting aspect of further decentralisation is that firms and workers can agree on EPL as part of a broader package, with explicit agreements on EPL and related aspects like *e.g.* schooling and performance-related pay. Moreover, the decentralised parties may opt for more transparent rules. There would still be a role for the government, but this would be mainly to oversee that privately negotiated EPL is effectuated. Furthermore, there could still be a role for

the government to stimulate a market for contracts (see *e.g.* MacLeod (2005)), so that firms and workers do not have to ‘reinvent the wheel’ when it comes to setting the contract but can ‘simply’ pick the optimal contract for their specific case. Furthermore, workers and firms would be allowed to design temporary and permanent contracts the way they prefer. By fine-tuning labour contracts, the dichotomy between regular and temporary contracts could be reduced.

Again, there are a number of potential drawbacks. When we allow for more differentiation and decentralisation, adverse selection may become (more of) a problem. Firms offering more EPL will attract less productive workers. As a result, firms and workers may be caught in a situation where it is optimal to choose too little EPL, see also Section 3. Whether this is empirically relevant remains an open question, but we do observe EPL in private contracts. It may be more relevant for sectors with substantial heterogeneity in worker productivity. In this case a governmentally set level of EPL may help. However, this comes at the cost of less differentiation, and requires a lot of information on the part of the government. Furthermore, insider power may be a reason for the government to limit the extent to which firms and workers can agree on EPL. The ‘winners’ of EPL may try to bargain for excessive EPL for their personal gain. Also, some firms (and workers) may seek to reduce EPL for *e.g.* older workers, resulting in excessive inflows into social security. As noted above, to internalise these externalities the government has to step in.

6.5 Summarising

We conclude with an overview of the main points of Section 6:

- The dual system of employment protection, firms can choose to go to either a public administrative body (the CWI) or to a court for a dismissal, has survived for many decades. However, some things have changed. In the last 20 years we have witnessed the rise of temporary contracts, and an increased use of the court route for dismissal. Currently, the route via the court is about as popular as the route via the CWI. The latter is time consuming but there is no mandated severance pay, the former is swift but typically entails severance pay. Smaller firms often take the CWI route, large firms often take the route via the court.
- Apart from its dual character, the Dutch system stands out in a number of respects which has a number of consequences. First, EPL for permanent contracts is rather strict. This reduces the flows on the labour market, which are particularly low for the Netherlands. Furthermore, newcomers like immigrants and women with intermittent spells of non-participation are likely to suffer in terms of reduced employment opportunities. These groups are becoming more important in the labour force.
- The protection of older workers with long tenures is particularly high in the Netherlands. They receive a lot of severance pay in the case of a dismissal through the court, and also are less likely to be fired in the case of a mass layoff. This may push up wage demands by unions.

Union density is low but coverage is high, and most of the members of the union are older workers with longer tenures.

- The Netherlands is 'Number 1' when it comes to procedural inconveniences related to dismissal, according to the OECD. However, some recent policy proposals aim to reduce the administrative burden.
- There is also a flexible side to Dutch EPL, the regulation for temporary contracts is limited in the Netherlands, and they have become increasingly popular. A recent study on Dutch data suggests that the rise in temporary contracts has reduced unemployment durations, but has not increased the speed at which workers obtain a permanent contract.
- There are a number of trends that seem to work in the direction of reducing the insurance gains of EPL, like rising female participation and rising incomes/asset holdings by workers. Furthermore, insofar as reallocation is becoming more important, due to *e.g.* faster embodied technological change, EPL may put more of a drag on economic growth than in the past. However, the role of EPL in internalising the social costs of dismissal remain particularly important for the Netherlands, as unemployment insurance remains rather generous (in terms of the maximum duration) and taxes on labour are substantial.
- We conclude with 3 reform options:
 1. Reducing employment protection for regular contracts. This will increase the rather low flows between employment and unemployment. Furthermore, it may lead to a rise in overall employment, in particular for newcomers and women whose share in the labour force is increasing.
 2. Replacing procedures by financial incentives. EPL is now largely regulated directly by the government. Simply pricing the perceived 'externalities' may be a more cost effective way to organise EPL.
 3. Further differentiation and decentralisation allows different sectors and groups of workers to tailor the working conditions to their specific preferences.

7 Concluding remarks

International institutions call for reducing employment protection. However, a large part of the general public does not support this. Our review suggests that this opposition may not simply be rent seeking by overprotected insiders, and the ones that strongly advocate reform or strongly oppose it are merely expressing their priors. Still, some findings are robust, like EPL reducing the flows between employment and unemployment. Furthermore, by going back to the functions of EPL and using the findings on EPL we can still come to a number of interesting reform options.

However, most research raises more questions than it answers, and this paper is no exception. A big step forward has been made in theoretical work, where EPL is now sometimes analysed in a setup where it has some role to play. However, even these papers still have a number of important drawbacks. Market failures are typically simply assumed. Furthermore, the papers often bypass potential political economy problems. Also, the analysis is typically more *ceteris paribus* than we would like, *e.g.* unemployment insurance is typically exogenous. In particular, what is the optimal structure of EPL and social security for older workers?

Regarding empirics, at the end of the day we still have little empirical knowledge on the impact of EPL. We have some idea about the impact on labour market flows, and the overall impact on employment and unemployment. However, this knowledge stems mostly from cross-country studies that potentially suffer from a number of serious limitations. Next to the ‘usual’ limitations of cross-country studies we mention the subjective character of the OECD index and the lumping together of different types of EPL (*e.g.* firing costs and severance pay). Also, studies suggest that deregulating temporary contracts may have a different effect than reducing EPL for regular contracts. Using the overall OECD indicator imposes the same effect. To make more definite statements on the impact of EPL we need more studies on data at lower aggregation levels. Our current knowledge on the effect of EPL on productivity, let alone any resulting insurance gains or overall welfare is very limited.

Finally, regarding the reform options for the Dutch system we derive, these remain rather abstract. It would be interesting to work out some reform options in detail in the Dutch context and explore the associated quantitative effects.

The items above are on our research agenda, but we hope that our analysis also inspires others to join the continued discussion of how to improve our EPL system and to analyse the trade-offs associated with different setups.

References

- Abbring, J.H., 1997, *Essays in Labour Economics*, Tinbergen Institute Research Series, No. 172, Tinbergen Institute, Amsterdam.
- Acemoglu, D. and J. Angrist, 2001, Consequences of Employment Protection? The Case of the Americans with Disabilities Act, *Journal of Political Economy*, Vol. 109, No. 5, pp. 915-57.
- Acemoglu, D. and R. Shimer, 1999, Productivity Gains from Unemployment Insurance, *Journal of Political Economy*, Vol. 107, pp. 893-28.
- Addison, J. and P. Teixeira, 2003, The Economics of Employment Protection, *Journal of Labor Research*, Vol. 24, pp. 85-129.
- Aghion, P. and P. Howitt, 1998, *Endogenous Growth Theory*, MIT Press, Cambridge, MA.
- Albrecht, J.W. and S. Vroman, 1999, Unemployment Compensation Finance and Efficiency Wages, *Journal of Labor Economics*, vol. 17, No. 1, pp.141-67.
- Alessie, R.J.M. and H.G. Bloemen, 2004, Premium differentiation in Unemployment Insurance system and the demand for labour, *Journal of Population Economics*, vol. 17, No. 4, pp.729-65.
- Alonso-Borrego, C., J. Fernández-Villaverde and J.E. Galdon-Sanchez, 2005, Evaluating Labor Market Reforms: A General Equilibrium Approach, NBER Working Paper, No. 11519, NBER, Cambridge.
- Anderhub, V., M. Koenigsstein and D.Kuebler, 2003, Long-term work contracts versus sequential spot markets: experimental evidence on firm-specific investment, *Labour Economics*, Vol. 10, No. 4, pp. 407-25.
- Anderson, P.M. and B.D. Meyer, 1994, The extent and consequences of job turnover, *Brookings Papers on Economic Activity*, Microeconomics, pp.177-248.
- Autor, D. and S. Houseman, 2005, Temporary Agency Employment as a Way out of Poverty?, NBER Working Paper, No. 11742, NBER, Cambridge,
- Baker, D., A. Glyn, D. Howell and J. Schmitt, 2002, Labor Market Institutions and Unemployment: A Critical Assessment of the Cross-Country Evidence, CEPA Working Paper, No. 2002-17.

Baker, D. A. Glyn, D. Howell and J. Schmitt, 2004, Unemployment and Labor Market Institutions: The Failure of the Empirical Case for Deregulation, paper prepared for the International Labor Organization, December 2003.

Barendrecht, M., 2004, Een verfijndere kantonrechttersformule: de beste basis voor ontslagbescherming, voordracht gehouden ter gelegenheid van het zesde Nationaal ArbeidsRecht diner op 24 juni 2004 (in Dutch).

Bartelsman, E. and J. Hinloopen, 2005, Unleashing animal spirits: investment in ICT and economic growth in Soete, L. and B. ter Weel (eds.), *The Economics of the digital economy*, Edward Elgar, forthcoming.

Bauer, T.K., S. Bender and H. Bonin, 2004, Dismissal Protection and Worker Flows in Small Establishments, IZA Discussion Paper 1105, IZA, Bonn.

Belot, M., J. Boone, and J.C. van Ours, 2004, Welfare Improving Employment Protection, mimeo, Tilburg University, Tilburg.

Belot, M. and J.C. van Ours, 2000, Does the Recent Success of some OECD Countries in Lowering their Unemployment Rates lie in the Clever Design of their Labour Market Reforms?, CEPR Discussion Papers 2492, CEPR, London.

Belot, M. and J.C. van Ours, 2004, Does the recent success of some OECD countries in lowering their unemployment rates lie in the clever design of their labor market reforms?, *Oxford Economic Papers*, vol. 56, no. 4, pp. 621-642.

Belot, M., Boone, J. and J. van Ours, 2006, Welfare Effects of Employment Protection, *Economica*, forthcoming.

Bentolila, S. and G. Bertola, 1990, Firing Costs and Labour Demand: How Bad is Eurosclerosis?, *Review of Economic Studies*, vol. 57, no. 3, pp. 381-402.

Bentolila, S. and J. Dolado, 1994, Labour Flexibility and Wages: Lessons from Spain, *Economic Policy*, vol. 18, pp. 53-100.

Bentolila, S. and G. Saint-Paul, 1992, The macroeconomic impact of flexible labor contracts, with an application to Spain, *European Economic Review*, pp. 1013-1053.

Bertola, G., 2004, A Pure Theory of Job Security and Labour Income Risk, *Review of Economic Studies* vol. 71, pp. 43-61.

Blanchard, O. and P. Diamond, 1994, Ranking, Unemployment Duration, and Wages, *The Review of Economic Studies*, vol. 61, pp. 417-434.

Blanchard, O. and A. Landier, 2002, The Perverse Effects of Partial Labour Market Reform: Fixed-Term Contracts in France, *The Economic Journal*, vol.112, pp. 214-244.

Blanchard, O. and P. Portugal, 2001, What Hides behind an Unemployment Rate: Comparing Portuguese and U.S. Labor Markets, *The American Economic Review*, vol. 91, no. 1, pp. 187-207.

Blanchard, O. and L.H. Summers, 1986, Hysteresis and the European Unemployment Problem, NBER Working Paper No. 1950, NBER, Cambridge.

Blanchard, O. and J. Tirole, 2003, Contours of employment protection reform, mimeo, MIT, Cambridge.

Blanchard, O. and J. Tirole, 2004, The Optimal Design of Unemployment Insurance and Employment Protection. A First Pass, NBER Working Paper 10443, NBER, Cambridge.

Boeri, T., Conde-Ruiz, J.I. and V. Galasso, 2003, Protecting Against Labour Market Risk: Employment Protection or Unemployment Benefits?, CEPR Working Paper 3990, CEPR, London.

Boeri, T. and J.F. Jimeno-Serrano, 2003, The Effects of Employment Protection: Learning from Variable Enforcement, CEPR Working Paper 3926, CEPR, London.

Booth, A.L., Dolado, J.J. and J. Frank, 2002a, Symposium on Temporary Work: Introduction, *The Economic Journal*, vol. 112, pp. 181-188.

Booth, A.L., M. Francesconi and J. Frank, 2002b, Temporary Jobs: Stepping Stones or Dead Ends?, *The Economic Journal*, vol. 112, pp. 189-213.

Bovenberg, A.L., 2005, Balancing Work and Family Life During the Life Course, mimeo, Tilburg University.

Caballero, R.J., D.N. Cowan, E.M.R.A. Engel and A. Micco, 2004, Effective Labor Regulation and Microeconomic Flexibility, Economic Growth Center Discussion Paper 893, Economic Growth Center, New Haven.

Caballero, R. and M.L. Hammour, 1994, The Cleansing Effect of Recessions, *American Economic Review*, vol. 84, no. 5, pp. 1350-1368.

Caballero, R. and M.L. Hammour, 1996, On the Timing and Efficiency of Creative Destruction, *Quarterly Journal of Economics*, vol. 111, no. 3, pp. 805-852.

Caballero, R. and M.L. Hammour, 1998a, Jobless Growth: Appropriability, Factor Substitution, and Unemployment, *Carnegie-Rochester Conference Series on Public Policy*, Vol. 48, 51-94.

Caballero, R. and M.L. Hammour, 1998b, The Macroeconomics of Specificity, *Journal of Political Economy*, vol. 106, no. 4, pp. 724-767.

Cahuc, P. and F. Malherbet, 2004, Unemployment Compensation Finance and Labor Market Rigidity, *Journal of Public Economics*, vol. 88, no. 3-4, pp. 481-501.

Cahuc, P. and F. Postel-Vinay, 2002, Temporary Jobs, Employment Protection and Labor Market Performance, *Labour Economics*, vol. 9, no.1, pp. 63-91.

Calmfors, L. and J. Driffill, 1988, Centralization of Wage Bargaining, *Economic Policy*, vol. 3, pp. 14-61.

Chen, Y.F., Snower, D. and Zoega, G., 2002, Labour-Market Institutions and Macroeconomic Shocks, IZA Discussion Papers 539, IZA, Bonn.

Davis, S., Haltiwanger, J. and S. Schuh, 1996, *Job Creation and Destruction*, MIT Press, Cambridge.

Diamond, P., 1982, Aggregate Demand Management in Search Equilibrium, *Journal of Political Economy*, Vol. 90, No. 5, pp. 881-94.

Díaz-Vázquez, P. and D. Snower, 2003, On-the-Job Training, Firing Costs and Employment, IZA Discussion Paper, No. 910, IZA, Bonn.

Di Tella, R. and R. MacCulloch, 2005, The consequences of labor market flexibility: Panel evidence based on survey data, *European Economic Review*, vol. 49, pp. 1225-1259.

Dolado, J.J., C. García-Serrano and J.F. Jimeno, 2002, Drawing Lessons From The Boom Of Temporary Jobs in Spain, *The Economic Journal*, vol. 112, no. 721, pp. 270-295.

Dolado, J.J., M. Jansen and J.F. Jimeno, 2005, Dual Employment Protection Legislation: A Framework for Analysis, CEPR Discussion Paper 5033, CEPR, Cambridge.

Ederveen, S. and L. Thissen, 2004, Can Labour Market Institutions Explain Unemployment Rates in New EU Member States?, CPB Document 59, CPB, The Hague.

Elmeskov, J., J.P. Martin and S. Scarpetta, 1998, Key Lessons for Labour Market Reforms: Evidence from OECD Countries' Experience, *Swedish Economic Policy Review*, vol. 5, no. 2, pp. 205-252.

Feldstein, M., 1978, The Effect of Unemployment Insurance on Temporary Layoff Unemployment, *American Economic Review*, vol. 68, pp. 834-846.

Fella, G., 2000, Efficiency Wage and Efficient Redundancy Pay, *European Economic Review*, vol. 44, no. 8, pp. 1473-90.

Fella, G., 2006, Optimal Severance Pay in a Matching Model, mimeo, Queen Mary, University of London, London.

Freeman, R.B., 2005, Labour Market Institutions Without Blinders: The Debate over Flexibility and Labour Market Performance, NBER Working Paper 11286, NBER, Cambridge.

Galdón-Sánchez, J.E. and M. Güell, 2003, Dismissal Conflicts and Unemployment, *European Economic Review*, vol. 47, no. 2, pp. 323-335.

Garibaldi and Violante, 2005, The Employment Effects of Severance Payments with Wage Rigidities, *The Economic Journal*, Vol. 115, pp. 799-832.

Gómez-Salvador, R., J. Messina and G. Vallanti, 2004, Gross job flows and institutions in Europe, ECB Working Paper 318, ECB, Frankfurt.

Graafland, J.J., 1990, *Persistent Unemployment, Wages and Hysteresis*, Wibro Dissertatiedukkerij, Helmond.

Groot, H.L.F. de, R. Nahuis and P.J.G. Tang, 2004, Is the American Model Miss World? Choosing between the Anglo-Saxon Model and a European-Style Alternative, CPB Discussion Paper 40, CPB, The Hague.

Grossman, G.M. and E. Helpman, 1991, *Innovation and Growth in the Global Economy*, MIT Press, Cambridge, MA.

Grubb, D. and W. Wells, 1993, Employment Regulation and Patterns of Work in EC Countries, *OECD Economic Studies*, No. 21, OECD, Paris.

Hansen, G., 1985, Indivisible Labor and the Business Cycle, *Journal of Monetary Economics*, Vol. 16, No. 3, pp. 309-28.

Hansen, H., 2000, *Elements of Social Security - A Comparison Covering: Denmark, Sweden, Finland, Austria, Germany, The Netherlands, Great Britain and Canada*, Danish National Institute of Social Research, Copenhagen.

Hassink, W.H.J., A.M. Roorda and A.M. Reitsma, 1998, Gedwongen Ontslag via Kantonrechter of RDA: Een Economische Analyse (in Dutch), *Sociaal Maandblad Arbeid*, Vol. 53, No. 10, pp. 440-48.

Heckman, J.J. and C. Pagés, 2000, The Cost of Job Security Regulation: Evidence from Latin American Labor Markets, NBER Working Papers 7773, NBER, Cambridge.

Heuvel, L.H. van den, 1996, *Ontslagrecht* (in Dutch), Tjeenk Willink, Zwolle.

Holmlund, B and D. Storrie, 2002, Temporary Work in Turbulent Times: The Swedish Experience, *Economic Journal*, vol. 112, pp. 245-269.

Hopenhayn, H. and R. Rogerson, 1993, Job Turnover and Policy Evaluation: A General Equilibrium Analysis, *The Journal of Political Economy*, vol. 101, no. 5, pp. 915-938.

IMF, 2003, *World Economic Outlook*, Washington, D.C.

Jongen, E.L.W. and S.S. Visser, 2007, Exploring the Ambiguous Impact of EPL on Employment and Productivity, CPB Discussion Paper, The Hague, forthcoming.

Joseph, G., Pierrard, O. and H.R. Sneessens, 2003, Job Turnover, Unemployment and Labor Market Institutions, IZA Discussion Paper, No. 835, IZA, Bonn.

- Kerckhoffs, C., C. de Neubourgh, F. Palm, 1994, The Determinants of Unemployment and Jobsearch Duration in the Netherlands, *De Economist*, 142, pp.21-42.
- Klaauw, B. van der, 2000, *Unemployment Duration Determinants and Policy Evaluation*, Tinbergen Institute Research Series no. 223, Tinbergen Institute, Amsterdam.
- Koning, P., 2004, Estimating the impact of experience rating on the inflow into disability insurance in the Netherlands, CPB Discussion Paper 37, CPB, The Hague.
- Kugler, A.D. and G. Saint-Paul, 2004, How Do Firing Costs Affect Worker Flows in a World with Adverse Selection?, *Journal of Labor Economics*, Vol. 22, No. 3, pp. 553-584.
- Lazear, E., 1988, Employment-at-Will, Job Security, and Work Incentives, in: Hart, R., ed., *Employment, Unemployment, and Labor Utilization*, Unwin Hyman, Boston, pp. 39-61.
- Lazear, E.P., 1990, Job Security Provisions and Employment, *Quarterly Journal of Economics*, Vol.105, no. 3, pp.699-726.
- Lazear, E., 1995, *Personnel Economics*, MIT Press, Cambridge.
- L'Haridon, O. and F. Malherbet, 2002, Unemployment Compensation Finance and Aggregate Employment Fluctuations, CEPR Discussion Paper 3614, CEPR, London.
- Lindbeck, A. and D.J. Snower, 1988, *The Insider-Outsider Theory of Employment and Unemployment*, MIT Press, Cambridge, MA.
- Lindbeck, A. and D.J. Snower, 2001, Insiders versus Outsiders, *The Journal of Economic Perspectives*, vol. 15, pp. 165-188.
- Ljungqvist, L., 2002, How Do Lay-off Costs Affect Employment?, *The Economic Journal*, Vol. 112, pp.829-853.
- Ljungqvist, L. and T.J. Sargent, 1998, The European Unemployment Dilemma, *Journal of Political Economy*, vol. 106, No. 3, pp. 514-50.
- Ljungqvist, L. and T.J. Sargent, 2004, *Recursive Macroeconomic Theory*, 2nd edition, MIT Press, Cambridge, MA.

- Ljungqvist, L. and T. Sargent, 2005, *Jobs and Unemployment in Macroeconomic Theory: A Turbulence Laboratory*, mimeo, New York University, New York.
- MacLeod, W., 2005, *Regulation or Markets? The Case of Employment Contracts*, CESifo Economic Studies, 51, pp. 1-46, CESifo, Munich.
- Micco, A. and C. Pagés, 2004, *Employment Protection and Gross Job Flows*, paper presented at the Econometric Society 2004 Latin American Meetings 295.
- Mooij, R. de, Euwals, R., Folmer, K., Jongen, E., Koning, P., Nibbelink, A., Suijker, F. and A. van Vuren, 2006, *Reinventing the Welfare State*, CPB, The Hague.
- Nagypál, E., 2002, *The Cost of Employment Protection in the Presence of Match-Specific Learning*, mimeo, Northwestern University, Evanston.
- Nagypál, E., 2004, *Learning-by-Doing Versus Learning about Match Quality: Can We Tell Them Apart?*, mimeo, Northwestern University, Evanston.
- Nickell, S.J., 1997, *Unemployment and Labor Market Rigidities: Europe versus North America*, *Journal of Economic Perspectives*, vol.11, no. 3, pp.55-74.
- Nickell, S. J. and R. Layard, 1999, *Labour Market Institutions and Economic Performance in Ashenfelter, O. and D. Card, eds., Handbook of Labor Economics*, Vol. 3, North Holland, Amsterdam.
- Nyfer, 2000, *Bescherming en Economische Efficiëntie: Een Alternatief Ontslagstelsel*, Nyfer, Breukelen.
- OECD, 1999, *OECD Employment Outlook 1999*, Paris.
- OECD, 2004, *OECD Employment Outlook 2004*, Paris.
- OECD, 2006, *Labour Force Statistics*, August 2006, OECD, Paris.
- Osuma, V., 2005, *The Effects of Reducing Firing Costs in Spain: A Lost Opportunity?*, *Contributions to Macroeconomics*, Vol. 5, No. 1, Article 5.
- Pischke, J.-S., 2005, *Labor Market Institutions, Wages, and Investment: Review and Implications*, *CESifo Economic Studies*, Vol. 51, No. 1, pp.47-75.

- Pissarides, C.A., 1992, Loss of Skill During Unemployment and the Persistence of Employment Shocks, *Quarterly Journal of Economics*, Vol. 107, pp. 1371-91.
- Pissarides, 2000, *Equilibrium Unemployment Theory*, 2nd. ed., MIT Press, Cambridge.
- Pissarides, C.A., 2001, Employment protection, *Labour Economics*, vol. 8, pp.131-159.
- Pissarides, C.A., 2004, Consumption and Savings with Unemployment Risk: Implications for Optimal Employment Contracts, IZA Discussion Paper 1183, IZA, Bonn.
- Saint-Paul, G., 1995, Efficiency Wage, Commitment and Hysteresis, *Annales d'Économie et de Statistique*, No. 37/38, pp. 39-53.
- Saint-Paul, G., 1997, The Rise and Persistence of Rigidities, *American Economic Review*, Vol. 87, No. 2, pp. 290-94.
- Saint-Paul, G., 2002, The Political Economy of Employment Protection, *Journal of Political Economy*, Vol. 110, No. 3, pp. 672-701.
- Scarpetta, S., 1996, Assessing the Role of Labour Market Policies and Institutional Settings on Unemployment: A Cross-Country Study, *OECD Economic Studies*, No. 26, 1996/1.
- Scarpetta, S., P. Hemmings, T. Tressel and J. Woo, 2002, The Role of Policy and Institutions for Productivity and Firm Dynamics: Evidence from Micro and Industry Data, OECD Working Paper 329, OECD, Paris.
- Scholtens, C.G., 2005, Herziening Ontslagrecht: Kosten en Keuzen (in Dutch), *Sociaal Recht*, Vol. 2, pp.46-59.
- Stichting van de Arbeid, 2003, *Advies Inzake het Rapport van de Adviescommissie Duaal Ontslagstelsel* (in Dutch), No. 7/03, STAR, The Hague.
- Topel, R., 1983, On Layoffs and Unemployment Insurance, *American Economic Review*, Vol. 73, pp.541–559.
- Wolfers, J., 2005, Measuring the Effect of Employment Protection on Job Flows: Evidence from Seasonal Cycles, *Computing in Economics and Finance*, no. 98.

Young, D., 2003, *Employment Protection Legislation: Its Economic Impact and the Case for Reform*, European Economy, European Commission Economic Paper 186, EC, Brussels.

Zijl, M. , G.J. van den Berg and A. Heyma, 2004, *Stepping Stones for the Unemployed: The Effect of Temporary Jobs on the Duration until Regular Work*, IZA Discussion Paper 1241, IZA, Bonn.

Zijl, M., 2006, *Economic and Social Consequences of Temporary Employment*, Tinbergen Institute Research Series no. 380, Tinbergen Institute, Amsterdam.