

# A Dynamic Approach to Europe's Unemployment Problem: Policy Report

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# Contents

<i>List of Figures</i>	v
<i>Research Institutions and Researchers</i>	vi
<i>Executive Summary</i>	vii
<b>Introduction</b>	<b>1</b>
Europe's Unemployment Problem	1
A Policy Report	2
A Dynamic Approach	4
Policy Summary	5
<b>1 Aggregate Unemployment Dynamics</b>	<b>11</b>
1.1 Context of the Research	11
1.2 Research Findings	11
1.3 Policy Recommendations	15
<b>2 Individual Unemployment Transitions</b>	<b>19</b>
2.1 Context of the Research	19
2.2 Research Findings	19
2.3 Policy Recommendations	23
<b>3 Inactivity, Unemployment and Work</b>	<b>27</b>
3.1 Context of the Research	27
3.2 Research Findings	27
3.3 Policy Recommendations	30
<b>4 'Flexible' Employment and Unemployment Dynamics: Temporary Help Agencies, Short-term Contracts</b>	<b>33</b>
4.1 Context of the Research	33
4.2 Research Findings	33
4.3 Policy Recommendations	37
<b>5 Labour Market Frictions, Unemployment Exits and Wages</b>	<b>41</b>
5.1 Context of the Research	41
5.2 Research Findings	41
5.3 Policy Recommendations	45
<b>6 Labour Market Frictions, Institutions and Performance</b>	<b>47</b>
6.1 Context of the Research	47
6.2 Research Findings	47
6.3 Policy Recommendations	52



# List of Figures

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<b>Figure 1</b>	Unemployment Rates	1
<b>Figure 2</b>	Long-Term Unemployment	3
<b>Figure 3</b>	Employment Growth	3

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# Executive Summary

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At the Lisbon Summit in 2000, the European Union highlighted the problem of unemployment and low participation. 'A Dynamic Approach to Europe's Unemployment Problem' is a research project designed to increase our understanding of unemployment and to assess policies to bring unemployment down. The project was truly European in scope, with research being carried out by teams from eight leading academic institutions around Europe.

## **A Brief Summary of Policy Recommendations**

### **1. Unemployment Insurance and Assistance Systems**

Studies concluded that policies which raise unemployment benefits have negative employment effects but the size of the impact is small. A number of studies argue that punitive sanctions, such as benefit cuts, have substantially reduced unemployment durations, especially for former high-wage workers.

### **2. Active Labour Market Policies**

A number of studies concluded that training programmes are successful at reducing the unemployment rate. Positive results were also found for public employment services, but expenditure on subsidized jobs was found to be unproductive in terms of labour market outcomes. The finding of locking-in effects means that subsidized employment is most effective at reducing unemployment durations when limited to a short term.

### **3. Maximum Legal Workweek Legislation**

Evidence shows that the 1982 reduction in the maximum workweek in France had negative effects on employment, especially for minimum wage workers.

### **4. Flexible Work Forms: Part-time and Temporary Work**

By increasing the termination cost of fixed-term contracts (FTCs), the French government hoped to increase the incentive for firms to transform temporary contracts into permanent ones. Results suggest that this policy was only partially successful. FTCs are very important in allowing firms to respond to short-term productivity fluctuations. Targeting subsidies have been effective at enhancing the prospects of permanent employment for target groups.

### **5. Temporary Help Agencies**

The evidence from one study argues that the long-term earnings potential of temps is not harmed, and in some cases is helped, by a period of temporary agency work.

Temps more frequently state that they are exposed to harmful environmental factors, nervous strain and risk of accident, but on average they regard their new job as better or equal to their previous job. It appears that temporary work is viewed more as a 'bridge' rather than as a secure job, with temporary workers more likely to look for new jobs/occupations.

Another paper did not find empirical evidence in favour of a stepping-stone function to regular employment; rather, agency work provides a short-term 'access-to-work' function for the unemployed.

## **6. Employment Protection Legislation**

The findings speak in favour of an experience rating system, suggesting that such a system could reduce unemployment and increase efficiency. Another study argues that reform of firing costs requires greater coordination at a European level, in order to overcome EMU regulations on monetary and fiscal policy. Firing costs based upon size act as a disincentive to growth for firms close to a threshold.

## **7. Target Groups: Youth and Lone Parent Unemployment**

Findings argue that UK reforms begun in 1998 were successful at increasing the employment, hours of work, and earnings of lone parents. Evidence on the 'scarring' effect of youth unemployment on future wages suggests intervention to reduce the exposure of young adults to substantive periods of unemployment. This measure should not only lower unemployment, but also reduce inequality.

## **8. Policies to Promote Self-employment**

The evidence on transitions to self-employment from two different papers suggests that bad economic conditions and a disadvantaged position in the labour market 'push' individuals toward self-employment. This effect is far stronger for unemployed rather than employed individuals. Policies that promote part-time employment and child-care facilities should help increase female participation in the labour market.

## **9. Shadow employment**

An investigation into shadow employment suggests that in order to reduce shadow employment, it is necessary to reduce unemployment. Therefore any policy that fosters job creation and enhances productivity will induce a reduction in shadow employment.



# Introduction

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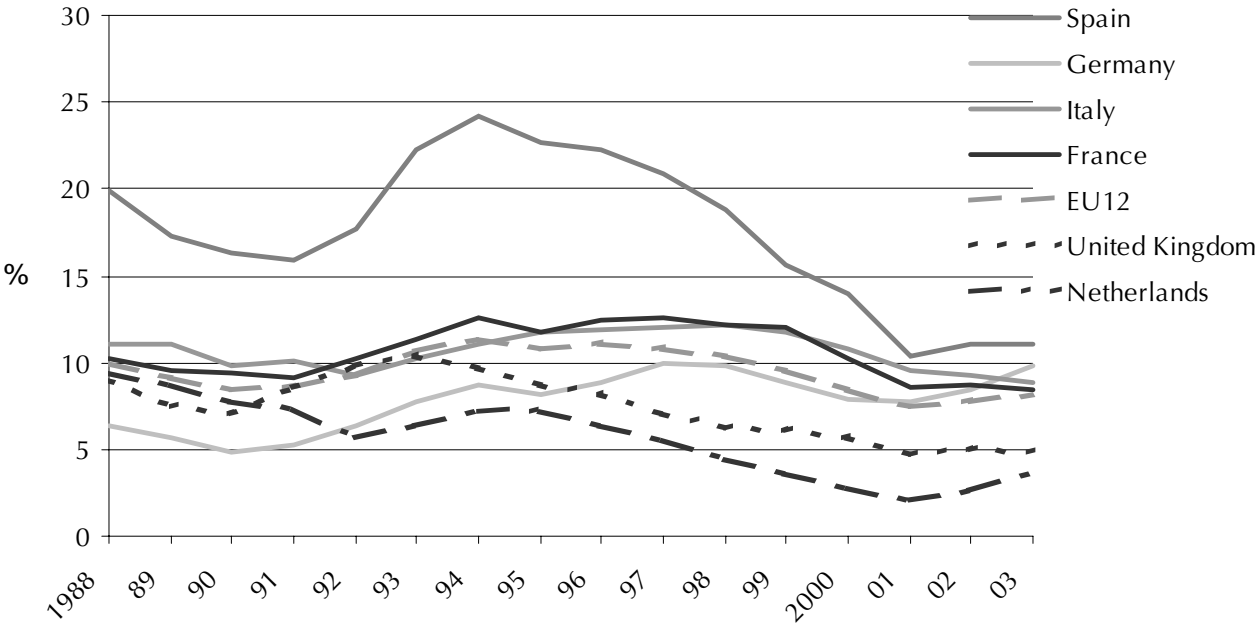
## Europe's Unemployment Problem

The context for this policy report is set by the Presidency Conclusions from the European Union's European Council of March 2000 in Lisbon.<sup>1</sup> The discussion of the Union's strategic goal for the next decade notes strengths, but also important weaknesses:

*'These strengths should not distract our attention from a number of weaknesses. More than 15 million Europeans are still out of work. The employment rate is too low and is characterised by insufficient participation in the labour market by women and older workers. Long-term structural unemployment and marked regional unemployment imbalances remain endemic in parts of the Union.'*

High levels of unemployment and low levels of employment remain an important problem for Europe. This is illustrated for a selection of countries in Figure 1.

**Figure 1:** Unemployment rates



Source: European Commission

This tells some interesting stories. Some countries have seen substantial and sustained falls in unemployment – the Netherlands and the United Kingdom in this graph, but also Denmark and Ireland. Spain, in particular, has seen a dramatic fall from very high levels of unemployment. In some of the large continental economies – France, Germany and Italy – unemployment remains high. Even in the short period of time since 2000, it is perhaps no longer true to say that Europe has a single unemployment problem. There is a great diversity of unemployment experiences in Europe, and currently most European countries have lower rates of unemployment than the United States.<sup>2</sup> These are not the very low rates of the 1960s, but are nevertheless very welcome.

Many economists believe that institutions play a key role in influencing labour market outcomes, and a range of studies look to institutions to explain changes in unemployment.<sup>3</sup> Changes in institutions have been cited as lying behind the falls in unemployment noted above. This includes factors such as greater strictness in the administration of unemployment benefit, lower levels of benefit, changes in labour taxes and in employment protection legislation, and a greater degree of wage bargaining coordination.

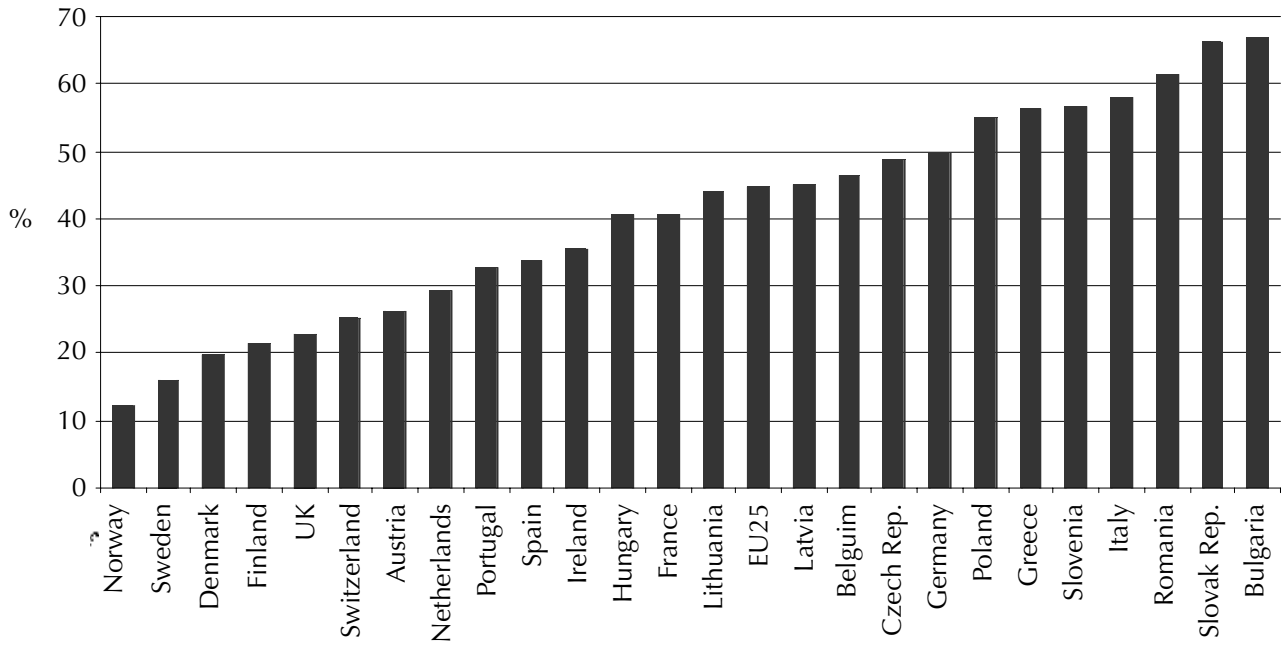
Two other issues were specifically mentioned in the Lisbon Conclusions, long-term unemployment and employment growth. Figure 2 shows that long-term unemployment does remain a problem for many countries in Europe. Over a quarter of unemployed workers in OECD countries have been out of a job for a year or more. In the European Union, the long-term unemployed make up 44% of the total; in the United States 11%. Long-term unemployment is an issue of concern because of potential skill loss while not working, and because of its link with poverty.

Figure 3 shows the employment growth rates for a selection of EU countries. Reforms carried out under the Employment Guidelines in many Member States have proved their worth in improving labour market performance as confirmed by the accelerating employment growth of the late 1990s. While employment growth peaked for most countries around 2000, employment has proved resilient during the recent economic slowdown. EU progress towards the Lisbon 2010 target of a 70% overall employment rate has come to a standstill, however, and, at 64.3%, it now seems clear that the EU will miss the intermediate employment rate target for 2005 of 67%. Countries such as Germany and the Netherlands recorded negative employment growth rates in 2003, which suggests that without further action the 2010 target will also be missed.

## **A Policy Report**

These figures illustrate some of the features of unemployment in Europe. This policy document reports on the findings of a large international study of the issue: A Dynamic Approach to Europe's Unemployment Problem. The project has been supported by the European Commission's Key Action on Socio-economic Research,

**Figure 2: Long-term unemployment**



Source: European Commission

**Figure 3: Employment growth**



Source: European Commission

which is part of the Fifth European Framework Programme for RTD. The aims of the project were:

*'to improve our understanding of unemployment and policies that would act to reduce it. We will study the main factors influencing unemployment at both an aggregate level and at an individual level. We will produce answers to a variety of key research questions surrounding the issue of unemployment in Europe . . . Thus the project has a scientific objective of enhancing our knowledge of unemployment and a policy objective of contributing to European policy formation.'*

This report is concerned with the policy conclusions of the project. For details of the research findings, see <http://www.cepr.org/research/networks/leser/>.

The researchers were drawn from eight leading academic institutions around Europe. These were the University of Bristol (where the project was directed from), the Centre for Economic Policy Research (London), Universidad Carlos III de Madrid, Fondazione Rodolfo Debenedetti (Milan), GRECSTA-CNRS (Paris), Humboldt University (Berlin) and Institut D'Economie Industrielle (Toulouse).

## **A Dynamic Approach**

The central theme of the project is the adoption of a dynamic perspective. The basis of this approach is recognition that labour markets are characterized by continuous pervasive change. Huge numbers of worker-job matches break up every year and new ones are formed. Some of these workers will endure a spell of unemployment between jobs; some will move from one job directly to another. In any one year, European labour markets have to absorb well over 30 million workers separating from their employers, and re-match them with new ones. Clearly, the nature and efficiency of this process is likely to have implications for the evolution of unemployment in the EU. Economists have studied the labour market using dynamic models in the past, and this approach has proved to be very fruitful. This project applied these developments to the central policy issue of European unemployment.

A major strength of this project is the wide range of data sources and forms. These include micro (individual) and macro (aggregate) data, longitudinal and cross-sectional data, and panel data. Some studies have employed matched worker-firm datasets, a relatively recent type of data that enables a fuller analysis of the interaction between workers and firms. Data has been derived from large-scale surveys and from administrative data sources, for a wide range of countries. These include France, the United Kingdom, Germany, Switzerland, Italy, Slovakia, the United States, Australia, the Netherlands, Spain and Denmark. The work of this project included both theoretical and empirical analysis, though the emphasis is on the latter. The project was split

into seven separate Workpackages focusing on different aspects of the issues to be studied. These are:

1. Aggregate Unemployment Dynamics.
2. Individual Unemployment Transitions.
3. Inactivity, Unemployment and Work.
4. 'Flexible' Employment Forms: Short-term Contracts and Temporary Help Agencies.
5. Labour Market Frictions, Unemployment Exits and Wages.
6. Labour Market Frictions, Institutions and Performance.
7. International Comparisons of Unemployment Dynamics.

## **Policy Summary**

This project has not focused on macroeconomic policy issues such as interest rates, fiscal budgets and so on. Nor does the work seek to offer a pan-European policy. Indeed, as we have seen, unemployment and employment are not the same problem everywhere. Rather, the focus is on micro policies to help labour markets work more efficiently – to manage better the 'traffic' of workers around the labour market. This is about the labour market institutions that have been widely discussed as key to unemployment outcomes.

This report sets out the various policy findings of the project in detail, and includes references to the original research underlying these. In the remainder of this Introduction we provide a summary.

### **1. Unemployment Insurance and Assistance Systems**

Unemployment benefit systems are a central part of labour market policies. Empirical evidence has shown that benefits can reduce search intensity and raise the reservation wage of the unemployed. The trend towards making benefits conditional on an unemployed individual's behaviour has given policy-makers a number of options. Increased monitoring and job-search assistance have been combined with benefit sanctions in a number of north European countries. Sanctions are used for reasons such as insufficient job search activity, fraud, unnecessary job loss and non-participation in education or training programmes. They usually take the form of a reduction in benefits for a short period of time. While their use throughout Europe is not widespread, interest in sanctions has increased since recent evidence has shown that frequently used active labour market policies have had disappointing results in terms of getting the unemployed back to work. The effect of benefit sanctions on unemployment durations is investigated in Workpackage 2 and Workpackage 6.

Workpackage 6 also investigated the effect on social welfare and unemployment of a range of reforms. These included increases/decreases in levels of benefit, increases/decreases in eligibility criteria, and a system in which benefits decline with the duration of unemployment.

Unemployed workers can use a variety of methods to find a job. They can contact firms directly, but they can also use friends and relatives, newspapers, private agencies and state agencies. In Workpackage 5, researchers studied the effect of making benefits conditional upon search behaviour, as a way of encouraging efficient search methods.

## **2. Active Labour Market Policies**

Recent evaluations of active labour market policies (ALMP) are not very optimistic about their effectiveness to increase the exit rate from welfare to work. Such policies include training and education programmes, subsidized jobs in the public and private sector and increased monitoring and job-search assistance. It has been argued that the unemployed get 'locked-in' to these programmes – that is, they reduce their effort to find a regular job. They have also been argued to be cost ineffective, and that they have negative effects on unemployed people not enrolled in the programmes.

Most studies on the effectiveness of ALMPs are based on microeconomic data. Workpackage 1 includes a study with aggregate data from over 20 countries. Researchers presented an empirical and theoretical analysis of different types of ALMP, focusing on training and education, public employment services (PES) and subsidized jobs. Duration dependence is the case when the probability of leaving unemployment and finding work decreases with the duration of the spell. In Workpackage 3, researchers investigated the underlying source of duration dependence in the job search process. Different sources of dependence have different policy implications, and thus this enabled them to identify which active policies would be most effective at reducing unemployment durations. For example, training and schooling programmes can be useful in the case of loss of skills, extensive monitoring of search behaviour when discouragement is the main source of duration dependence, and employer subsidies for hiring long-term unemployed might be a useful policy in the presence of stigmatization.

In Workpackage 5, researchers assessed the policy of conditional subsidies to firms. For example, if firms are looking to fill a vacancy, they could receive a subsidy on the condition that they use formal search methods, such as sending their offers to public employment agencies.

## **3. Legal Workweek Legislation**

The policy of job sharing is another area where European governments have failed to reach a consensus. Job sharing is most easily encouraged through legislating a maximum legal working week. This measure is especially popular in France and Italy: 'why should so many workers complain about being overworked, when one in ten workers in these countries is idle? It is better, surely, to share out the work more evenly'.

Many view legal workweek policies as deriving from a belief in the 'lump of labour' fallacy. This is the view that the output of an economy and hence the total amount of work available is fixed. In fact the demand for labour depends upon productivity and

wages. A legal workweek will only create more jobs if weekly pay is also cut – which workers tend to resist, and which is usually prevented by pay freezes. Moreover, recruitment, training and other fixed costs can make it more expensive to employ a larger workforce for shorter hours than a smaller one for longer hours. Shorter working hours may therefore cause output and jobs to fall. Workpackage 6 includes empirical and theoretical studies of the effects of a legal workweek on employment.

#### **4. Flexible Work Forms: Part-Time and Temporary Work**

Rather than limiting hours of work, some see the solution in greater flexibility, and in particular, the promotion of part-time and temporary work. It is often argued that temporary working often suits employers, who can hire and fire readily, more than it does their employees, for whom it offers little security or career prospects. Part-time work, by contrast, is argued to be a matter of choice, especially for women. In the Netherlands, part-timers now account for over two-fifths of the total workforce. The growth of flexible or 'insecure' jobs has been greeted as a mixed blessing in France. Proponents argue that it provides much needed flexibility for workers and firms. Opponents argue that it creates a two-tiered labour market, where only some enjoy the privileges and protection that Europe's labour market is famous for.

In the United Kingdom, where the labour market is less regulated, part-timers fill 25% of jobs, more than France, which has only 16%. But temporary work, which in much of Europe has become a popular way for employers to avoid the cost of creating permanent jobs, is far less common in the United Kingdom. Only 6% of jobs are temporary, compared to 12% in France. With less regulation, UK employers have less need to seek cheaper ways to create new jobs.

Flexible forms of employment are the subject of Workpackage 4. In particular, researchers investigate the effect of the strictness of temporary work regulations on the employment rate and the transformation rate of temporary to permanent jobs. Researchers also compare the relative hiring/firing costs of temporary and permanent work, and study the determinants and the timing of conversions from temporary to permanent contracts.

#### **5. Temporary Help Agencies**

Closely linked to the debate on temporary work is the recent rise in temporary help agencies. At the end of 2002, Germany amended its existing legislation on temporary agency work. A general principle of equal pay and equal working conditions was introduced. This was justified with reference to evidence, which stated that pay, working conditions and career prospects were worse for temps. Research into this area is of vital interest for labour market policy, because labour turnover in temporary work agencies is very high. In addition, the German government has legislated on the large-scale introduction of publicly subsidized temporary work agencies. The effect of agency work on an individual's wages, working conditions and future career prospects is investigated in Workpackage 4.

## 6. Employment Protection Legislation

Laws designed to protect employees against easy firing have, in themselves, no clear implications for the unemployment rate. They reduce both the hiring rate and the firing rate, and thus have ambiguous effects on unemployment. They do, however, increase the average unemployment duration. This is because they make it difficult for firms to fire workers, so firms hesitate to hire them in the first place. This strengthens the hand of employed workers, referred to as 'insiders', at the expense of the unemployed, or 'outsiders'.

It has been argued that high firing costs can have an impact on unemployment rates through hysteresis effects. When labour markets are rigid, a cyclical rise in unemployment can turn into a structural one, making unemployment impervious to an economic upturn. For example, strict firing costs make it hard for workers who lose their jobs to find a new one. Workers who are out of work for a long time are generally less likely to find work. This is because of skill depreciation, reduced motivation, employer stigmatization, etc. These factors contribute to a gradual withdrawal from the labour market. The effect of unemployment on an individual's labour market outcomes is the subject of Workpackage 2, and the role of inactivity is addressed in Workpackage 3.

Since the majority of political power rests in the hands of insiders, far-reaching reform of employment protection legislation is difficult to achieve. Reform to date has been at the margins, designed to make hiring easier with the least amount of disruption to insiders. This has mostly taken the form of fixed-term contracts and temporary help agencies.

The effect of firing costs is studied in Workpackage 6. Specifically, researchers have investigated how firing costs affect worker flows in a world with adverse selection, and have analysed the effect of firing costs on employment in different macroeconomic environments. In most European countries, employment protection legislation is not applied uniformly across firms of different size. This Workpackage includes a study of whether the existence of thresholds modifies employment dynamics, and whether firms react differently when deciding to change employment levels when near a legal threshold size.

Experience rating is an original feature of the US benefits system and is where firms are taxed in proportion to their separations. In Workpackage 1, researchers investigate the effect of experience rating as an alternative to standard job protection measures on a typical European labour market. In another paper they investigate the effect of experience rating on aggregate employment fluctuations.

## 7. Minimum Wage Policy

In France especially, a minimum wage is seen as a powerful policy tool to address poverty and the exploitation of low productivity workers and to reduce wage differentials by squeezing the wage distribution. While the UK has a wage floor, it is set at a relatively low level to limit its adverse effects, and is designed to be used in



conjunction with other policies. The main adverse effect of an enforced wage floor is that it may harm precisely the people it is designed to protect. A wage floor can price low productivity workers out of the market, leaving them unemployed. This problem particularly affects low skilled youths with little work experience. The high minimum wage may be one important cause of France's high unemployment rate.

The effect of minimum wages on the reservation wage and aggregate productivity is studied in Workpackage 5. In another investigation, a wage floor is compared with unemployment benefits and policies to reduce search frictions, to analyse their effectiveness at protecting workers from exploitation.

### **8. Regional Unemployment: The Mezzogiorno of Italy**

The Lisbon declaration referred to regional inequalities in unemployment, and indeed regional unemployment and inequality is still a major problem in Europe. The unemployment problems of the Mezzogiorno of Italy are well documented. Two papers in Workpackage 1 investigated whether other peripheral areas of Europe, the so-called 'Mezzogiornos of Europe', were able to provide policy prescriptions to reduce unemployment in the south of Italy.

### **9. The Effects of Immigration**

With the expansion of the EU into Eastern Europe, there may be greater migration from the East to the West. The consequences for unemployment and wages in Western Europe are unclear, and there is little consensus on immigration policy. Germany and Austria, which border the new members, oppose a quick opening-up of labour markets. They have secured an agreement that EU members can restrict labour inflows for up to seven years. The United Kingdom and Ireland are among the countries taking a quite different view. They have enabled unrestricted access to the 75 million people in the new Member States, hoping to take advantage of cheap, skilled labour. Workpackage 5 includes an empirical and theoretical investigation of the effects of both legal and total immigration on the employment opportunities and wages of natives.

### **10. Macroeconomic Fluctuations and the Timing of Labour Market Reform**

The state of the business cycle is an important consideration when attempting labour market reform. The traditional view is that expansionary times are more favourable for implementing reform. Behind this belief is the intuition that reforms are likely to create unemployment, and thus booms are favourable because of the higher job creation rate. Workpackage 1 includes an analysis of the social welfare and political considerations of the timing of labour market reform.

### **11. Target Groups: Youth and Lone Parent Unemployment**

Youth unemployment is a major problem in Europe, with youth rates averaging roughly double those of the population as a whole. Empirical evidence suggests that this is more than a short-term problem in the lives of most unemployed youths. Youth unemployment can have a long-term effect on an individual's future labour market performance, an effect known as 'scarring'. This can come in the form of either further unemployment or a lower future wage, or a combination of both. This has the

consequence of concentrating unemployment on subsets of the population, leading to greater inequality. Workpackage 2 examines the consequence of youth unemployment upon individuals' wages from age 23 to 42, with the aim of assessing the magnitude of the scarring effects.

The United Kingdom is almost alone among OECD countries in having employment rates for lone mothers so far below those of other mothers. The incoming Labour government in 1997 initiated a series of policy reforms aimed at reducing child poverty, in part by increasing employment rates among lone parents. Workpackage 3 assessed the impact of these policy changes on the employment rates, earnings and hours of work of lone parents.

## Notes

1. [http://www.euoparl.eu.int/summits/lis1\\_en.htm](http://www.euoparl.eu.int/summits/lis1_en.htm)
2. See Nickell, S., L. Nunziata and W. Ochel (2005), 'Unemployment in the OECD since the 1960s. What Do We Know?' *Economic Journal* 115, pp. 1–27, Blackwell, Oxford.
3. See Layard, R., S. Nickell and R. Jackman (1991), *Unemployment: Macroeconomic Performance and the Labour Market*, Oxford University Press, Oxford; Blanchard, O. and J. Wolfers (2000), 'The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence', *Economic Journal* 110, pp. C1–C33, Blackwell, Oxford; Nickell, S. (1997), 'Unemployment and Labour Market Rigidities: Europe versus North America', *Journal of Economic Perspectives* 11, pp. 55–74, American Economic Association, Nashville; Nickell *et al.* (2005); and Saint-Paul, G. (2004) 'Why Are European Countries Diverging in their Unemployment Experience?' *Journal of Economic Perspectives* 18, pp. 49–68, American Economic Association, Nashville.

# 1. Aggregate Unemployment Dynamics

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## 1.1 Context of the Research

Researchers working on the first Workpackage have constructed models emphasizing the role of job search, and explored features such as the significance of heterogeneity among workers and firms, the role of unions, and the importance of job-to-job flows. The specific objectives of this Workpackage, and the papers in which they were addressed, are shown below. The papers appear in the numbered references at the end of each workpackage.

- To construct models emphasizing the role of job search by the unemployed, employed and by firms. Paper [6] analyses both empirically and theoretically the effectiveness of various active labour market policies.
- To use these models to address a variety of central issues in the European unemployment problem. The problem of regional unemployment and, specifically, the Mezzogiorno of Italy, are investigated empirically in papers [1] & [2]. The possible use of experience rating as an alternative to standard job protection measures in a typical, rigid European labour market, is analysed theoretically in paper [4]. Excessive regulation in the French labour market is studied in paper [7].
- To assess the role of the business cycle in driving unemployment and policy. The optimal timing of labour market reform in relation to the business cycle is addressed in paper [5]. The issue of experience rating is also analysed theoretically with respect to unemployment and macroeconomic fluctuations [3].

## 1.2 Research Findings

### *The Mezzogiorno of Italy*

The unemployment problems of the Mezzogiorno of Italy are well documented. Fiorella Kostoris Padoa Schioppa and

Roberto Basile [1] carried out a comparative analysis of regional unemployment rates throughout the EU, using the Core/Periphery concept borrowed from the New Economic Geography models. Their aim was to investigate whether other Peripheral areas, the so-called 'Mezzogiornos of Europe', were able to provide policy prescriptions to reduce unemployment in the south of Italy. The results indicate that in the 1990s, regional unemployment rate differentials have widened. This is not due to a larger Core/Periphery gap, but to increased polarization in both areas. Within the Periphery, a group of 'Cohesion' countries (Spain, Portugal and Ireland) have performed very well, catching up with the EU average unemployment rate. Within these countries, as well as Italy, there has also been a considerable rise in domestic 'dualism', with the contemporaneous presence of both high and low unemployment regions. In the Cohesion countries, however, even the least developed regions are showing improvement, being pulled up by their successful neighbours. Italy and its Mezzogiorno is an exception to this beneficial effect of domestic dualism.

The aggregate unemployment rate in Italy grew from 7% in 1977 to 12% in 1989. This increase was mainly concentrated in the south, where unemployment more than doubled from 10% in 1977 to 22% in 1998. Shocks to aggregate labour demand caused by changes in oil prices, a fall in the investment/GDP ratio, the Maastricht convergence criteria and institutional rigidities seem to have played a role in this. This, however, does not explain why quasi-full employment has been achieved in the north, while the south has suffered so heavily.

Marco Manacorda and Barbara Petrongolo [2] presented a two-region model of wage determination, where wages nationwide respond only to unemployment in some leading region. This model was applied to Italy, in which case the leading region is the north. The paper aimed at evaluating whether the unbalanced evolution of labour demand and supply across different geographical areas, which they refer to as regional mismatch, is partly responsible for the increase in aggregate unemployment. For this they used data for 1977–98 from the Bank of Italy Survey of Households' Income and Wealth. Their results show:

- Overall, the data suggest that a substantial proportion of the rise in aggregate unemployment can be explained by a shift in net demand for labour in favour of the north over the period of observation. Such a shift is mainly explained by changes in relative supply. The faster rise in labour supply in the south than in the north was due to a combination of two factors: faster population growth in the south and a fall in internal migration. Regional mismatch is responsible for about 40% of the increase in southern unemployment over our sample period, and for 33% of the increase in aggregate unemployment.
- The exogenous rise in wages in the south relative to the north had a significant and larger effect on changes in aggregate unemployment, in the order of 43%.
- Around 20% of the total rise in aggregate unemployment is due to aggregate factors such as a faster rise in negotiated wages nationwide relative to the growth in wages warranted by productivity gains.

## Experience Rating

Two papers in this Workpackage investigate the effect of experience rating as an alternative to standard job protection measures on a typical European labour market. Excessive labour market regulations have often been blamed as a source of high unemployment in Europe compared to the United States. Experience rating is an original feature of the US benefits system and is a system whereby firms are taxed in proportion to their separations. Olivier L'Haridon and Franck Malherbet [3] used a simple matching model to investigate the effect of experience rating on aggregate employment fluctuations. The results of their model suggest that experience rating tends to decrease unemployment, the unemployment benefits budget and to increase production. Their simulations also suggest that it would likely reduce unemployment fluctuations at the aggregate level.

Franck Malherbet and Pierre Cahuc [4] used a simple matching model of a rigid labour market including firing costs, temporary jobs and a minimum wage in order to analyse the effect of experience rating on a typical, rigid European labour market. The results again suggest that experience rating is likely to reduce unemployment and to improve labour market efficiency for low skilled workers in a rigid labour market. Worker and firm heterogeneity, however, has not been taken into account in this model. If implemented, experience rating is likely to induce firms to substitute workers with long expected unemployment durations for workers with short expected unemployment duration, because the cost of the latter is lower in case of separation. From this point of view, experience rating may be detrimental to very low skilled workers, whose unemployment spell is long. Also, the introduction of experience rating induces an increase in the tax burden in sectors with high labour turnover and a decrease in the others. The authors state it is important to take these factors into account when evaluating the robustness of these results.

## Macroeconomic Fluctuations and the Timing of Labour Market Reform

Gilles Saint-Paul [5] presented a paper that analysed the pros and cons of implementing structural reforms of the labour market in booms versus recessions. He argued that the simplistic view that expansionary times are more favourable for implementing reforms needs to be severely qualified. A summary of his analysis is shown below:

### *Social welfare and the timing of the reform*

- The unemployed, who benefit from the reform because of a greater job creation rate, may gain more if it is implemented in a slump.
- There always exists a discount effect, which can make it costly to postpone a valuable reform. If the flow of social gains from a reform is negative in a slump but positive in booms, then it makes sense to wait for a boom. If they are positive in both cases, however, one should go ahead with the reform as soon as possible.
- It is not clear whether the social cost of job destructions implied by the reforms are lower in booms. One could well argue that unproductive jobs are likely to be

destroyed during recessions whether reforms are implemented or not. If such were the case, deregulation would destroy jobs in an expansion but not in a recession.

### *Macroeconomic conditions and the political support for reform*

- The exposure effect argues that political support for reform from the employed will be largest when they are most exposed to unemployment, since reform boosts job creation. Intuitively, this should be at the beginning of a recession.
- If people are unsure how safe or productive their job is, they are less likely to be in favour of reform that reduces employment protection. The identifiability effect argues that the political support for reform is highest right after a recession. This is because the higher level of job destruction during recessions, informs workers which jobs are productive and which jobs are not.
- Workers in unproductive jobs may support employment protection legislation for fear of losing their job if it were removed, but they would never hold such jobs if the legislation were not there in the first place. This constituency effect means that the distribution of jobs across productivity levels, which depends on the past history of macroeconomic fluctuations, will affect the political viability of reform.

### *Evidence*

- In an empirical study from 1996, the author found that most of the reforms, which seem to be correlated with macroeconomic conditions, are designed to be 'marginal', in that they only affect the flexible tier of the labour market. Thus, we seldom observe across-the-board reductions in employment protection, but we often see liberalizations in the use of temporary contracts for example. These reforms are a way to buy political support of the employed, and to spare them the threat of job loss.
- Second, there does seem to be an exposure effect, as suggested by the fact that virtually all these 'marginal' reductions in firing costs took place at times when unemployment was rising, i.e. when the exposure of the employed to unemployment was high.
- Third, there are some instances of across-the-board reductions or increases in firing costs. These happen rarely and are correlated with the government's ideology rather than the macroeconomic environment.

### **Active Labour Market Policies**

Active labour market policies (ALMPs) aim at bringing the unemployed back to work by improving the functioning of the labour market. Most evaluations of ALMPs are based on microeconomic data, but Jan Boone and Jan C. van Ours investigated their effectiveness on an aggregate level. They presented an empirical and theoretical analysis of different types of ALMP, focusing on training programmes, public employment services (PES) and subsidized jobs. They used data from 20 OECD countries from the period 1985–99. To investigate the sensitivity of their results with respect to measurement problems of the unemployment rate, the authors performed a

similar analysis using the employment-participation rate as a dependent variable. The results of the empirical analyses indicate that:

- Increases in union density and unemployment benefits have a negative effect on labour market outcomes; they cause a rise in the unemployment rate and a fall in the employment-participation rate.
- An increase in expenditures on both labour market training and PES causes unemployment to fall. PES expenditure has no significant effect on the employment-participation rate, however, while an increase in expenditure on training causes this rate to rise. Furthermore, the effect of expenditures on labour market training is larger the higher unemployment benefits are.
- Expenditures on subsidized jobs do not affect the unemployment rate nor do they affect the employment rate.

The theoretical analysis investigated under which conditions it makes sense to introduce training programmes and under which conditions alternative ways to build up human capital of unemployed workers should be preferred. The model shows that even if training does not influence the job finding rate it may still reduce unemployment because of its effect on the job separation rate. By improving the quality of matches between workers and jobs, the inflow into unemployment is reduced.

### **Labour Market Regulation in France**

Pierre Cahuc and Francis Kramarz [9] investigated the factors which determine France's high unemployment rate. They disagree with the popular view that it is a result of globalization and outsourcing. Instead, they argue it is the failure to create extra service sector jobs that is the root of the problem. This is largely due to excessive regulation. For example, the number of taxi licences in Paris is tightly restricted and is lower than it was in 1925; the profession is also governed by 12 pieces of legislation. Many regulations are designed to protect producers and employees rather than create new jobs or lower prices. In a classic insider-outsider problem, deregulation is often resisted by politicians and trade unions defending vested interests. In some deregulated sectors, such as the freight industry, there have already been rapid increases in jobs, the report says. Between 1976 and 2001 the numbers employed in the deregulated road transport business doubled to 340,000.

## **1.3 Policy Recommendations**

### **Specific Recommendations**

The evidence from paper [1] recommends the introduction of a 'vigorous' industrial policy in the Mezzogiorno of Italy. This would consist of:

- Supporting investments from small and medium-sized firms in already successful areas. This should boost growth, and while regional gaps within the Mezzogiorno may increase, the south as a whole would grow more.

- Attracting large domestic and foreign firms in areas where growth is lacking. Development of public infrastructures, decentralized wage contracts and financial/tax incentives are central to attracting FDI.
- Allowing for a diversified fiscal treatment in the south and the north-centre of Italy. The use of fiscal incentives, such as a lower income tax rate for foreign firms, was a major factor in attracting FDI to Ireland. Constraints imposed by the EU under their interpretation of state aids, currently make this impossible. The ongoing process of decentralization within many countries, however, should challenge this position.
- Allowing for decentralized negotiations between firms and unions. Rules, labour contracts and wages should vary at the microeconomic level, using 'objective' indicators such as those reflecting the labour productivity in each province.

Paper [2] suggests that policy instruments that are likely to alleviate the effects of regional mismatch include both direct measures aimed at reducing regional imbalances between the demand and the supply of labour, as well as interventions on features of regional wage setting. In order to reduce mismatch, subsidies aimed at reducing the cost of geographical mobility of labour and capital should be advocated. Reforms of the prevailing wage-setting mechanism would also help insofar as they make wages more responsive to local labour market conditions.

Papers [3] and [4] used theoretical models to investigate the effect of experience rating as an alternative to standard job protection measures. The findings speak in favour of an experience rating system, suggesting that such a system could reduce unemployment and increase efficiency. The authors qualify these findings, however, by highlighting the limitations of their models, and the need for future work in this field.

The empirical investigation in paper [6] argues that increases in union density and unemployment benefits have a negative effect, causing the unemployment rate to rise. The empirical analysis of active labour market policies concluded that training programmes are most successful at reducing the unemployment rate. Positive results were also found for public employment services, but expenditure on subsidized jobs was found to be a waste of money in terms of labour market outcomes.

The results of the theoretical analysis suggest that training has the greatest impact on unemployment rates because it increases the productivity of the unemployed worker. The government can stimulate training by subsidizing training costs. An alternative route to higher productivity is through learning on-the-job. The government can stimulate on-the-job training by subsidizing the creation of vacancies.

Paper [7] provided three specific policy recommendations. First, the state should assume direct responsibility for France's 2.7 million unemployed by creating a unified social security system. At present these functions are shared by several overlapping public agencies. Second, the government should simplify training programmes and issue more licences to create additional jobs for overly regulated professions such as



hotel staff, hairdressers, accountants, taxi drivers and architects. Third, the government should introduce a standard employment contract to make it easier for companies to hire and fire workers.

### General Recommendations

Paper [5] argues that a reduction in employment protection legislation tends to have a deflationary effect on the economy: the natural unemployment rate falls while the actual unemployment rate rises. This makes it desirable to exert stimulus through monetary and fiscal policies. The regulations imposed by the European Monetary Union, however, imply that labour market reforms in this context may be problematic. An individual country considering reform can no longer rely on an autonomous monetary policy to limit the rise in unemployment. The use of fiscal policy is still possible, but this is constrained by the Stability Pact and the fiscal stability programme to which countries are committed.

In order to solve these problems, an obvious solution would be coordination of structural reforms among Euroland states. In such a case, the European Central Bank (ECB) could respond by lowering interest rates, which would stimulate all the economies engaged in reform. Therefore, the EMU calls for more coordination of labour market policies across states.

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## 2. Individual Unemployment Transitions

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### 2.1 Context of the Research

Researchers in Workpackage 2 conducted a series of micro-economic studies. The specific objectives of this Workpackage, and the papers in which they were addressed, are shown below. The papers appear in the numbered references at the end of this Workpackage.

- To tackle empirically the issue of the concentration of unemployment on subsets of people through long durations and repeated spell. The concentration of unemployment is studied with respect to youth unemployment, [5] and [6].
- To study labour market transitions in detail from the perspective of the individual. Individual labour market transitions were researched with respect to self-employment in papers [7] and [8], active labour market policies [4], and the welfare and benefits system [1][2][3].
- To use matched worker-firm data to measure labour market transitions more accurately and to add new facts on their determinants. Matched worker-firm data were used to test theoretical models of matching, with the aim of determining the nature of unemployment in the United Kingdom [9].

### 2.2 Research Findings

#### The Effect of Benefit Sanctions on the Duration of Unemployment

Three papers in this Workpackage investigated the effect of benefit sanctions on the duration of unemployment. Sanctions are used in a number of north European countries for reasons such as insufficient job search activity, fraud, unnecessary job loss and non-participation in education or training programmes. They usually take the form of a reduction in benefits for a short period of time. While

their use throughout Europe is not widespread, interest in sanctions has increased since recent evidence has shown that frequently used active labour market policies have had disappointing results in terms of getting the unemployed back to work.

Rafael Lalive, Jan C. van Ours and Josef Zweimüller [1] used data from the Swiss labour market from 1997 to 1999. This data allowed a distinction between the *ex ante* and *ex post* effects of a sanction. The former is the effect that the risk of getting a sanction has on the search behaviour of the unemployed individual. The latter is the effect that an imposed sanction has upon the individual's behaviour. Results indicate that both effects are significant, and that taken together, unemployment duration is reduced by about three weeks, which is almost 10% of the expected duration for those with a sanction.

Across different offices of the Public Employment Service in Switzerland, there was a large variation in the rate at which warnings of a sanction were issued. The authors used this variation as a measure of the 'strictness' of the sanction policy. They estimated that the *ex ante* effect of increasing the 'strictness' by one standard deviation is to reduce unemployment duration by almost five calendar days, or around 2.5%. This is quite a substantial decrease because it applies to all job seekers.

Gerard J. van den Berg, Bas van der Klaauw and Jan C. van Ours [2] performed a similar study using data for welfare recipients in the city of Rotterdam from 1994 to 1996. They too found that the imposition of a sanction has a significant and positive (*ex post*) effect on the transition rate from welfare to work. They estimated that the transition rate is about twice as large after a sanction than before, and that it remains higher after the sanction period expires. The sanction in this case was also relatively small, which may imply that the shock of being sanctioned activates the job seeker, and not the size of the sanction.

Jan C. van Ours, Abdolkarim Sadrieh and Jan Boone [3] also analysed job search behaviour in the presence of unemployment benefits and sanctions. Their analysis was based upon laboratory experiments in which the arrival of job offers was exogenous. The results show that both the *ex post* and *ex ante* effects are relevant, and that their magnitude depends upon the structure of the system of benefit sanctions and on the specific wage offers. In most cases the *ex ante* effect was larger than the *ex post* effect. In the experiment, two unemployment benefit systems were compared, where one system has the same benefit every period and the other has a lottery over a high and a low benefit. In both cases the expected unemployment benefit per period is the same.

- The outflow from unemployment is far higher for the lottery scheme. This suggests that introducing benefit sanctions can reduce unemployment even when the expected unemployment benefit level is unchanged.
- The observed probability of accepting a job is lower than that which is theoretically optimal for a risk-neutral individual. This is because the observed reservation wage (the wage at which an unemployed individual will accept a job) is higher than the optimal risk-neutral reservation wage. This suggests that

individuals are risk-seeking more than risk-neutral. This effect is most pronounced in the treatment with constant unemployment benefit levels. Again this suggests that a system with constant unemployment benefits over time raises unemployment.

### **The Locking-in Effects of Subsidized Jobs**

Recent evaluations of active labour market programmes are not very optimistic about their effectiveness to increase the exit rate from welfare to work. It has been argued that the unemployed get 'locked-in' to these programmes – that is, they reduce their effort to find a regular job. Jan C. van Ours [4] investigated the locking-in effect of temporary subsidized jobs using data on the Slovak labour market from the mid 1990s. The paper focused on the relationship between the duration of subsidized employment and the exit rate. Empirical analysis shows that short-term subsidized jobs had a positive effect on the exit rate. As the duration increased (from 6 months to 9, and then 12), however, the positive effect became smaller as individuals became locked in. Furthermore, a long-term subsidized job programme (lasting at least two years) had a negative effect on the exit rate.

### **Youth Unemployment**

The deterioration of labour market prospects stemming directly from an initial spell of unemployment is sometimes termed a 'scar'. This can come in the form of either higher unemployment or a lower future wage, or a combination of both. This has the consequence of concentrating unemployment on subsets of the population, leading to greater inequality. Paul Gregg and Emma Tominey [5] examined the consequence of youth unemployment upon individuals' wages from age 23 to 42. The paper utilized the National Child Development Survey, a cohort panel dataset, which has information on individuals' employment experience since birth. Findings suggest that youth unemployment (defined as a period of unemployment between ages 16–23) generates a wage scar in the magnitude of 12–15% at age 42. This penalty is lower, however, at 8–10%, if repeat spells of unemployment are avoided after age 23. The results suggest, therefore, that wages recover slowly after a bout of youth unemployment, and that subsequent bouts retard this process.

Gerard J. van den Berg, A. Gijsbert C. van Lomwel and Jan C. van Ours [6] presented another study into youth unemployment. They examined the dynamics of unemployment in France, using quarterly data over the period 1982 to 1994. Inflow and outflow rates were estimated with respect to age and gender. They found that the inflow rate of male youths is more sensitive to the business cycle than for adults, and that a given young person has a higher probability of becoming long-term unemployed if they enter unemployment in a recession. This is because youth exit probabilities were found to be negatively duration dependent after a year of unemployment. This means that after a year, the probability of exiting unemployment decreases with the duration of the spell. Another interesting finding is that since 1988, the inflow cycle for male youths seems to lag one year behind the cycle for adults.

## Self-employment Transitions

Maite Martinez-Grenado [7] performed a study on transitions to self-employment. The purpose of the paper was to determine the effect of individuals' unemployment experiences and the aggregate unemployment rate, on the probability of becoming and remaining self-employed. The paper used the British Household Panel Survey, and had three main findings:

1. The aggregate unemployment rate has a positive effect on the transition probability of becoming self-employed, especially for the unemployed. Therefore, bad economic conditions 'push' individuals to become self-employed. This contradicts previous evidence that suggests that good economic conditions 'pull' individuals towards self-employment, by reducing the risk of business failure and by making alternative work easier to find in the event of failure.
2. While the transition probability to self-employment is higher for the unemployed than employed, this probability drastically decreases with duration of unemployment and past unemployment experience.
3. The probability of entering and exiting self-employment are positively related to the two periods in which the UK government introduced the Enterprise Allowance Scheme (EAS) and the Business Start-Up Scheme (BSUS).

Raquel Carrasco and Mette Ejrnaes [8] also performed a study into self-employment. Among OECD countries, Spain has one of the highest rates of self-employment (18%) and Denmark one of the lowest (6%), the difference being especially pronounced among women. The purpose of their paper was to analyse which factors influence self-employment rates for men and women in each country. For this they utilized the European Community Household Panel dataset, covering the period 1994-99.

Their results reveal that self-employment attracts different groups in the two countries.

- In Spain, individuals who are disadvantaged in the labour market, that is, the low paid or non-employed, are more likely to choose self-employment as a beneficial alternative to wage employment.
- If one looks at the transition rate from non-employment, it is around 4% for Danes and 17% for Spaniards.
- In Denmark, the predicted probability of high earning males entering self-employment is greater than that of low earning males (2.33 versus 1.15). This is a surprising result given the strong relation between low wages and self-employment for the other groups.
- Moreover, the predicted effect of entering self-employment from non-employment is considerably higher for Spanish women with small children than for Danish mothers (1.535 versus -0.507).

The authors' explanation for these findings relies mostly on country-specific employment conditions and labour market institutions, which make self-employment a more

attractive option in Spain than in Denmark. These factors include a less generous social security system, higher unemployment rates, low levels of part-time employment and a relative lack of cheap childcare.

### **Testing between Theories of Unemployment**

Melvyn G. Coles and Barbara Petrongolo [9] contributed a paper in which a new methodology is described which tests between various equilibrium theories of unemployment using matching data. Using UK Job Centre data for the period 1985–99, their main finding is that although the standard random matching approach provides a reasonably good fit, the empirical evidence provides greater support for ‘stock-flow’ matching. This implies that the inflow of new vacancies plays a much more important role in matching than is consistent with the standard approach. They found that around 80% of newly unemployed workers are on the ‘long side’ of the market. That is, they match slowly, their average duration of unemployment exceeding six months. Their re-employment rates depend statistically on the inflow of new vacancies and not on the vacancy stock. These findings suggest that the long-term unemployed, having failed to match with existing vacancies, wait for new and more suitable jobs to come onto the market.

## **2.3 Policy Recommendations**

### **Specific Recommendations**

The finding in papers [1] and [2] that benefit sanctions have a significant effect on the exit rate from unemployment has policy implications for countries favouring both passive and active labour market policies.

- Countries that favour a less generous system of unemployment benefits in order to encourage the unemployed to find work, may find that a more generous system when combined with benefit sanctions may be no more costly.
- Many recent studies into active labour market policies such as training programmes and subsidized jobs have concluded that they are costly and ineffective, possibly due to locking-in effects. Cheaper programmes based on intensive counselling and job-search assistance, however, have drawn more positive conclusions. Benefit sanctions are a move in the same direction, which will have a more positive effect on the job search behaviour of welfare recipients.

The finding in paper [4] of locking-in effects from subsidized employment leads to the following recommendations:

- Subsidized employment is most effective at reducing unemployment durations when limited to a short term (six months).
- Long-term subsidized employment is more suitable to bring open unemployment down because its effect on exit rates is negative.

## General Recommendations

Evidence in paper [5] on the 'scarring' effect of youth unemployment on future wages, suggests intervention to reduce the exposure of young adults to substantive periods of unemployment. This measure should not only lower unemployment, but also reduce inequality. This is because youth unemployment is a primary factor in the concentration of unemployment on certain subsets of the population. Thus it could be an area where active labour market policies represent a good investment. Furthermore, paper [5] found that the youth inflow rate is highest during recessions, and that exit probabilities are negatively duration dependent after one year. This suggests that policy against long-term youth unemployment should focus unemployed youths in a recession whose duration exceeds a year.

The evidence on transitions to self-employment from papers [6] and [7] suggests that bad economic conditions and a disadvantaged position in the labour market 'push' individuals toward self-employment. This effect is far stronger for unemployed rather than employed individuals. The presence of duration and state dependence, however, means that this only applies to the short-term unemployed, with little or no previous unemployment experience. Government schemes to encourage self-employment, as a means of reducing unemployment should therefore focus on this subset of the labour force.

Future policies should also include measures to help sustain individuals in self-employment. Schemes implemented during the 1980s in the United Kingdom were successful in increasing the inflow to self-employment, but were unable to prevent outflows. Their overall effect on the stock of self-employment is therefore somewhat ambiguous. Evidence from Spain in paper [7] suggests that self-employment provides an outlet to work for women with children by offering greater flexibility. Policies that promote part-time employment and childcare facilities should therefore help increase female participation in the labour market.

The finding in paper [9] that the inflow of new vacancies plays a more direct role in the matching process than was previously thought has important implications for government policy. Unemployment is therefore more likely due to structural factors than a job search failure. Given job queues, the Shavell-Weiss argument that unemployment benefits should decrease with duration to encourage greater search effort may not be appropriate. Rather, the policy issue should be whether unemployed job seekers should retrain or be encouraged to migrate to employment hot spots. If capital is more mobile than labour, it may be more efficient to subsidize capital to move to unemployment black spots.



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## 3. Inactivity, Unemployment and Work

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### 3.1 Context of the Research

It is now widely recognized that official, explicit unemployment only captures part of the problem of joblessness. The state of inactivity or ‘out of the labour force’ is also of considerable interest and relevance. The papers in this Workpackage are numbered for easy reference and appear in the at the end of the Workpackage. This Workpackage includes the informal or ‘shadow’ economy, which is subject to a theoretical study in paper [1]. The problem of ‘workless households’ is now acknowledged in the EU as a major socio-economic policy issue. While there has been work measuring the number of workless households in the EU, until now there had been few investigations into their dynamics. This is addressed with an empirical study of workless households in paper [2]. In paper [3], the success of recent policies to increase employment and reduce poverty among lone parent families in the United Kingdom are evaluated. Labour market flows between employment, unemployment and inactivity are investigated empirically and theoretically in papers [4] and [5].

### 3.2 Research Findings

#### Shadow Employment and the Informal Sector

Available estimates of the size of the informal sector in Europe suggest that it is flourishing. These range from 10% of GDP in the Nordic countries, the United Kingdom and Switzerland, to peaks of 20 to 30% in southern Europe and Ireland. Tito Boeri and Pietro Garibaldi [1] developed a theoretical model to study the border between shadow employment and unemployment. Using a variety of data sources to support their assumptions, the model shows that shadow activity emerges in equilibrium as the response of low productivity workers feeling overburdened by taxes (and possibly other regulations imposing a dead-weight loss on legal jobs) and rationally choosing the risks

linked to shadow employment. They argue that any policy aimed at reducing unemployment will also reduce shadow employment. Repressing shadow employment is likely to increase unemployment, however, by either reducing gross job creation or closing down low-productivity jobs in the shadow segment. This may explain why the growth of the informal sector has been tolerated in OECD countries, in spite of its adverse effects on fiscal revenues.

### **Workless Households and Polarization**

Paul Gregg and Jonathan Wadsworth [2] investigated the disparities between measures of joblessness based on individual and household data, which they term polarization. Despite near record employment rates, the workless household rate in the United Kingdom is now double that of the late 1970s, and nearly 1 in 5 children grow up in a household where no one works. This paper introduced a simple set of indices, which can be used to try to identify the likely source of any disparity between individual and household measures of access to work. The results, based on data for the United Kingdom from the Labour Force Survey, suggest that:

- Only a quarter of the rise in the workless household rate derives from shifts in household structures to more single adult households.
- Less educated and older men in the northern regions of the United Kingdom are losing employment, while better educated, prime-age women in the south are gaining work. Because these people tend to live in different households, polarization rises.
- The presence of a working partner profoundly changes work incentives, especially for low wage jobs. Within any group, say older men, those who are single or have non-working partners increasingly do not work, while those with working partners do.

### **Lone Parents**

Over the last 30 years the employment rate of married/co-habiting mothers in the United Kingdom rose dramatically. Yet the employment rate of lone mothers was lower in the early 1990s than it was in the late 1970s, at just under 40%; that is, 25% points below that of married mothers. The United Kingdom is almost alone among OECD countries in having employment rates for lone mothers so far below those of other mothers. The incoming Labour government in 1997 initiated a series of policy reforms aimed at reducing child poverty, in part by increasing employment rates among lone parents. Paul Gregg and Susan Harkness [3] assessed the impact of these policy changes on the employment rates, earnings and hours of work of lone parents. They utilized data for the United Kingdom from the General Household Survey (1979–92) and the Household Labour Force Survey (1992–2002). Their results suggest:

- The policies implemented since 1997 have raised employment rates of lone parents by around 5%. This translates into getting an additional 80,000 lone parents into work.

- The hours of work of those lone parents already in employment have increased in order to become eligible for Working Families Tax Credits. Estimates suggest that the proportion working over 16 hours a week has risen by 7%, or an additional 120,000.
- The hours of work of those already working over 16 hours appear roughly constant; there is no evidence of a windfall effect causing a reduction in working hours.
- For all working lone parents, median weekly earnings increased by 36% in real terms between 1998 and 2002. This is relative to a benchmark group of single, childless women, who saw a rise of 13%. Those lone parents already working over 16 hours experienced a more modest rise of 11%.

### Labour Market Flows

For many possible reasons, individuals might stop searching for work while being unemployed and leave the labour force. Paul Frijters and Bas van der Klaauw [4] investigated the transition from unemployment to non-participation. Their aim was to identify the underlying source of duration dependence in the job search process. Duration dependence is where the probability of leaving unemployment decreases with the duration of the spell. Different sources of dependence have different policy implications. For example, training and schooling programmes can be useful in the case of loss of skills, extensive monitoring of search behaviour when discouragement is the main source of duration dependence, and employer subsidies for hiring long-term unemployed might be a useful policy in the presence of stigmatization. In the empirical analysis they used data from the German Socio-Economic Panel (GSOEP), which is a household survey, for the years 1989–95. The results show significant negative duration dependence in the wage offer distribution, while duration dependence in the job offer arrival rate is not significant. The expected wage associated with a job offer drops around 7% per 3 months during the first 15 months and around 4% per 3 months afterwards. After two years, unemployed workers have thus lost around 50% of their skills. They also analysed the effectiveness of a reduction in unemployment benefits. The model predicts that a 10% decrease in unemployment benefits has a large effect on both the exit rate to employment and to non-participation. A year after inflow, around 79% of individuals will be employed and 1.7% will be non-participants (compared to 60% and 5.5% without the reduced benefits).

Pietro Garibaldi and Etienne Wasmer [5] presented a three-state model that differentiated between employment, unemployment and inactivity. Inactivity is defined as a state in which individuals do not search for jobs when non-employed. The model showed that unemployment and aggregate wages rise because some of the employed workers are unattached to the labour force, in the sense that they join the inactive pool when they lose their job. Also, unemployment income has little effect on employment, since it attracts people in the labour force and raises the share of unattached workers. Finally, the theory suggests that contrary to two-state models, taxation of market activity increases non-participation and unattachment, and adversely affects unemployment.

### 3.3 Policy Recommendations

#### General Recommendations

The investigation into shadow employment and unemployment in paper [1] suggests that the two phenomena are two faces of the same coin. The policy implications are:

- In order to reduce shadow employment, it is necessary to reduce unemployment. Therefore any policy that fosters job creation and enhances productivity will induce a reduction in shadow employment.
- Specific policies aimed at discouraging the emergence of shadow activity, such as an increase in enforcement, may reduce job creation. This could make it harder to leave shadow employment or cause a rise in unemployment. This model suggests that policies that increase labour mobility make the matching process more efficient and worker transitions from shadow to legal employment would be more successful than a head-on attack.
- There is potential to reduce shadow employment by reducing the benefits of taking the 'shadow option' for firms and workers. One possible method is to condition access to social security only to persons with a formal working record.

Paper [2] gave the following policy initiatives to reverse the polarization of work:

- Policies to encourage inactive groups such as lone parents (see below for specific recommendations), older and less educated men, and the partners of men on welfare benefits into work.
- A shift towards recognizing the importance of household-based measures of labour market performance as a complement to the usual measures based on individuals.

#### Specific Recommendations

The evidence from paper [3] argues that UK reforms begun in 1998 were successful at increasing the employment, hours of work and earnings of lone parents. This has policy implications for countries such as Ireland and Poland, which have lower rates of employment of single mothers than the United Kingdom. Evaluations of policy reform in North America led the United Kingdom to adopt a twin-track strategy consisting of:

1. Introducing financial incentives to 'make work pay', in the form of the Working Families Tax Credits.
2. Introducing a case-managed welfare system for lone parents aimed at raising their economic activity through the use of active labour market policies such as the New Deal for Lone Parents and the Job Centre Plus Programme.

The UK reforms, however, differed from those in North America in several key regards:

- There were no time limits on welfare receipt.
- Searching for work was entirely voluntary.
- Welfare payments to non-working lone parents were increased sharply, whereas in the United States they were reduced.

The US system has been successful in getting single parents into work and in reducing welfare payments. It has been much less successful in raising the income of, or reducing poverty among, lone parents. In the United Kingdom, policy reform has succeeded in its aim of raising income and reducing deprivation among families with children.

The recommendations from paper [4] regard active labour market policies. The results suggest that these policies, aimed at improving the prospects of unemployed workers, should focus on improving the skills of the unemployed workers, or on avoiding a loss of skills among unemployed workers. Schooling and training programmes or work experience jobs are therefore expected to be more successful than, for example, counselling or monitoring. Also, since the decline in the wage offer distribution is fastest in the first year of unemployment, active labour market policies should start early in the unemployment spell, and thus not only focus on long-term unemployed workers. Some human capital lost in the first few months of unemployment, such as social networks, however, might be hard to compensate for by schooling and training programmes.

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# 4. 'Flexible' Employment and Unemployment Dynamics: Temporary Help Agencies, Short-term Contracts

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## 4.1 Context of the Research

Workpackage 4 analyses the role of non-standard or flexible employment forms and their influence on unemployment dynamics. In particular, this Workpackage aims to investigate the impact of fixed-term contracts and temporary help agencies on employment and wages. The papers appear at the end of the Workpackage and are numbered for easy reference. Fixed-term contracts have been studied with respect to their termination cost [1], their effect on the dynamics of labour demand [2], and the determinants and timing of their conversion to indefinite-term contracts [3]. Temporary help agencies have been investigated in order to access their short-term and long-term effect on earnings [4], the employment conditions and career prospects of temporary work [5], and the future prospects of regular employment [6].

## 4.2 Research Findings

### Fixed-term Contracts

In France, as in most European countries, fixed-term labour contracts (FTCs) have a maximum duration. At the end of the contracts, employers must either transform their FTCs into indefinite-term contracts (ITCs), or terminate the contract and pay a termination cost to the workers. In France in January 2002, the termination cost increased from 6% to 10% of the total employment value. Eric Maurin and Marie-Laure Michaud [1] investigated the effect of this reform on the transformation rate to ITCs and on the employment level. They used French administrative data from 2000 to 2002, which provided quarterly information on the hiring and firing behaviour of a large panel of French establishments.

Results suggest that the transformation rate was lower in 2001 than in 2000, which is consistent with the slow-down

in economic activity. Following the reform in early 2002, the results show an increase in the transformation rate to ITCs between 2001 and 2002, despite the continuing deterioration in the overall economic climate. The authors argue that such an increase plausibly reflects the impact of the reform on the transformation rate. The results, however, also suggest a fall in the employment growth rate of 1.2%. To summarize, the reform has increased the incentive to transform FTCs into ITCs at the price of diminishing the level of employment.

Dominique Goux, Eric Maurin and Marianne Pauchet [2] investigated the dynamics of labour demand when both FTCs and ITCs are available. They used a panel of 1000 French firms for which they can measure the number of entries and exits for each type of contract between 1988 and 1992. Their results suggest:

- For both type of contract it is much more costly to lay off workers than to hire them. The cost of hiring a given number of ITC workers only represents about 2.5% the cost of terminating them. This result is not in line with standard findings, which argue that employment reductions are less costly and faster than employment increases. Standard approaches fail to take into account how voluntary quits (which represent about 4% of the workforce each year) enable firms to make labour adjustments by simply varying hiring rates. When voluntary quits are neglected, the volume of adjustments obtained through terminations is overestimated and their cost is underestimated.
- It is far less costly to adjust the number of FTCs than to adjust the number of ITCs.
- For both production and non-production workers, the termination cost is higher than the hiring cost. However, the cost differential is higher for non-production workers than for production ones. This result is consistent with non-production workers having on average higher tenure in the firm, and with termination costs being higher for high tenure workers.

Barbara Petrongolo and Maia Guell [3] studied the determinants and the timing of conversions from FTCs to ITCs in Spain, using panel data for the period 1987–2002. Their results show high levels of conversions around durations of one and three years. The timing of these promotions suggests that firms use FTCs for reasons other than covering jobs whose underlying nature is temporary:

- The first 'spike' in conversions around one year suggests that FTCs are used as a screening device, if firms are initially unable to observe the productivity of a worker. 'Successful' workers are then offered a permanent contract. It appears that this use of FTCs applies more to women than men, possibly so that employers can assess the degree of labour market attachment of their female employees. It also applies more to the highly skilled rather than the less skilled, the latter being more easily replaced.
- The second 'spike' in conversions around three years coincides with the legal duration limit of temporary contracts. It is suggestive that FTCs are simply used

as a cheaper and more flexible option to adjust employment. The contract is then converted to an ITC when there is no other legal way to retain the worker.

Results also suggest that reforms implemented in 1994 and 1997 improved the prospects of target groups, namely women, the youth and the less skilled. These reforms, which restricted the applicability of general FTCs and introduced fiscal incentives to firms, were successful at inducing firms to earlier conversions to ITCs. While they affected the time pattern of conversions, however, they were unable to raise the average conversion rate.

### Temporary Help Agencies

Micheal Kvasnicka and Axel Werwatz [4] investigated the short and long-term wage effect of temporary agency work in Germany. The authors argue that previous studies have overestimated the wage gap between temporary and permanent staff. Temporary staff differ from permanent staff in a whole range of characteristics that are relevant for productivity and hence wages. Studies to date have ignored these factors. Utilizing a German administrative dataset from the Federal Ministry of Labour and Social Affairs for the period 1975 to 1995, the authors aim to present the first econometric estimates of wage differentials. Their results show:

- A large part of the difference in wages is due to worker characteristics and cannot be regarded as the effect of temporary agency work. A simple estimate of the wage differential for the period 1991–5 shows that men and women in temporary work earn 36.2% and 28.7% less respectively, than those in permanent work. If observable and unobservable characteristics of workers are included (such as age, nationality, education, employment history etc.), however, these differentials fall to 20.6% and 19.0%.
- The wage differential is larger for the period 1991–5 than 1980–90. A possible reason for this may be the poor performance of the economy in the early 1990s. Since most temporary staff are not bound by collective wage agreements, they are liable to experience wage cuts during periods of high unemployment.
- The wage differential between temporary and permanent work is greatest for the low skilled. For the period 1991–5, the wage differential for men with vocational training was 18.1%, but was higher at 25.2% for those without training. In terms of occupational status, white-collar males suffered a wage differential of 15.2%, whereas for unskilled blue-collar workers the figure was 25.4%. For women, the level of skill has far less effect on the wage differential.
- Temporary agency work has no negative effect on long-term earnings potential when compared to those who have never been in temporary agency employment. A comparison of relative wages a year before and five years after a spell of temporary employment shows an improvement in earnings for former temporary agency workers. A year before entering temporary work, future temps already earn less on average than those in permanent work (7.1% less for men and 7.7% less for women). Thus it is inappropriate to compare earnings during temporary work

to those of permanent work, since this may well be too optimistic a standard. The wage differential increases while in temporary work, but quickly decreases once workers move into a regular job. A year into regular work, the earnings of former temps are as high, or slightly higher for those with vocational training, as those who have never been in temporary employment.

Micheal Kvasnicka and Axel Werwatz [5] also examined the relative working conditions and prospects of temporary agency work, both compared with their previous jobs and compared with workers in the economy as a whole. The authors argue that the criticisms often directed at agency work, such as higher risk of job loss, lower pay, fewer possibilities for training, greater physical and mental strain, and greater risk of accident, have not so far been adequately studied, not least owing to a lack of suitable data. The article used a new data source from Germany, namely the Socio-Economic Panel Survey by DIW Berlin. Their results show:

- More temporary agency workers left their previous job involuntarily, and had fewer prospects of follow-on employment than other workers in the economy. 53.6% of temporary agency workers had lost their previous job owing to closure or redundancy, versus 18.9% of other workers. Temps were also far less likely to have quit their previous job (28.9% versus 55.1%). When their previous job ended, 41.8% of temps had neither a new job lined up, nor already signed a new contract, compared with just 26% of workers from the economy as a whole.
- Temporary agency workers have on average maintained or improved their working conditions with respect to their previous job. Workers were asked whether conditions had improved, maintained, or worsened, with respect to nine aspects of the working environment. In six of the nine categories, which included the nature of work, earnings and working time arrangements, a greater percentage of workers registered an improvement than a worsening of conditions. Chances of promotion, strain at work and company social benefits were the three areas where worse conditions were registered more often. In all categories, however, more than two-thirds of all temps surveyed said they had maintained or improved their situation.
- Temporary agency workers see their job change as much less positive than workers in the economy as a whole. In eight of the nine aspects surveyed, workers in the economy as a whole said more frequently than temps that they had improved their working conditions.
- Temporary agency workers tend to have more adverse job characteristics, but are hardly less satisfied with their jobs than non-agency workers. Temps are more likely to be on short-term contracts (16.0% versus 7.1%) and travel long distances to work (20.4% versus 13.4%). They are also more rarely employed in the occupation they have trained for (40.3% versus 35.1%), and are less likely to receive holiday bonus payments (28.6% versus 55.9%). When asked to assess their present working conditions, in only two aspects out of eleven were there statistically significant differences between temps and a comparable group in the

economy as a whole. Temps were more likely to get nervous strain and have harmful environmental factors at work. When asked to rate their job satisfaction from 0-10, temps averaged 6.6, compared with 7.3 for a comparable non-agency group.

- Temporary agency workers do not rate risk of job loss more highly than other workers, but are more likely to view the job as a 'bridge' and leave of their own accord. Temps rate their chances of promotion and of further training as less than those of other workers, but believe it less likely that they will lose their job within the next two years. They are also more likely to look for a new job or new occupation, or become self-employed.

Micheal Kvasnicka [6] also investigated the 'stepping-stone' function of temporary agency work into regular employment, for unemployed job seekers in Germany. The study used social security data from the Federal Employment Service, and focuses on workers that entered unemployment from 1994–6. The results show:

- Unemployed workers who entered a TWA job within 18 months of their unemployment spell benefited from higher monthly employment probabilities for about a year-and-a-half, and lower unemployment probabilities for more than half a year.
- However, they also exhibited lower monthly probabilities of entering regular employment for around a year. The initial reduced probability of regular employment is naturally the result of a lock-in effect from participating in a TWA job.
- Thus unemployed workers who took a job in the TWA industry exhibited higher chances of employment (TWA or regular), but lower chances of regular employment in the short run. In the long run, TWA work does not appear to have any discernable effect on any measure of employment or unemployment. The findings therefore do not lend any empirical support to the 'stepping-stone' hypothesis of TWA work. If anything, they are proof of a short-term 'access-to-work' function of TWA jobs.

### 4.3 Policy Recommendations

#### General Recommendations

Evidence from paper [1] suggests that by increasing the termination cost of FTCs, the French government hoped to increase the incentive for firms to transform temporary contracts into permanent ones. Results suggest that this policy was only partially successful. A significant number of dead-end jobs have been destroyed by the reform, and they have not been fully replaced by stepping-stone jobs.

The evidence from paper [2] suggests that it is less costly to adjust the number of FTCs than to adjust the number of ITCs. This explains why FTC represents the vast majority of hiring in France and why the cyclical sensitivity of French labour demand is higher

since FTCs were introduced. These results have two important implications:

- FTCs are very important in allowing firms to respond to short-term productivity fluctuations. This flexibility allows them to make optimal adjustments, which would be impossible through ITCs.
- The changes in the firms' hiring/firing behaviour made possible by FTCs do not necessarily imply an increase or decrease in the average levels of employment. The net impact of variations in adjustment costs on the labour market depends upon the actual technology and the distribution of shocks across the economy.

Paper [3] shows how the introduction of FTCs in Spain in 1984, led to record rates of job creation, but has had little impact on unemployment. This is because only a small proportion of FTCs have been converted in permanent jobs. The policy reforms of 1994 and 1997 were aimed at improving the conversion rates to permanent jobs for groups with supposedly poorer labour market prospects. The reforms of FTCs included:

- 1.Reductions in the legal duration.
- 2.Restrictions on eligibility conditions.
- 3.Changes in indemnities at termination.
- 4.Introduction of subsidies to firms for hiring target groups or converting FTCs to permanent jobs.

Targeting subsidies has been effective at enhancing the prospects of permanent employment for target groups. The reforms have also affected the time pattern of conversions. They appear to have discouraged employers from using FTCs as a cheaper, more flexible alternative to permanent contracts, by inducing employers to earlier conversions. The highest concentration of conversions is now at one-year duration, whereas before it was at the maximum legal duration of three years. The average conversion rate across durations, however, has not been improved by the reforms.

At the end of 2002, Germany amended its existing legislation on temporary agency work. A general principle of equal pay and equal working conditions was introduced. This was justified with reference to evidence, which stated that pay, working conditions and career prospects were worse for temps. Research into this area is of vital interest for labour market policy, because labour turnover in temporary work agencies is exceedingly high. In addition, the German government has legislated on the large-scale introduction of publicly subsidized temporary work agencies.

Temporary agency work is generally only a brief phase in the working lives of most employees. Thus, the long-term effect it has on earnings is far more important from a policy standpoint than the short-term effect. The evidence from paper [4] argues that the long-term earnings potential of temps is not harmed, and in some cases is helped, by a period of temporary agency work. A large part of the wage differential between agency and non-agency workers can be explained by individual characteristics. A year

before entering temporary work, future temps already earn less on average than those in permanent work. The wage differential increases while in temporary work, but quickly decreases once workers move into a regular job.

Paper [5] concluded that in regard to working conditions, the picture is unclear. Temps more frequently state that they are exposed to harmful environmental factors, nervous strain and risk of accident, but on average they regard their new job as better or equal to their previous job. Furthermore, they are almost as satisfied as non-agency workers in their present job. In terms of future 'in-house' career prospects for temps, the risk of job loss is not assessed more highly, but chances of promotion and further training is thought less likely. It appears that temporary work is viewed more as a 'bridge' rather than as a secure job, with temporary workers more likely to look for new jobs/occupations.

Paper [6] also investigated the career prospects of temps, but with respect to agency work acting as a stepping-stone to regular employment. In Germany, deregulation of the temporary work agency industry has been central to the labour market reforms of 2002, precisely because of its acclaimed stepping-stone function in aiding the unemployed to find permanent, regular jobs. The paper did not find empirical evidence in favour of this function; rather, agency work provides a short-term 'access-to-work' function for the unemployed.

Thus the relative earnings, working conditions and career prospects of temporary agency work are heterogeneous, including both shortcomings as well as opportunities. The general picture is positive, with agencies offering much needed flexibility in rigid, continental labour markets. This evidence should be taken into account with regard to future policy.

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# 5. Labour Market Frictions, Unemployment Exits and Wages

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## 5.1 Context of the Research

Once we drop the assumption of perfectly competitive, frictionless markets we need to specify the way in which workers and firms meet and agree contracts.

The papers in this Workpackage are numbered for easy reference and appear at the end of the Workpackage. Policies to increase female participation in the labour market are studied theoretically in paper [1]. The effects of immigration are studied empirically in paper [2] and theoretically in paper [3]. We investigate search frictions with respect to monopsony power in paper [4], and their effects in conjunction with minimum wages in paper [5]. The impact of social networks on job search is studied in paper [6].

## 5.2 Research Findings

### Female Employment

While there is consensus on the need to raise the time spent in the market by European women, it is not clear how this goal should be achieved. Pietro Garibaldi and Etienne Wasmer [1] presented a simple model of labour supply, in order to analyse policies designed to increase female participation in the labour market. Their results suggest that:

- Subsidies to labour market entry increase women's inflow to the labour market but also increase the outflow, thus having an ambiguous effect on employment.
- Subsidies to part-time work do increase employment by attracting more women into the labour market, but may also induce women working full-time to swap to part-time work. The overall effect on market production is therefore ambiguous.

- Reductions in taxes on market activities that are substitutable with home production have unambiguous positive effects on market employment and production.

### The Effects of Immigration

Spain is one of the European countries where immigration flows during the last decade have increased most noticeably. Raquel Carrasco, Juan F. Jimeno and Ana Carolina Ortega [2] investigated the effects of both legal and total immigration on the employment opportunities of natives in Spain. For this they used data from the register of work permits to foreigners, the Labour Force Survey and from the last two waves of the Census of Population for the years 1991 and 2001. Their results for legal immigration show:

- Using data based on work permits, the estimated elasticity of immigration to native employment rates was  $-0.18$ . Therefore, an increase of 10% in the ratio of immigrants to native workers would decrease the employment rate of native workers by 1.8%.
- Separate estimation by gender yields smaller elasticities ( $-0.035$  for men and  $-0.088$  for women), while the opposite is true when estimating by separate age groups. These estimates range from an elasticity of  $-0.209$  for 20–34 year olds, to  $-0.591$  to 45–54 year olds.
- The authors also used a restricted dataset based on short-duration work permits, in order to control for endogenous migration of immigrants and natives. The estimated coefficients remained negative and statistically significant, but the elasticities were noticeably smaller. For example, the elasticity corresponding to the whole group was reduced from  $-0.18$  to  $-0.11$ .
- The authors also obtained IV estimates that control for the plausible endogeneity of the allocation of immigrants within each particular group. These produced similar estimates to those obtained with OLS estimation.

For total immigration, the authors used data from the Census of Population and the results show:

- The estimated impact of immigration on the employment opportunities of the native workers is not statistically significant, and is far lower with an elasticity of  $-0.019$ . Furthermore, separate estimation by levels of education and gender yield insignificant estimates.
- Separate estimation by region yields large, negative elasticities. This suggests that the negative partial correlation between immigration and employment rates of natives is produced by worker mobility rather than from a causal effect from immigration to employment opportunities. This is confirmed by IV estimates, which yield either positive or insignificant coefficients.

Javier Ortega [3] presented a model that provides a rationale for the existence of positive effects of immigration on the employment rate and wages of native workers. The theoretical model consists of two countries; one poor and one rich. Three equilibria are shown: no migration, partial migration (where only a fraction of the inhabitants of the poor country are able to migrate) and full migration (where all individuals in the poor country try their luck at working abroad).

The paper argues that the 'full' immigration equilibrium is superior to the 'partial' and 'no' immigration equilibria. This is because immigration enables firms in the 'rich' country to pay lower wages on average, which boosts the domestic employment rate, making it easier for natives to find work. Immigrants benefit from living in the 'rich' country, and from the higher wages available there. Also, those who do not migrate benefit from increased wages in their own country as a result of increased competition for labour.

### **Search Frictions and Monopsony Power**

Labour market frictions have featured prominently in the recent macro and labour literature for understanding labour market outcomes like wages and unemployment. Geert Ridder and Gerard J. van den Berg [4] defined and estimated measures of search frictions in the labour market using data on job durations. The empirical analysis focused on France, but separate analysis was performed for the United States, the United Kingdom, Germany and the Netherlands. The presence of search frictions gives employers a certain amount of monopsony power, because the extent to which employers can exploit their workers depends upon how quickly the workers can find and move to other jobs. Here, monopsony power is defined as the degree to which productivity exceeds wages. The authors used estimated measures of search frictions in order to quantify average monopsony power. They used this to perform policy analyses of the minimum wage, unemployment benefits and policies to reduce search frictions, by computing counterfactual measures of the degree of monopsony power. Their results suggest:

- For all countries, monopsony power was estimated to be lower than 5%.
- The elimination of unemployment benefits marginally increases monopsony power for Germany, the Netherlands and France, but has no effect for the United Kingdom and the United States.
- The elimination of the minimum wage marginally increases monopsony power for the United Kingdom and United States but has a negative effect for the other countries.
- The elimination of both the minimum wage and unemployment benefits increases monopsony power for all countries, but the impact is still quite limited, and does not exceed 7%.
- The elimination of on-the-job search (i.e. searching for a job while currently employed) greatly increases monopsony power. For all countries monopsony power exceeds 40%.

## **Search Frictions and Minimum Wages**

It is often argued that a mandatory minimum wage is binding only if the wage density displays a spike at it. Gerard J. van den Berg [5] challenged this view by analysing a model with search frictions and heterogeneous production technologies. A simple model was presented, with high and low productivity firms and a variety of possible equilibria. To understand the existence of multiple equilibria intuitively, note first of all that a wage offer by a firm must be in between the reservation wage of the unemployed and the productivity level of the firm. Then, a labour market has either: (1) high-productivity and low-productivity firms, with unemployed workers using a 'low' reservation wage; or (2) high-productivity firms only, with unemployed workers using a 'high' reservation wage.

If the market is in the first equilibrium and a minimum wage is imposed that exceeds the productivity level of the low-productivity firms, these firms would go bankrupt and the market would move towards the second equilibrium, with on average higher wages and more efficient production. The social welfare effect of this shift depends upon the cost of destruction of the low-productivity firms, notably the investment in these firms and the short-term increase in unemployment.

Of course, when multiple equilibria are possible, any change in labour market policy that raises the reservation wage could potentially move the economy between equilibria. Possible alternatives to a minimum wage are an increase in unemployment benefits and the imposition of a tax on firms.

If this minimum wage is below the 'high' reservation wage, then the minimum wage is smaller than the lowest wage in the market and, consequently, the wage density does not display a spike in it. The authors note that, interestingly, wage data from European countries often do not display a spike at the minimum wage even though there is typically full compliance.

## **Job Search with Social Networks**

Unemployed workers can use a variety of methods to find a job. They can contact firms directly, but they can also use friends and relatives, newspapers, private agencies and state agencies. Studies have shown that around 50% of people hear about or get their job through friends and relatives. Firms also use social networks, with a large proportion of vacancies filled with referred applicants. Pierre Cahuc and François Fontaine [6] presented a paper to analyse the job-worker matching process, when workers and firms have access to different search methods. Workers can be matched through social networks and through alternative methods such as private agencies and advertisements in newspapers, which can be more efficient but also more costly. In this framework, the use of social networks is an endogenous choice. The authors show that the decentralized choice of search strategies can give rise to multiple equilibria, and that decentralized decisions can be inefficient. The existence of different job search methods can give rise to a job search intensity that is larger than the efficient

one, if workers coordinate on an equilibrium where costly search methods are over-utilized. This is in contrast with the standard result whereby the search intensity is always too low if not efficient.

The paper also studies the effects of conditional unemployment benefits and job offers subsidies. Unemployment benefits could be made conditional upon an unemployed worker attending a public employment agency, accepting interviews or making a minimum number of job applications. Similarly, when firms are looking to fill a vacancy, they could receive a subsidy on the condition that they use formal search methods, such as sending their offers to public employment agencies. Results suggest that using this method, a public agency, which 'buys' the job demands and offers can incite unemployed workers and firms to coordinate on an equilibrium with a lower unemployment rate than that which is available solely using social networks.

### 5.3 Policy Recommendations

#### General Recommendations

Evidence from paper [4] suggests that a minimum wage, although being a simple and transparent policy measure, is inferior as a means to reduce monopsony power, compared to measures that reduce frictions and stimulate mobility. The main protection of workers against the monopsony power of firms is provided by the ability to move to high-wage jobs. If one is interested in worker protection, then it is more useful to focus on policy measures that stimulate on-the-job search and job-to-job transitions.

The evidence from paper [1] suggests that subsidies to labour market entry and to part-time work have ambiguous effects on female employment. However, reductions in taxes on market activities that are highly substitutable with home production have unambiguous positive effects on market employment and production.

The theoretical evidence from paper [3] speaks in favour of immigration, arguing that the employment rate of native workers is improved, at the expense of lower equilibrium wages. The empirical evidence from paper [2], however, found some negative effects on the employment rates of native workers, but only when considering immigrants with work permits and employment rates defined over sectors of activity. This finding is relevant when evaluating the effects and policy responses of the expansion of the EU into Eastern Europe.

Paper [5] investigated how the interaction between the reservation wage of the unemployed and the productivity level of firms can generate multiple equilibria. The theoretical model showed how a minimum wage policy can raise the reservation wage, and price low-productivity firms out of the market. A minimum wage policy can thus be applied to single out the desirable equilibrium, in which there are only high-productivity firms. In such a case, the resulting minimum wage may wrongfully appear to be irrelevant, if there is no spike in the wage offer distribution. This is because it can

still have an impact, even if its value is strictly smaller than the lowest wage in the market. Alternative policies that can raise the reservation wage include an increase in unemployment benefit or a tax on firm profits. The social welfare effect of such policies depends upon the costs of pricing the low-productivity firms out of the market. These include the cost of investment in these firms and the short-run increase in unemployment. Structural unemployment may also be created among low-productivity workers.

The theoretical results from paper [6] shed some new light on the role of employment agencies. Where individuals and firms have access to different search methods, employment agencies can act as an instrument of coordination that can steer the economy away from inefficient outcomes of a decentralized labour market. This can be achieved through conditional benefits and subsidies, which encourage more efficient search methods and can lead to a decrease in the unemployment rate. The idea of making unemployment benefits conditional on the behaviour of the unemployed worker is not new, and is an established part of many compensation systems around Europe. However, this paper offers theoretical support towards the increasing use of conditionality on both sides of the market. Subsidies could be made conditional on firms using formal job search methods, such as sending their job offers to public employment agencies.

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# 6. Labour Market Frictions, Institutions and Performance

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## 6.1 Context of the Research

In this Workpackage we investigate the nature of labour market institutions in Europe and the level of unemployment. We directly address the objectives of identifying some of the key factors that affect unemployment and on improving our understanding of how employment might be reduced. This includes the role of employment protection legislation and labour market regulation. The papers are numbered for easy reference and appear at the end of the Workpackage. Maximum workweek legislation is investigated empirically in paper [1] and theoretically in paper [2]. The effect of firing costs has been studied with respect to adverse selection [3], the macroeconomic environment [4] and the size of firms [5]. Reform of unemployment compensation systems is investigated in papers [6] and [7]. Finally, payroll tax subsidies for low wage workers are studied in paper [8].

## 6.2 Research Findings

### Maximum Workweek Legislation

Bruno Crépon and Francis Kramarz [1] investigated the effect of the February 1982 reduction of the maximum workweek in France, from 40 to 39 hours. They used data from the French Labour Force Survey from 1977 to 1987. Their findings can be summarized:

- Workers doing 40 hours or more in March 1981 (before the reduction) were less likely to be employed in 1982 (after the reduction) than observationally identical workers who were working 36–39 hours. To quantify, these workers faced a 3.9% increase in the probability of moving to unemployment.
- Workers still employed for 40 hours following the reduction lost their jobs more often than those

already adjusted to the new standard workweek. They faced a 2.3% increase in the probability of moving to unemployment.

The workers negatively affected were precisely the minimum wage workers that such policies try to protect. The burden fell almost entirely on the minimum wage workers employed exactly 40 hours in 1982. The mandatory stability in monthly wages when combined with the reduction of the workweek and the increase in the minimum wage in July 1981 meant that the most cost effective policy was to fire workers and hire new ones whose monthly earnings were based on actual hours worked.

Javier Ortega [2] modelled a labour market in order to explore whether there is an efficiency rationale for regulating working time, and also to assess the efficiency of so-called 'work-sharing' policies, whereby the workweek is reduced as a means of fighting unemployment. The model explicitly considered firm heterogeneity, and used a standard Pissarides matching function. The model argues that:

- The first-best allocation is unattainable under laissez-faire or a legal workweek, because this requires agents to sign wage contracts that specify a wage rate for each state of demand.
- Under laissez-faire, the number of hours worked for each demand level is inefficiently low, thus laissez-faire also cannot match the efficient average working time. However, by imposing an inefficiently low number of hours to high-demand firms, and an inefficiently high number of hours to low-demand firms, a legal workweek may be the only way of reproducing the optimal average hours. Thus a legal workweek is not good nor harmful *per se*, rather its impact on efficiency depends on the level at which it is set.
- Results also show that, theoretically, if low-demand firms experience low enough levels of demand and/or the overtime wage rate is relatively small, then a legal workweek may boost employment through work sharing.

### Employment Protection Legislation

Adriana D. Kugler and Gilles Saint-Paul [3] investigated how firing costs affect worker flows in a world with adverse selection. When worker quality is imperfectly observed and firing costs are high, firms must contend with the possibility of hiring a 'lemon' (i.e. a less productive worker) in addition to the possible expense of dismissal. The central theoretical prediction of this paper was that as firing costs increase, firms increasingly prefer hiring employed workers, who are less likely to be lemons. To test this model they used the US National Longitudinal Survey of Youth, for the years 1979–84 and 1996. The results are consistent with a lemons story and show:

- In US states that introduced firing costs for unfair dismissals, estimates show that re-employment probabilities for the unemployed were reduced by 0.161 relative to employed workers.



- Discrimination against the unemployed is greater for non-unionized workers, whose re-employment probability was reduced by 0.210 relative to employed workers. For unionized workers, the reduction was estimated at 0.105, since unionized jobs are covered by layoff-by-seniority rules.
- Discrimination against the unemployed is greater for dismissed workers than for workers who are unemployed because of the end of a contract.

Labour market rigidities such as firing costs are often blamed for the high unemployment rates in Europe relative to the United States. It is then difficult to explain why European unemployment was roughly half that of the United States throughout much of the 1950s and 1960s, even though job security legislation was more stringent during this period. Yu-Fu Chen, Dennis Snower and Gylfi Zoega [4] presented a theoretical model of labour demand with firing costs. This model was used to analyse the effect of firing costs on employment in different macroeconomic environments. Their results argue:

- Firing costs may have no negative effects, and may act to stimulate employment, if productivity grows sufficiently fast and the likelihood of a major recession is low. These are conditions that on the whole, prevailed in the 1950s and 1960s.
- If productivity growth is low and the likelihood of major recessions is high, firing costs can have a severely negative effect of employment. Such conditions prevailed in the 1970s, as a result of the oil price and other raw material price shocks.

In most European countries, employment protection legislation is not applied uniformly across firms of different size. In Italy, firms with more than 15 employees cannot freely dismiss workers for economic reasons, and are obliged to rehire the dismissed employee when a judge rules the dismissal unfair. Small firms, by contrast, are only obliged to compensate the dismissed worker with a monetary transfer. Andrea Borgarello, Pietro Garibaldi and Lia Pacelli [5] used firm level data drawn from the Italian Social Security (INPS) Records for the period 1987–96, to study whether the existence of the 15 employees threshold modifies employment dynamics, and whether firms are more inactive with respect to employment increases when close to the threshold. The results suggest:

- While the probability of not changing employment level decreases markedly with firm size, it experiences a statistically significant spike in the region below the threshold. Firms employing 14 and 15 employees have a probability of inaction that is 1.5% higher than statistical models would predict.
- The probability that a firm grows or shrinks by one employee is more stable and does not feature any significant spike around the threshold. When these two probabilities are combined to give the net probability of growing by one person, however, there is asymmetric behaviour around the threshold. Firms with 15 employees are 1.6% more likely to move downwards (i.e. employ fewer people) than move upwards.

- The paper also estimated the effect of a 1990 reform, which forced small firms to dismiss workers only when a just cause rule applies. Results show that inaction among small firms increased significantly after 1990.

### Reforms of the Unemployment Insurance and Assistance System

Most European countries' benefits systems are characterized by the coexistence of unemployment insurance and assistance. In France, unemployment insurance (UI) is given for a limited duration which depends on the past employment history, and the benefits decline over time. The unemployed who fail to meet the insurance eligibility criteria, or who have exhausted their entitlement, receive unemployment assistance (UA) benefit. Assistance benefit is constant over the unemployment spell and is aimed at fighting against poverty. Javier Ortega and Laurence Rioux [6] developed a theoretical model to analyse the interactions between unemployment insurance and assistance. Within this framework, they simulated the effects of reforms of the compensation system on the unemployment rate, the share of UI recipients in total unemployment, and on social welfare. The reforms were as follows:

1. A 10% increase in UA benefit.
2. A 6.5% increase in UI benefit.
3. A 3-month increase in the duration of UI entitlement.
4. A 1-month decrease in the employment spell duration required for UI eligibility.

In order to calibrate the model to reproduce the main features of the French labour market, variables were estimated using the French sample of the European Panel Survey, for the period 1993–8. The estimates suggest:

- An increase in UA benefit enables former UA recipients to negotiate 3.5% higher wages because their threat point is improved. The same is true for former UI recipients but to a lesser degree: their wages increase by 0.04%. Higher wages lead to a moderate rise in unemployment of 1.3%. The rise in UA reduces the share of unemployed receiving UI by 1%. All workers (whether employed or not) benefit from the rise in UA, since the rise in welfare from higher wages/benefits, exceeds the negative effects of higher unemployment and higher taxes. Finally, firms are worse off because they have to pay higher wages.
- The effects of an increase in UI are different from above, since it marginally increases wages of former UI recipients (+0.10%), but reduces wages of former UA recipients (–2.35%). The effect on unemployment is comparable; it rises by 1.1%. The share of unemployed receiving UI fractionally increases. Welfare rises for current and former UI recipients, but falls for current and former UA recipients. Once again, firms are worse off because of higher wages.
- As expected, an increase in the duration of UI entitlement results in a 4% higher share of the unemployed receiving UI. Overall unemployment falls slightly (–0.41%), however, because this induces a reduction in wages of former UA recipients, which stimulates employment. Welfare is higher for the unemployed

because of more generous benefit system, but lower for the employed either because of the cost of financing the system or due to lower wages.

- A one-month reduction in the employment spell required to receive UI results in a lower unemployment rate ( $-0.82\%$ ). Wages fractionally rise for former UI recipients, but those of former UA recipients fall by  $16.56\%$ . This leads to an increase in the share of UI recipients, as firms find it cheaper to employ UA recipients. Concerning welfare, all agents benefit and firms are the only losers.

Stéfan Lollivier and Laurence Rioux [7] estimated a non-stationary structural model of job search, in order to evaluate the impact of different reforms of the unemployment compensation system. They used the French sample of the European Panel Survey for the years 1994 to 2000. The different reforms and their effects are:

- A  $14\%$  increase in the amount of unemployment insurance (UI) benefits has a negative, but quite limited impact on the exit rate to employment. This resulted in an increase in the expected duration of unemployment from 14.01 months to 14.35 months (i.e.  $+2.42\%$ ). Former high-wage workers are far more sensitive than the others. For the top quartile of the UI benefits distribution, the mean duration of unemployment goes from 16.01 months to 16.7 months (i.e.  $+4.31\%$ ).
- The replacement of a declining sequence of insurance benefits by a constant sequence has the effect of increasing unemployment durations by 1.39 months ( $+9.92\%$ ). The reform increases the financing cost for the UI agency by  $14\%$ . Therefore reforms A and B have the same *ex ante* cost, but reform B has a far greater negative effect on unemployment durations. Once again, former high-wage earners are the worst affected; their unemployment duration is raised by 3.92 months or  $24.48\%$ .
- The reform B combined with the imposition of punitive sanctions (such as benefit cuts) if two job offers are refused. Compared with reform B, the imposition of sanctions seems to shorten substantially the expected duration of unemployment, which goes from 15.4 months to 13.15 months ( $-14.61\%$ ). Once more, the effect is stronger for former high-wage earners, whose duration falls by  $30.85\%$ .
- A three-month increase in the maximum duration of UI entitlement has quite a limited impact. The expected duration of unemployment goes from 14.01 months to 14.07 months, and the result is the same for the top quartile of the UI benefits distribution.

### **Payroll Tax Subsidies**

To counteract the disappearance of unskilled jobs, payroll tax subsidies for low-wage workers were enacted in France in 1993, and have been considerably increased between 1995 and 1996. By gradually reducing the employer-paid contributions, they have permitted a substantial decrease in the labour costs of the lower paid. Bruno Crépon and Rozenn Desplatz [8] studied the impact of the 1995 and 1996 subsidies on different variables such as value added, employment, capital, productivity, and the

proportions of different categories of workers broken down by age, skill level and gender. For this they utilized matched firm-worker data from the 'Déclarations Annuelles de Données Sociales' and the 'Bénéfices Réels Normaux' over the period 1994–7. The results show that:

- 470,000 jobs have been created or safeguarded in the French economy between 1994 and 1997 as a result of the tax reductions for low-wage workers.
- These resulted from substitution effects between different categories of workers and also, although on a smaller scale, between capital and labour.
- Job creations are explained by scale effects linked to falls in price, which themselves are induced by the reduction in production costs.

## 6.3 Policy Recommendations

### General Recommendations

Paper [1] found that the 1982 reduction in the maximum workweek in France had negative effects on employment, especially for minimum wage workers. This should be taken into account when analysing whether the further reduction to a 35-hour workweek should be extended to small firms. The theoretical evidence from paper [2], however, suggests that a legal workweek is not harmful *per se*, rather its impact on unemployment depends on the level at which it is set. Furthermore a legal workweek may boost employment through work sharing, if low-demand firms experience low enough levels of demand and/or the overtime wage rate is relatively small. Also, evidence from paper [8] suggests the extension of differential payroll tax subsidies for low wage workers, may well counteract the potentially major disemployment effects. The evidence on the effects of firing costs has a number of policy implications. Labour market rigidities are often blamed for the high unemployment rates in the EU relative to the United States. Paper [4] argued that there is no simple inverse relationship between labour market rigidities and unemployment. This is because the effect of firing costs depends upon the interplay between institutions, cyclical shocks and the level of labour productivity growth. A failure to take this into account may lead to incorrect policy recommendations.

Paper [5] provided some evidence that firm level dynamics are affected by employment protection legislation. Firing costs based upon size may act as a disincentive to growth for firms close to a threshold.

### Specific Recommendations

Papers [6] and [7] both investigated reforms of unemployment compensation system. Their results have the following implications for policy:

- Both papers concluded that policies that raise unemployment benefits have negative employment effects but the size of the impact is small. Their effect on social

welfare is positive even once account is taken of their financing cost. However, the welfare effects are not positive for all groups of workers. Former high-wage workers experience the largest rise in unemployment durations.

- Policies aimed at softening eligibility to UI reduce unemployment slightly. Overall social welfare is always improved, but the welfare effects for some groups are negative.
- Declining benefits offer an effective tool for reducing unemployment durations. Paper [7] estimated that the replacement of a declining sequence with a constant sequence increased unemployment insurance by around 10%.
- Punitive sanctions, such as benefit cuts, were estimated in paper [7] to have substantially reduced unemployment durations, especially for former high-wage workers.

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