

FACULTY OF APPLIED ECONOMICS

ALGEMENE ECONOMIE

**EMU AND LABOUR REFORM:
NEEDS, INCENTIVES AND REALISATIONS**

A. VAN POECK & A. BORGHIS

RESEARCH PAPER 2001-022
August 2001

Faculty of Applied Economics UFSIA-RUCA, University of Antwerp
Prinsstraat 13, B-2000 ANTWERP, Belgium
Research Administration - B.112
tel (32) 3 220 40 32 fax (32) 3 220 40 26
e-mail: sandra.verhije@ua.ac.be/joeri.nys@ua.ac.be

D/2001/1169/022

EMU and Labour Market Reform: Needs, incentives and realisations

André Van Poeck*, Alain Borghijs**

This version: 17 August 2001

Abstract

Despite improving labour market conditions in recent years, a number of EMU countries still suffer from high and persistent unemployment. It could therefore be expected that labour market reform would be given a prominent position on the political agenda. The new constraints associated with the common monetary policy only increase the pressure for reform. Relying on the introduction of the single currency as a trigger for labour market reform may be a risky strategy. EMU generates a complex set of re-optimising strategies of the players on the labour market, which makes it difficult to get a clear idea what impact it will have on labour market reform. Evaluation of recent reform measures does not make one confident either. The empirical analysis confirms to some extent the idea that countries with higher unemployment rates have carried out more labour market reform. This finding holds, however, only for countries that do not belong to EMU. EMU countries have on average carried out no more reform than countries outside EMU and any link between the initial unemployment level and the labour market reform indicators seems to lack. It may become apparent that more reform is needed once the macroeconomic environment becomes more unfavourable.

Keywords: unemployment, European Monetary Union, labour market reform

* Faculty of Applied Economics UFSIA-RUCA, University of Antwerp

** Faculty of Applied Economics UFSIA-RUCA, University of Antwerp and Fund for Scientific Research – Flanders
We are grateful to an anonymous referee for useful suggestions, but the usual disclaimer applies.

Introduction

Labour market conditions in Europe are still fragile, despite some recent improvements in unemployment rates. Reform of labour market institutions to improve real and nominal wage flexibility therefore remains a key policy issue. This paper deals with the interaction of labour market reform and the introduction of the single European currency. Section 1 describes the current state of European labour markets and relates poor labour market performance to a set of institutions that support real and nominal wage rigidity. The need for reform of these institutions to improve labour market performance is stressed. Section 2 discusses the incentives for labour market reform inside and outside the monetary union. As the theoretical and forward-looking analysis of section 2 is inconclusive whether EMU will function as a catalyst or hindrance to labour market reform, section 3 looks backward and evaluates the progress in labour market reform for EMU and a number of non-EMU countries in the recent past. It is found that EMU countries have not been more diligent in labour market reform than countries outside the EMU, despite the worse situation in the labour market. The level of equilibrium unemployment at the beginning of the 1990s does not determine the amount of labour market reform in EMU countries either, as it is the case for non-EMU countries. Section 4 contains some concluding remarks.

1. Real and nominal wage flexibility in the EMU and the need for labour market reform

Contrary to the inflation record and the situation of the public finances in the member countries, the beginning of EMU coincides in general with a negative balance in the labour market. Although equilibrium unemployment has significantly decreased over the 1990s in Ireland, the Netherlands, Portugal and Spain and has reached moderate levels in Austria, the Netherlands and Portugal, average equilibrium unemployment in EMU is still considerably higher than in the non-EMU countries (see Table 1¹).

¹ As Elmeskov et al. (1998) we consider equilibrium unemployment rates to correct for differences in the business cycles among countries. Note however that the equilibrium unemployment rate is an estimated concept that cannot be observed. Equilibrium unemployment rates are therefore sensitive to the estimation technique.

Table 1: Equilibrium unemployment in the OECD countries^a

	EMU countries					Non-EMU countries					
	1980	1985	1990	1995	1999	1980	1985	1990	1995	1999	
	Increasing NAIRU ^b										
Finland	4.3	3.9	5.6	10.6	9.0	Japan	1.9	2.7	2.2	2.9	4.0
Germany	3.3	4.4	5.3	6.7	6.9	Sweden	2.4	2.1	3.8	5.8	5.8
Italy	6.8	7.8	9.1	10.0	10.4						
	Stable NAIRU										
Austria	1.9	3.2	4.6	5.0	4.9	Australia	5.1	6.0	6.5	7.1	6.8
Belgium	5.5	6.8	8.4	8.0	8.2	New Zealand	1.6	5.1	7.0	7.5	6.1
France	5.8	6.5	9.3	10.3	9.5	Norway	2.2	2.6	4.6	4.9	3.7
Greece	4.6	6.5	8.4	8.8	9.5						
	Decreasing NAIRU										
Ireland	12.8	13.2	14.1	10.8	7.1	Canada	8.9	10.1	9.0	8.8	7.7
Netherlands	4.7	7.5	7.5	6.1	4.7	Denmark	5.8	5.9	6.9	7.1	6.3
Portugal	6.1	5.4	4.8	4.2	3.9	Switzerland	2.3	2.9	3.0	3.3	2.4
Spain	7.8	14.4	17.4	16.5	15.1	United Kingdom	4.4	8.1	8.6	6.9	7.0
						United States	6.1	5.6	5.4	5.3	5.2
	Average NAIRU										
Average	5.8	7.2	8.6	8.8	8.1		4.1	5.1	5.7	6.0	5.5
Stdev	2.8	3.6	4.0	3.4	3.2		2.4	2.6	2.3	1.9	1.7
Weighted average	5.5	7.1	8.8	9.2	8.9		4.8	5.3	5.2	5.1	5.3

Source: Elmeskov et al. (1998) based on OECD secretariat

The remarkable differences in labour market performance between countries that often share the same adverse shocks (like e.g. the oil price shocks) have been the object of extensive theoretical and empirical research. It is now generally accepted that a high degree of real wage rigidity is one of the main causes of high equilibrium unemployment rates. Real wage rigidity is often supported by labour market institutions giving incentives for real wage hikes or preventing a real wage decline in the wake of an adverse supply shock to the labour market (Bean, 1994; Blanchard and Wolfers, 2000). Labour market institutions that are assumed to support real wage hikes and downward real wage rigidity are the degree of centralisation, co-operation and co-ordination in the wage bargaining process, employment protection legislation (hiring and firing costs), the level and duration of unemployment benefits and the share of active labour market policy (education, mediation). We first discuss in some detail the relationship between the wage bargaining institutions (centralisation, co-operation and co-ordination) and labour market performance, after which the other labour market institutions are discussed.

Wage negotiations can take place at the following levels of *centralisation*:

- Firm- or plant-level (decentralised bargaining)

^a As a per cent of the labour force. Equilibrium unemployment data are based on estimates of the NAIRU made for the OECD Economic Outlook (2000). An increase or decrease over the period 1990-1999 is considered significant (in absolute terms) if it exceeds one standard deviation. The latter was calculated for each country over the 1980-1999 period.

^b The NAIRU or non-accelerating inflation rate of unemployment can be defined as the rate of unemployment at which inflation is stable and which is not amenable to macroeconomic policy measures.

- Industry-level (bargaining at the intermediate level)
- National or country-wide level (centralised bargaining)

With respect to the impact of the degree of centralisation of wage bargaining on labour market performance, there exist three views (Traxler and Kittel, 2000). The neoliberal school favours the highest degree of "marketisation" of wage bargaining. This view hinges on the idea of union bargaining power. The more decentralised the bargaining process, the less bargaining power trade unions can exert. This school moreover considers high union coverage through legal extension mechanisms and high degrees of unionisation as detrimental for labour market performance, as they increase the bargaining power of unions. The recommendation by the OECD to decentralise wage determination is inspired by this view.

The corporatist school argues that countries with centralised bargaining have superior labour market performance. In contrast to the neoliberal school, corporatists do not assume that higher bargaining power automatically leads to higher wage demands. Centralised wage-setters are more aware of the negative externalities associated with high wages (see Calmfors (1993) for an overview of these externalities). In this view centralised bargaining is best suited for internalising these externalities. The hump-shape hypothesis (Calmfors and Driffill, 1988) combines both arguments, which results in superior labour market performance for both decentralised (high degree of competition) and centralised bargaining (high degree of internalisation) arrangements. Industry-level bargaining results in the least wage restraint and leads to inferior labour market performance.

The hump-shape hypothesis, probably the most widespread view among economists nowadays, should be extended for the openness of the economy (Danthine and Hunt, 1994; Calmfors, 1993). The concepts of union power and internalisation are maintained, but the incentives for trade unions in an open macroeconomic environment change. Two issues are relevant. Firstly, at the industry level, trade unions cannot exert monopoly power if they operate in an international product market. In an international industry that produces tradable goods, unilaterally raising the wage in one country would be harmful for the industry in that country. Secondly, at the national level, the incentive to internalise negative wage externalities may fade away if the country belongs to a monetary union. High wage demands in a single member state of the monetary union are unlikely to have a large impact on inflation of the union. In this sense, centralised bargaining in a monetary union is very similar to intermediate bargaining in an open economy.

The level of wage bargaining should further be supplemented by the degree of international *co-operation* of wage bargaining. Unmistakably, international trade union co-operation leads to an increase in bargaining power of unions as international competition among unions decreases. Especially in small open economies, trade union co-operation may increase union bargaining power considerably as the relevant macroeconomic environment becomes more closed. Yet, positive effects on the capability of internalising externalities can be expected from union co-operation at the national level between member states of a monetary union. The above-mentioned lack of internalisation can be overcome when centralised unions bargain co-operatively, taking into account the negative externalities of high wage demands for the entire union.

A different theory builds on the concept of *co-ordination* in wage bargaining, which is defined as the degree of consensus between the bargaining partners (Soskice, 1990). It acknowledges the concepts of competition and internalisation that result in the Calmfors-Driffill hump-shape, but argues that these concepts are determined by the degree of co-ordination, rather than the degree of centralisation of wage bargaining. Instead of concentrating on the formal level at which wage negotiations take place, this theory focuses on the existence of mechanisms that co-ordinate the behaviour of trade unions and employer organisations. For highly centralised bargaining systems, the degree of co-ordination and centralisation are likely to be identical. More decentralised systems may, however, exhibit higher degrees of co-ordination than the formal level of centralisation may suggest. With respect to the impact of the degree of co-ordination of wage bargaining on labour market performance, Soskice (1990) finds that higher levels of co-ordination result in lower unemployment. This may be attributed to the higher internalisation capacity of co-ordinated arrangements. In this sense, the co-ordination theory is similar to the corporatist school. Summarising the analysis of the wage bargaining institutions, it can be concluded that labour market performance depends on the degree of union bargaining power and the extent to which unions internalise negative wage externalities. These are determined by the degree of centralisation, co-operation and co-ordination of wage bargaining.

Turning to the other labour market institutions it is suggested that strict employment protection legislation may contribute to higher equilibrium unemployment, especially among young persons and the low-skilled. This can be explained by the fact that high hiring and firing costs make firms reluctant to hire new and inexperienced workers. This decreases the outflow rate out of unemployment for these groups. As stricter employment protection also makes firms more reluctant to fire incumbent workers during a downturn of economic activity, it tends to decrease short-term unemployment. Consequently, the evidence that strict employment protection would

increase total unemployment is weaker (Scarpetta, 1996; Nickell and Layard, 1997; Elmeskov et al., 1998).

Generous unemployment benefits are also found to have a negative impact on equilibrium employment and on wage flexibility (Plasmans et al., 1999). Unconditional benefits reduce the downward pressure on wages and sustain (partially voluntary) unemployment, especially when the gap between unemployment benefits and the lowest wages is narrow. Nickell (1997) and Nickell and Layard (1997) find that the negative effects of a generous benefit system can be offset by active labour market policy. If benefits are limited in time and conditional upon the willingness of the unemployed to follow retraining or other re-employment programs, positive employment effects are noted as the employability of the average unemployed is increased.

Given the persistent unemployment problem in most of the EMU countries and the apparent link between labour market performance and labour market institutions, it is clear that there is a need for reforming these institutions in a way that increases real wage flexibility and reduces the pressure for real wage hikes. It is expected that appropriate reform will reduce equilibrium unemployment rates in the EMU countries. This is also the position taken by official institutions, like the IMF (views expressed in the World Economic Outlook and various European country reports), the EU (reflected in the annual Employment Guidelines) or the OECD (see Jobs Study and several follow-up reports). A detailed list of OECD recommendations can be found in Annex 1. These proposals include a reduction of union power, the relaxation of strict employment protection legislation, the reduction of the generosity of the benefit system, a more active labour market policy and a reduction of the tax wedge².

The need for labour market reform in EMU member states is further enhanced by the increased role of *nominal* wage flexibility in the member countries. This is the well-known argument for nominal flexibility in case a member country in a monetary union is hit by an asymmetric shock (Pissarides, 1997; Calmfors, 2000). An example may clarify this point. Suppose a country is hit by an idiosyncratic negative demand shock. In order to rekindle demand for its products, the country may devalue its currency or lower the domestic interest rate. These options are, however, only available when countries do not take part in EMU. A country whose nominal exchange rate and interest rate are tied down by a monetary union would have to exert itself considerably more than a country with monetary autonomy. The only option for an EMU member to restore demand is to go

² Unlike the OECD, we do not consider the labour taxes as a labour market institution.

through an adjustment process in the labour market³. Reduced demand causes an increase in unemployment and puts downward pressure on nominal wages. The duration of the adjustment process crucially depends on the amount of (downward) nominal inertia. The higher the degree of nominal wage rigidity, the longer the period of increased unemployment. If, moreover, the unemployed suffer from skill deterioration in the course of the adjustment process, the original level of equilibrium unemployment may not be attained again.

What determines the responsiveness of nominal wages? Three determinants have been advanced in the literature to explain the degree of nominal inertia. The first relates to the duration of wage contracts. Long contracts increase the probability that at some point - if a shock occurs - the negotiated wage may no longer correspond to the macroeconomic conditions. Wage indexation may compensate some of the rigidity induced by long contracts. This is, however, only correct for upward price shocks since negative demand shocks do not automatically induce downward wage corrections.

Secondly, it has also been established that nominal wage inertia varies with the degree of centralisation of wage bargaining. Calmfors (2000) argues that downward nominal flexibility would be higher when wages are negotiated at the central level. His argument rests on the insight that centralised bargaining is more synchronised than decentralised bargaining and that it eliminates wage-staggering. This can be clarified by the following example. Suppose again that a member country of EMU is hit by a negative asymmetric demand shock. The need for wage moderation to restore competitiveness is acknowledged by a centralised wage-setter and agreed upon. If, however, bargaining takes place at the industry level at different points in time, wage moderation may be more difficult to achieve. If one of the industries has set its wage prior to the shock, concern over relative wages in other sectors may prevent large wage deviations from the wage-set in the 'leading sector' (an argument dating back to Keynes). Wages in other sectors may therefore only partially adjust to the negative demand shock, extending the negative effects of the shock over a longer time period.

A third strand of the literature stresses the importance of the inflation rate for the issue of nominal rigidity, especially in the downward direction (Akerlof et al., 1996). The central idea is both unions and employers are reluctant to cut nominal wages because it would hurt morale (Bewley, 1999). If inflation is high, downward nominal wage rigidity should be no obstacle to cut wage costs as wage moderation or real wage cuts can be achieved by slowing down the rate of nominal

³ This - reasonably - assumes that fiscal policy is not an available option.

wage growth below the rate of inflation. If inflation is low, however, nominal wage cuts may be necessary to prevent unemployment increases.

Summarising the analysis in this section it can be concluded that labour market reform in EMU is needed to bring down equilibrium unemployment and to ease the adjustment process in the wake of negative shocks. With respect to the first reason, theoretical and empirical research suggests that less union bargaining power and more internalisation of negative wage externalities could bring about positive employment effects. This could be achieved by decentralising wage bargaining, discouraging union co-operation at the industry level and increasing wage bargaining co-ordination. A decrease in equilibrium unemployment rates could also follow from relaxing strict employment protection legislation and reducing the generosity of unemployment benefits in combination with more active labour market policies. With respect to the second reason it can be concluded that - although EMU member states are not a priori characterised by higher nominal wage inertia than countries outside EMU - there is an increased need for downward nominal wage flexibility as the number of adjustment mechanisms is reduced by the introduction of the single currency. Considering positive and negative demand shocks, better labour market performance could be achieved by reducing upward flexibility and increasing downward wage flexibility. Centralising wage bargaining, shortening wage contract duration and increasing inflation could contribute to this. Table 2 summarises some possible suggestions for labour market reform. Note that the recommendations with respect to the degree of bargaining centralisation conflict.

Table 2: Problems and cures in European labour markets

Problem	High equilibrium unemployment	Large unemployment deviations
Cure	Increase real wage flexibility	Increase downward nominal wage flexibility
Labour market reform	Decentralise wage bargaining	Centralise wage bargaining
	Discourage union co-operation at the industry level	Reduce contract duration
	Increase bargaining co-ordination	
	Reduce employment protection legislation	
	Reduce unemployment benefits	
	Increase active labour market policy	

2. The incentives and political feasibility of labour market reform under EMU

The foregoing analysis has clarified the need for labour market reform in EMU, both to bring down equilibrium unemployment and to ease the adjustment process in the wake of asymmetric shocks. Despite the objective need for labour market reform, several countries have been reluctant to implement it, given the public resistance to cutbacks in the acquired level of social protection (Boeri et al., 2001). This section addresses the question whether EMU may contribute to the necessary changes. We will first discuss wage bargaining institutions and the behaviour of trade

unions, after which we will focus on the impact of EMU on the incentives of national governments to reform the labour market.

2.1. EMU and wage bargaining

It has already been indicated that union bargaining power, the extent of internalisation of wage externalities and the degrees of centralisation, co-operation and co-ordination of wage bargaining play an important part in labour market performance. We first discuss a number of issues relevant to the level of equilibrium unemployment, after which we focus on the issue of nominal wage flexibility.

Union bargaining power may come under pressure through increased product market competition in the Euro-zone. More competition in the product market increases the elasticity of product demand. According to the Marshall-Hicks rule of labour demand - which states that the elasticity of labour demand is higher when demand for the product produced with that labour is more elastic - this would lead to an increase in the elasticity of labour demand and lower wages (Burda, 1999). Similar effects could be caused by increased transparency from the single currency, which facilitates the international comparison of wages. Unions in high-wage countries may be forced to cut wages to increase competitiveness and to achieve employment gains (Peters, 1995). The incentives to internalise negative wage externalities may increase because it has become impossible to devalue a national currency to correct excessive wage claims. This may lead to more moderate wage demands. An opposing argument leading to less internalisation under EMU is that all unions perceive themselves as smaller units of a broader monetary area. This may incite them to demand higher wages (Cuckierman and Lippi, 1999).

Apart from these effects, EMU is also likely to have more structural consequences. More specifically, we argue that EMU increases the incentives for and lowers the costs of European trade union co-operation. This can be explained as follows: closer integration in the product market results in lower wages. This increases the pressure on unions to restore the original wage level, which can be achieved by an increase in bargaining power. Therefore, increasing economic integration increases the incentives for unions to negotiate at the European level, as this would increase their bargaining power. At the same time EMU lowers the barriers for European co-operation among labour unions through increased transparency, reduced uncertainty and a convergence of the institutional environment. Since wages are predominantly negotiated at the industry level in most European member states nowadays, it is not unlikely that European bargaining in the future would take place at the industry level. This evolution towards increased

bargaining co-operation could therefore potentially lead to higher wage demands and higher unemployment. Summing up, the above arguments give no univocal indication as to whether EMU changes union behaviour such that equilibrium unemployment will decrease.

With respect to nominal wage flexibility, the following issues may be relevant. The first relates to the duration of wage contracts. If EMU increases the variability of economic activity, unions may prefer shorter contract periods (Calmfors, 2000). Secondly, if the above-described increase in bargaining co-operation materialises, this may lead to more nominal wage flexibility. To the extent that increased co-operation also entails more synchronisation of wage bargaining, the Keynesian relative wage argument for nominal wage rigidity may be weakened. The final argument relates to the persistence of downward nominal wage rigidity in a low-inflation environment. If trade unions perceive the introduction of the single currency as a radical regime switch to a persistent low-inflation environment, traditional resistance against nominal wage cuts may erode in order to prevent job losses. These theoretical arguments would thus suggest that EMU would increase nominal wage flexibility.

2.2. EMU and labour market reform

In this section we address the question whether EMU influences the incentives of national and European governing bodies to reform the labour market.

In general, countries have an incentive for labour market reform not only because it decreases equilibrium unemployment, but also because it brings down the inflation bias (Barro and Gordon, 1983). For individual countries inside the monetary union, the link between national labour market reform and inflation bias is however weak. Since reform in a single member state only brings equilibrium unemployment in the union down by a small amount, the benefits of a reduced inflation bias are only marginal. The incentives for labour market reform would therefore be smaller for countries in the EMU than for countries outside the EMU (Calmfors, 1998; Sibert and Sutherland, 2000). A second argument why policy-makers could be more reluctant to carry out labour market reform in EMU as compared to policy-makers outside the EMU is the likely co-operation of the ECB in comparison to a national central bank in an encompassing policy framework. Rigid nominal wages prevent the real wage level from falling and the employment level from rising after the reform. A real wage decline could be obtained through combining labour market reform with a (temporary) monetary expansion. It is however very unlikely that the ECB will co-operate in this policy mix. Finally, under EMU the pressure for fiscal consolidation, which was a prerequisite for entry, may subside. To the extent that labour market reform is

fostered by the need to reduce budget deficits, there will be less pressure for reform (Bean, 1998; Calmfors 1998).

A common argument in favour of more labour market reform inside EMU is the so-called TINA argument (There Is No Alternative). Under EMU, monetary policy and more specifically competitive depreciations are no longer available to offset negative shocks. The only option therefore that remains is to ensure that labour markets are sufficiently flexible to absorb the shocks, which can only be achieved through labour market reform. Another argument that points to more labour market reform inside EMU is that unemployment will be more volatile in EMU, as monetary policy is no longer available to stabilise asymmetric shocks. Insofar governments are especially averse towards very bad unemployment outcomes, they will anticipate the problem and carry out precautionary labour market reform. Labour market reform may also be stepped up to attract inward flows of capital. To the extent that EMU increases the mobility of business through increased price transparency and economic integration, the location of business may become more sensitive to labour costs. This may increase competition between countries to reform the labour market in order to bring down labour costs. (Bean, 1998; Calmfors, 1998; Calmfors 2001). Summing up the foregoing arguments, it remains inconclusive if EMU will reduce or increase the incentives for national governments to reform the labour market.

At the European level, policy makers have shown a keen interest in labour market reform. This has been inspired by the fact that some member states are characterised by high equilibrium unemployment and that labour market reform is considered necessary to ensure a viable EMU. To ensure that the necessary steps towards labour market reform would be taken by the member states, the Council of Ministers initiated in 1997 the “Luxembourg Process”, which formulates annual Employment Guidelines. These guidelines, focusing on employability, entrepreneurship, adaptability and equal opportunities, are aimed at reducing structural unemployment in Europe. They are supplemented by Broad Economic Guidelines, directed at increasing the flexibility of the labour market. The implementation of the Employment Guidelines is subject to annual control of the European Commission and the European Council.

Although these guidelines constitute a clear pressure to impose labour market reform on the European member states, the question remains whether member states are willing to implement the (often unpopular) guidelines. Above we developed arguments that cast doubt on the incentives for national labour market reform. Since national and European governing bodies sometimes consist

of the same people, incentives may be conflicting. Moreover, no retaliation mechanism in case of non-implementation has been imposed.

3. Progress in labour market reform in EMU and non-EMU countries

The analysis in the previous section has uncovered a number of channels through which the introduction of the single currency may influence equilibrium unemployment and wage flexibility in EMU. It has become apparent that changes in the labour market can go either way. Empirical analysis will therefore be necessary to get a better idea of the precise impact of EMU. At this moment, it is still too early to assess the impact of EMU on European labour markets. The changes in the labour market over the 1990s may, however, give some indication of what the future may bring about. The prospect of joining EMU may be as big an incentive to reform the labour market as the single currency itself. Moreover, the macroeconomic environment over the 1990s comes very close to the EMU conditions. Apart from the 1992-93 EMS crisis, the past decade was characterised by a fairly stable monetary environment, low inflation and fiscal restraint in most European member states.

In this section, we discuss the progress in labour market reform in a number of countries. The discussion focuses on the amount and nature of labour market reform that individual countries have implemented. Particular interest goes to the part EMU has played in labour market reform. Has the prospect of joining EMU had a similar disciplining effect on labour market policy as it has had on monetary and fiscal policy? We evaluate the reform undertaken in individual countries by means of two indicators, viz. by the OECD follow-through rate and by the potential decrease in equilibrium unemployment that results from the measures undertaken. This section is concluded by a brief discussion of the issue of downward nominal wage rigidity.

The OECD closely monitors countries in their attempts to bring down (equilibrium) unemployment. The broad framework, which links economic and labour market performance to its determinants, is set by the OECD Jobs Study (1994). Among other recommendations, the OECD suggests the following changes to labour market institutions:

- Increase wage and labour cost flexibility
- Reform unemployment and related benefit systems
- Increase working-time flexibility
- Reform employment security provisions
- Expand and enhance active labour market policies

Based on these general recommendations, more detailed reform plans are suggested to each of the OECD member states. Actions taken by the member states' authorities are then closely monitored and evaluated on their success and impact on labour market performance. The follow-through rates depicted in Table 3 give an indication to what extent individual countries have implemented the recommendations. More specifically, they measure the extent of progress in reform relative to number of recommendations made to the country in question, taking into account the importance of the recommendations. For each country, 37 specific measures are assessed, which are grouped into 14 specific areas. These specific areas are in turn grouped around the five broad areas reported in Table 3. These broad areas correspond to the institutions we identified in the first section as determinants of real and to some extent (the wage bargaining institution) nominal wage flexibility. The OECD additionally focuses on taxation. In order to account for the importance of different recommendations, each specific measure is assigned an individual weight⁴. Progress in the implementation of the recommendations is assessed by assigning a score to each measure taken. 100% is assigned when the appropriate measures have been taken, 50% when further action is needed, 0% when no action has been taken or -50% when reform goes in the opposite direction of the recommendation⁵. Table 3 reports the progress that a number of EMU and non-EMU countries have made in reform of the five broad areas. The last column of Table 3 reports the average follow-through for each country.

⁴ The table in Annex A gives an overview of the measures and their individual weights used in the analysis.

⁵ A blank means that no recommendation was made for that area.

Table 3: Follow-through of OECD Jobs Study recommendations

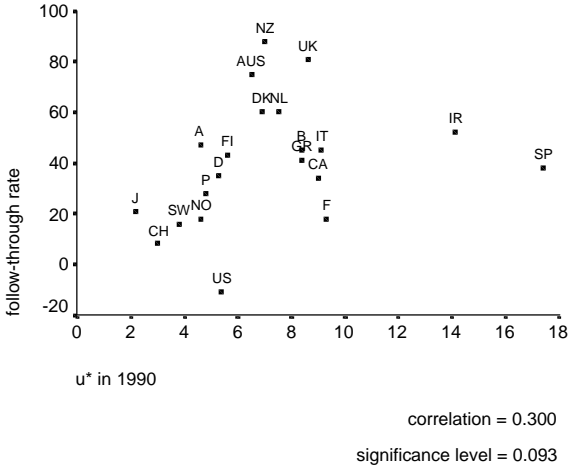
	Wage formation	Unemployment benefits	Tax wedge	ALMPs	EPL and working time arrangements	Average follow-through rate
EMU countries						
Netherlands	25	31	100	75	70	60
Ireland	-	72	50	33	-	52
Austria	0	50	25	100	58	47
Belgium	17	63	50	83	13	45
Italy	50	38	50	25	63	45
Finland	0	38	50	75	50	43
Greece	30	50	50	50	25	41
Spain	38	30	-	25	60	38
Germany	0	54	19	33	70	35
Portugal	0	-	50	0	63	28
France	0	-10	50	50	0	18
Luxembourg	-28	-17	-25	100	0	6
Average	12	36	43	54	43	38
non-EMU countries						
New Zealand	50	100	100	100	-	88
UK	50	100	75	100	-	81
Australia	50	100	-	75	-	75
Denmark	40	44	67	50	100	60
Canada	-50	63	50	75	-	34
Japan	-	-	-	25	17	21
Norway	0	39	-	25	8	18
Sweden	0	-20	0	50	50	16
Switzerland	-	-50	-	75	0	8
US	-50	17	0	-	-	-11
Average	11	43	49	64	35	39

As can be seen from Table 3, the amount of reform undertaken by the OECD member states varies greatly. As a matter of fact, follow-through rates range from 88% in New Zealand to -11% in the US, the average being 39%. The recommendations with respect to active labour market policy have been most closely followed. Follow-through rates on wage formation are the lowest, which may be favourable for nominal wage flexibility, but unfavourable for real wage flexibility. These results may support the idea that labour market reform is politically motivated to some extent. Reform of wage bargaining institutions that protect the rights of the core labour force arouses more resistance than improving the position of the outsiders and of insiders (as it is the case with active labour market policy). Comparison of the EMU and non-EMU group shows that the average follow-through in EMU (38%) is roughly the same as for non-EMU countries (39%), despite the higher need for labour market reform in the first group. These observations suggest that the prospect of EMU has not functioned well as an incentive to step up institutional reform in the 1990s. Follow-through rates for changes in unemployment benefits, taxes and active labour market

policy are lower in EMU. Progress in wage formation is virtually identical, while EMU countries score better with respect to employment protection legislation⁶.

Given the analysis in the previous sections, it could reasonably be expected that countries with more need for reform would have a higher follow-through rate, irrespective whether they belong to EMU or not. This is indeed confirmed by Figure 1, which indicates that countries with higher unemployment rates at the beginning of the 1990s have in general followed the OECD recommendations more closely. The diagram shows a weak positive relationship between the level of equilibrium unemployment (u^*) in 1990 and the amount of institutional reform in the 1990s.

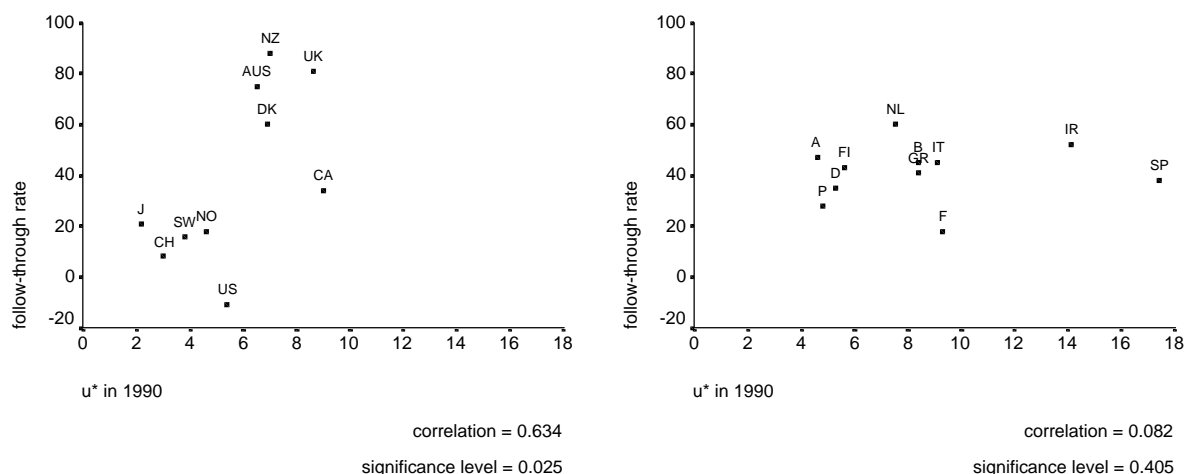
Figure 1: Unemployment level and follow-through rates



More interestingly in the light of the topic of this paper is to consider the group of EMU and non-EMU countries separately. We already indicated that although unemployment in the EMU countries is far above that in non-EMU countries, the average follow-through rate of EMU countries is not different from that of the other OECD-countries not belonging to EMU. The problematic situation in the EMU countries is further confirmed by considering the relation between the level of equilibrium unemployment and the follow-through rate for each group separately. It is readily seen in Figure 2 that there is a relatively high positive correlation for the group of non-EMU countries (left panel), whereas the correlation is absent for the group of EMU countries (right panel).

⁶ The hypothesis of identical averages between the EMU and non-EMU group cannot be rejected for any of the follow-through rates.

Figure 2: Unemployment level and follow-through rates for (non-)EMU countries



An alternative indicator of labour market reform, expressing the potential for unemployment reduction is constructed in table 2, which is inspired by the work of Nickell and Van Ours (2000) for the Netherlands and the UK. The table reports how a number of labour market institutions have evolved over the period 1990-1995 and have potentially contributed to an unemployment decline. Note that the scope of institutions differs from the one studied by the OECD. Nickell and Van Ours (2000) include union bargaining power (through union density and coverage) and focus on the degree of wage bargaining co-ordination, rather than centralisation. Given its weaker link with equilibrium unemployment (see section 1), they do not consider employment protection legislation. The generosity of the unemployment benefit system is measured by the replacement rate. Expenditures for active labour market policy and the tax wedge are also considered. In order to compare changes in different institutions over different countries, every measure of institutional change is multiplied by its impact coefficient on unemployment. The latter are averages of estimated coefficients from several unemployment equations that link institutions to unemployment. The last column reports the total potential change in unemployment. This can be considered as an harmonised overall indicator of labour market reform. A negative sign for this labour market reform indicator points to an institutional change that could contribute to a decrease in equilibrium unemployment. The higher the number in absolute value the stronger the degree of labour market reform (provided the figure is negative). In Table 4, countries are grouped as EMU member or non-EMU member. For every group averages are reported at the bottom of each column.

Table 4: Equilibrium unemployment reduction and labour market reform

	Union density	Union coverage	Co-ordination	Replacement rate	Tax wedge	ALMP	Labour market reform indicator
EMU countries							
Netherlands	0	10	0	-5.4	-2.9	5.1	-0.58
Austria	-4	0	0	-5.4	6.5	-0.1	-0.18
Portugal	0	1	0	1	0	0.1	0.2
Germany	-4	2	0	-2.2	5.9	-0.6	0.34
France	-1	3	0	-0.2	3	1.5	0.36
Belgium	3	0	0	-2.8	2.4	-2.5	0.52
Spain	6	2	0	-1.8	2.5	-1.7	1
Italy	0	-1	2	16.8	2.7	-9.3	2.62
Finland	9	0	0	4.4	4.4	-18.7	3.89
Average	1	1.9	0.2	0.5	2.7	-2.9	0.91
Non-EMU countries							
New Zealand	-15	-36	0	-3.3	-2.2	0.4	-5.36
Norway	2	-1	0	0	-3.8	6.3	-1.06
Australia	-6	0	-1.5	0.5	2	4.1	-0.32
Japan	-1	-2	0	0.3	-0.8	-3.2	0.02
US	0	0	0	0.8	-0.2	-1	0.17
UK	-5	0	-0.5	0	-1.2	-6	0.2
Canada	2	-2	0	-0.9	3.3	-0.9	0.38
Denmark	5	0	0	15.5	-1.6	14.3	0.39
Switzerland	0	-3	0	7.6	2.7	-31.4	4.37
Sweden	8	3	-0.5	-2.2	4.7	-71.8	9.4
Average	-1	-4.1	-0.3	1.8	0.3	-8.9	0.82
Impact coefficient	0.9	0.93	-2.53	1.11	1.18	-1.11	

Sources: See extended Table 4 in annex B

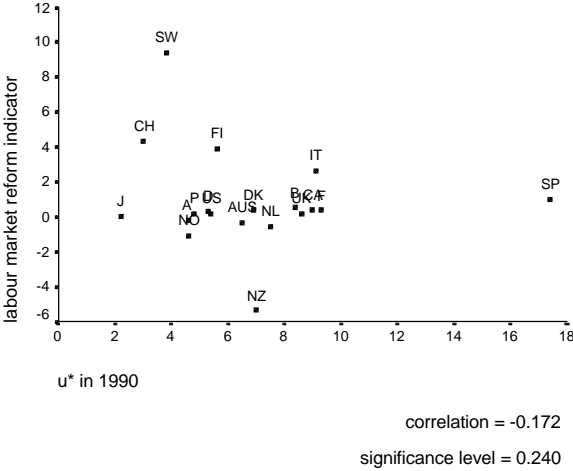
It is striking that only in New Zealand, institutions have evolved in such a way that all changes contributed to lower unemployment. Most of the countries went through institutional changes that had opposing effects in terms of unemployment reduction. Only five out of nineteen countries reformed their institutions in a way that is favourable to a reduction of equilibrium unemployment. Comparison of the EMU group with the non-EMU group confirms the earlier finding that EMU has not functioned well as a catalyst to labour market reform. On average EMU countries score slightly worse (0.91) than the group of non-EMU countries (0.82)⁷. Among EMU countries, the Netherlands and Austria have performed well, whereas among the non-EMU countries New Zealand, Norway and Australia have gone through unemployment-reducing reform. Although the outcomes for the EMU group is similar to that of the non-EMU group, different evolutions in the underlying institutions can be detected. In EMU, the worsening of the labour market reform indicator is primarily due to cuts in spending for active labour market policy and an increase in the tax wedge. Only wage bargaining co-ordination evolved in a positive way, although marginally. Moreover this positive effect is offset by an increase in union bargaining power. In the non-EMU group, reduced spending for active labour market policy stands out as the main cause for an

⁷ The averages for union coverage, co-ordination and the tax wedge are significantly different between the two groups.

increase in the indicator⁸. Positive employment effects could follow from a decrease in union bargaining power. Both union density and coverage decreased over the observed period.

Let us again have a closer look at the determinants of labour market reform by means of the labour market reform indicator. Is labour market reform over the period 1990-1995 driven by the level of equilibrium unemployment at the beginning of the 1990s? If so, we would expect to find a negative relationship between the labour market reform indicator and equilibrium unemployment. The correlation is, however, only weakly negative and statistically insignificant.

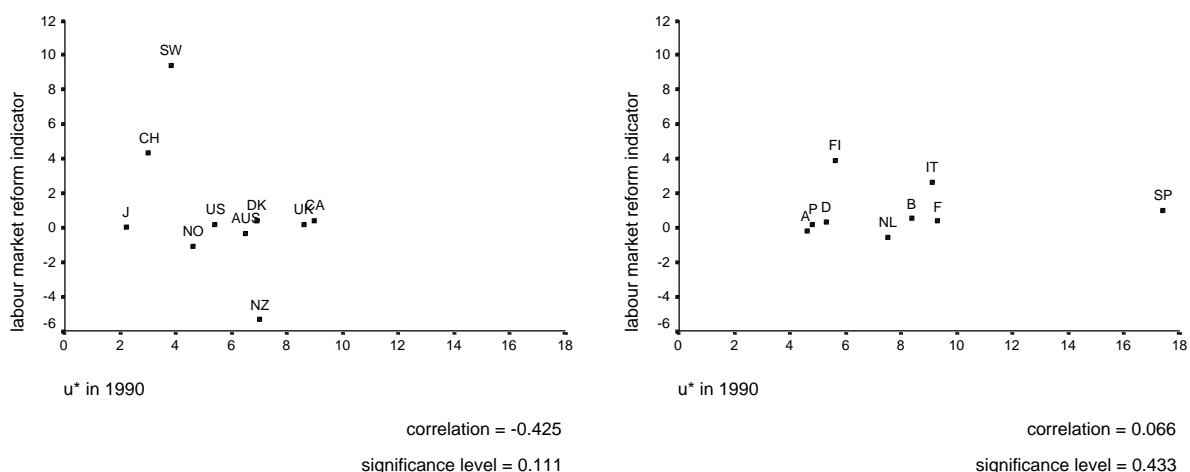
Figure 3: Unemployment level and labour market reform indicator



Splitting the sample into EMU countries and non-EMU countries confirms the results of the foregoing analysis. Not only is labour market change lower in EMU countries despite the worse situation in the labour market, there also appears to lack any correlation between the amount of reform and the initial level of unemployment. As before, the correlation is more apparent for the group of non-EMU countries. Countries with higher initial unemployment rates tend to have smaller labour market reform indicators. This is clearly shown in Figure 4.

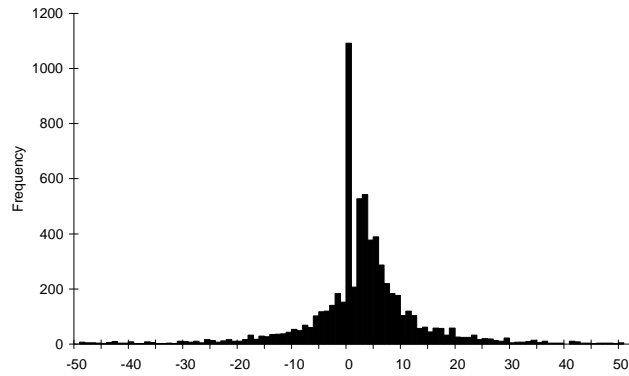
⁸ Note that these results stand in contrast to the findings of Table 3, in which it was found that the follow-through was highest for active labour market policy. These differences may be due to the wider scope of the follow-through and differences in the methodology. The follow-through rate and the labour market reform indicator are nevertheless significantly negatively correlated (correlation coefficient of -0.451; significance level: 0.053).

Figure 4: Unemployment level and labour market reform indicator for (non-)EMU countries



In the foregoing analysis the impact of the single currency on contract duration and downward nominal wage rigidity have remained untouched. They may, however play a crucial role with respect to the issue of wage flexibility, next to the degree of centralisation of wage bargaining. To our knowledge, no empirical study has so far been conducted on the impact of (the transition to) EMU on the duration of wage contracts. The issue of downward nominal wage rigidity has recently attracted attention as inflation rates have steadily decreased over the 1990s. As explained in section 1, low inflation rates may increase the number of workers that resist nominal wage cuts and may increase equilibrium unemployment. The extent to which downward nominal wage rigidity has eroded in countries with persistently low inflation has been addressed in a number of papers. In a repeat survey for Sweden, Agell and Lundborg (1995, 1999) find that resistance to nominal wage cuts persists, even in a low inflation environment. This conclusion is confirmed for the case of Switzerland by Fehr and Goette (2000). Smith (2000) on the other hand, finds no evidence of downward nominal wage rigidity in the UK for the first half of the 1990s. Figure 5 seems to confirm Smith's finding. It represents a histogram of yearly nominal wage changes for a sample of Belgian workers. The sample was taken from the Panel Study on Belgian Households and includes all workers who have remained in the same job for two consecutive periods. The observation period runs from 1993 to 1998.

Figure 5: Wage change histogram of a sample of Belgian workers



Despite a large spike at zero wage change and a thinner left tail of the distribution - which suggests that some workers have successfully resisted wage cuts and have received wage freezes instead - the number of nominal wage cuts is considerable. Approximately 25% of all wage change observations is strictly negative. This indicates that nominal wage cuts are quite frequent, despite a low average inflation rate of 2.2% over the observation period. Higher inflation may therefore not be necessary to ensure a minimum level of downward nominal wage flexibility.

4. Concluding remarks

Despite improving conditions in the labour market in recent years, a number of EMU countries are still plagued with persistent and high unemployment. It could therefore be expected that labour market reform would be given a prominent position on the political agenda. The new constraints associated with the common monetary policy only increase the pressure for more labour market reform. Relying on the introduction of the single currency as a trigger for labour market reform may be a risky strategy. The introduction of the single currency generates a complex set of re-optimising strategies of the players on the labour market, which makes it difficult to get a clear idea whether EMU will function as a catalyst or a hindrance to labour market reform. Evaluation of recent reform in the labour market does not make one confident either. The empirical analysis confirms to some extent the idea that countries that are more in need of labour market reform because of higher initial equilibrium unemployment have in general carried out more reform in the labour market. This finding appears, however, to hold only for countries that do not belong to EMU. Not only have EMU countries on average carried out less reform than countries outside EMU, but any apparent link between the initial unemployment level and the labour market reform indicators seems to lack. Calmfors (2000) argues in this respect that formal labour market reform has been substituted in EMU by a consensus among social partners to moderate wages. Instead of going through some potentially painful adjustment processes in the labour market, social partners would have agreed on economy-wide wage moderation to take some pressure of the labour market.

The empirical finding that wage bargaining co-ordination in EMU countries has increased may support this argument. The choice for this policy option could be motivated by the fact that the 1990s were already characterised by some painful monetary and fiscal adjustment processes. Additional labour market reform may have had an electoral cost that was too high. The question is whether this perhaps understandable policy has been a good choice for the future. Calmfors (2000) argues this may not be the case. Wage moderation has proved successful in a macroeconomic environment with good growth performance and without any major shocks. It may become apparent that more structural reform is needed once the macroeconomic environment becomes more unfavourable.

Annex A

Decomposition of the OECD follow-through

Specific measure	Weight	Specific area	Weight	Broad area	Weight
Establish or strengthen UI schemes	0.03	Level and duration	0.10	Unemployment benefits	0.20
Lower replacement rates	0.03				
Shorten duration of benefits	0.03				
Reduce poverty traps/work disincentives	0.01				
Introduce stronger work availability conditions	0.01	Eligibility and work availability	0.05		
Tighten eligibility conditions	0.01				
Limit requalification possibilities	0.01				
Condition benefits on training participation	0.01				
Lengthen waiting periods	0.01				
Reform or abolish requalification to UBs via ALMPs	0.01				
Tighten early-retirement schemes	0.03	Tighten other non-employment schemes	0.05		
Tighten invalidity or sick pay schemes	0.03				
Reduce overall taxes	0.09	Reduction in the tax wedge	0.13	Tax wedge	0.20
Reduce payroll taxes	0.04				
Reduce income taxes	0.03	Targeted reduction for low incomes	0.07		
Reduce payroll taxes	0.03				
Decentralise wage determination	0.08	Decentralisation	0.08	Wage formation	0.20
Widen wage distribution or abandon indexing	0.03	Increase relative wage flexibility	0.08		
Link wages more to skill level, experience and productivity	0.02				
Abandon or relax administrative extension	0.02				
More use of "opt out" clauses	0.02				
Modify minimum wage	0.04	Minimum wage	0.04		
Ease the general stance	0.05	General stance	0.08	EPL and working time arrangements	0.20
Reform guidelines for courts	0.03				
Ease regulations on prior authorisation	0.01	Regular contracts	0.04		
Ease regulations on notice periods	0.01				
Ease regulations on severance payments	0.01				
Definition of dismissals	0.01				
Ease regulation on fixed-term contracts	0.02	Temporary contracts	0.04		
Ease regulation on TWA	0.02				
Ease constraints on flexible working-time arrangements	0.02	Working time and part time	0.04		
Ease constraints on part-time work	0.02				
More evaluations needed	0.05	Targeting	0.10	ALMPs	0.20
Increase role of ALMPs relative to passive measures	0.03				
More targeting on LTU and disadvantaged groups	0.03				
Integrate and restructure ALMP activities	0.05	PES offices	0.10		
Increase contestability of PES and improve job brokering	0.05				
Sum of weights	1.00		1.00		1.00

Source: own calculations based on OECD (1999)

Annex B

Extended Table 4: Equilibrium unemployment reduction and labour market reform

	union density (% point change 1990-1994)		union coverage (% point change 1990-1994)		ALMP (% point change 1990-1996)		co-ordination (index change 1990-1994)		replacement rate (% point change 1991-1995)		tax wedge (% point change 1991-1996)		LMR indicator
Australia	-6	-0.54	0	0.00	4.1	-0.46	-1.5	0.38	0.5	0.06	2.0	0.24	-0.32
Austria	-4	-0.36	0	0.00	-0.1	0.01	0.0	0.00	-5.4	-0.60	6.5	0.77	-0.18
Belgium	3	0.27	0	0.00	-2.5	0.28	0.0	0.00	-2.8	-0.31	2.4	0.28	0.52
Canada	2	0.18	-2	-0.19	-0.9	0.10	0.0	0.00	-0.9	-0.10	3.3	0.39	0.38
Denmark	5	0.45	0	0.00	14.3	-1.59	0.0	0.00	15.5	1.72	-1.6	-0.19	0.39
Finland	9	0.81	0	0.00	-18.7	2.08	0.0	0.00	4.4	0.49	4.4	0.52	3.89
France	-1	-0.09	3	0.28	1.5	-0.17	0.0	0.00	-0.2	-0.02	3.0	0.35	0.36
Germany	-4	-0.36	2	0.19	-0.6	0.07	0.0	0.00	-2.2	-0.25	5.9	0.70	0.34
Greece	-	-	-	-	-2.6	0.29	-	-	4.9	0.55	2.8	0.33	-
Ireland	-	-	-	-	3.4	-0.38	-	-	-3.0	-0.34	-5.9	-0.70	-
Italy	0	0.00	-1	-0.09	-9.3	1.03	2.0	-0.51	16.8	1.87	2.7	0.32	2.62
Japan	-1	-0.09	-2	-0.19	-3.2	0.36	0.0	0.00	0.3	0.03	-0.8	-0.09	0.02
Luxembourg	-	-	-	-	-2.0	0.22	-	-	-	-	1.3	0.15	-
Netherlands	0	0.00	10	0.93	5.1	-0.57	0.0	0.00	-5.4	-0.60	-2.9	-0.34	-0.58
New Zealand	-15	-1.34	-36	-3.35	0.4	-0.04	0.0	0.00	-3.3	-0.37	-2.2	-0.26	-5.36
Norway	2	0.18	-1	-0.09	6.3	-0.70	0.0	0.00	0.0	0.00	-3.8	-0.45	-1.06
Portugal	0	0.00	1	0.09	0.1	-0.01	0.0	0.00	1.0	0.11	0.0	0.00	0.20
Spain	6	0.54	2	0.19	-1.7	0.19	0.0	0.00	-1.8	-0.20	2.5	0.30	1.00
Sweden	8	0.72	3	0.28	-71.8	7.97	-0.5	0.13	-2.2	-0.25	4.7	0.55	9.40
Switzerland	0	0.00	-3	-0.28	-31.4	3.49	0.0	0.00	7.6	0.84	2.7	0.32	4.37
UK	-5	-0.45	0	0.00	-6.0	0.67	-0.5	0.13	0.0	0.00	-1.2	-0.14	0.20
US	0	0.00	0	0.00	-1.0	0.11	0.0	0.00	0.8	0.08	-0.2	-0.02	0.17
Impact coefficient	0.90		0.93		-1.11		-2.53		1.11		1.18		

Sources:

Union density	OECD Employment Outlook (1997) table 3.3
Union coverage	OECD Employment Outlook (1997) table 3.3
ALMP	Martin (2000) table 2
Co-ordination (index (1-3)*2)	OECD Employment Outlook (1997) table 3.3
Replacement rate	OECD Data-base on Benefit Entitlements and Gross Replacement Rates
Tax wedge	OECD (1999) table A4
Impact coefficients	Nickell and Van Ours (2000) table 7

References

- Agell, J. and P. Lundborg, 1995, Theories of Pay and Unemployment: Survey Evidence from Swedish Manufacturing Firms, *Scandinavian Journal of Economics*, vol. 97(2), p. 295-308
- Agell, J. and P. Lundborg, 1999, Survey evidence on wage rigidity and unemployment: Sweden in the 1990s, IFAU working paper no. 1999:2
- Akerlof, G., W. Dickens and G. Perry, 1996, The Macroeconomics of Low Inflation, *Brookings Papers on Economic Activity*, p. 1-59
- Barro, R. and D. Gordon, 1983, A Positive Theory of Monetary Policy in a Natural Rate Model, *Journal of Political Economy*, vol. 91(4), p. 589-610
- Bean, Ch., 1994, European Unemployment: a survey, *Journal of Economic Literature*, vol. 32, p. 573-619
- Bean, Ch., 1998, The interaction of aggregate-demand policies and labour market reform, *Swedish Economic Policy Review*, vol. 5(2), p. 353-382
- Bewley, T., 1999, *Why wages don't fall during a recession*, Cambridge (MA), Harvard University Press
- Blanchard, O. and J. Wolfers, 2000, The role of shocks and institutions in the rise of European unemployment: the aggregate evidence, *The Economic Journal*, vol. 110, p. C1-C33
- Boeri, T., A. Börsch-Supan and G. Tabellini (2001), Would you like to shrink the welfare state? A survey of European citizens, *Economic Policy*, vol. 32, p. 7-50
- Burda, M., 1999, European labour markets and the Euro: how much flexibility do we really need?, CEPR Discussion Paper no. 2217
- Calmfors, L. and J. Driffil, 1988, Bargaining structure, corporatism and macroeconomic performance, *Economic Policy*, no. 6, p. 13-61
- Calmfors, L., 1993, Centralisation of Wage Bargaining and Macroeconomic Performance: A Survey, *OECD Economic Studies*, vol. 21, p. 161-191
- Calmfors, L., 1998, Macroeconomic policy, wage-setting and employment: what difference does the EMU make?, *Oxford Review of Economic Policy*, vol. 14(3), p. 125-151
- Calmfors, L., 2000, Wages and Wage-Bargaining Institutions in the EMU - A Survey of the Issues, IIES Seminar Paper no. 690, forthcoming in *Empirica*
- Calmfors, L., 2001, Unemployment, Labour Market Reform and Monetary Union, *Journal of Labor Economics*, vol. 19(2), p. 265-289
- Cuckierman, A. and F. Lippi, 1999, Labor markets and monetary union: a strategic analysis, CentER Discussion Paper no. 99100
- Danthine, J.P. and J. Hunt, 1994, Wage bargaining structure, employment and economic integration, *Economic Journal*, vol. 104, p. 528-541
- Elmeskov, J., J. Martin and S. Scarpetta, 1998, Key lessons for labour market reforms, *Swedish Economic Policy Review*, vol. 5(2), p. 205-258
- Fehr, E. and L. Goette, 2000, The Robustness and Real Consequences of Downward Nominal Wage Rigidity, University of Zurich Institute for Empirical Research Working Paper no. 44
- IMF, *World Economic Outlook*, various issues, Washington DC, IMF
- Martin, J., 2000, What works among active labour market policies: evidence from OECD countries' experiences, *OECD Economic Studies*, vol. 30, p. 79-114
- Nickell, S. and J. Van Ours, 2000, The Netherlands and the United Kingdom: A European unemployment miracle?, *Economic Policy*, vol. 30, p. 135-180
- Nickell, S. and R. Layard, 1997, Labour market institutions and economic performance, University of Oxford Centre for Economic Performance Discussion Paper Series no. 23

- Nickell, S., 1997, Unemployment and Labor Market Rigidities: Europe versus North America, *Journal of Economic Perspectives*, vol. 11(3), p. 55-74
- OECD, 1994, *The OECD jobs study: evidence and explanations*, Paris, OECD
- OECD, 1999, *Implementing the OECD Jobs Strategy: Assessing Performance and Policy*, Paris, OECD
- OECD, *Employment Outlook*, various issues, Paris, OECD
- Peters, T., 1995, European Monetary Union and labour markets: what to expect?, *International Labour Review*, vol 135(3), p. 315-332
- Pissarides, Ch., 1997, The Need for Labor-Market Flexibility in a European Economic and Monetary Union, *Swedish Economic Policy Review*, vol 4(2), p. 513-545
- Plasmans, J. et al., 1999, Generosity of the unemployment benefit system and wage flexibility in EMU: time varying evidence in five countries, UFSIA, Department of Economics, Research Paper 99-043
- Scarpetta, S., 1996, Assessing the Role of Labour Market Policies and Institutional Settings on Unemployment: A Cross-Country Study, *OECD Economic Studies*, no. 26, p. 43-98
- Sibert, A. and A. Sutherland, 2000, Monetary union and labor market reform, *Journal of International Economics*, vol. 51, p. 421-435
- Smith, J., 2000, Nominal Wage Rigidity in the United Kingdom, *Economic Journal*, vol 110(462), p. C176-C195
- Soskice, D., 1990, Wage Determination: The Changing Role of Institutions in Advanced Industrialized Countries, *Oxford Review of Economic Policy*, vol. 6(4), p. 36-61
- Traxler, F. and B. Kittel, 2000, The Bargaining System and Performance: A Comparison of 18 OECD Countries, *Comparative Political Studies*, vol. 33 no. 9, p. 1154-1190