Labour Market Institutions and Unemployment in Europe and OECD – a Survey

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1 Introduction

This paper surveys some of the main contributions to the research on labour market institutions and unemployment in Europe and the OECD countries since the 1960s. The demand for policy advice on this topic is high, our knowledge, however, is still limited. The paper focuses on OECD countries with an emphasis on Western Europe.[1].

There are many descriptions of how unemployment in Europe and other OECD countries evolved over time (see for example Blanchard (2005) for an overview). In this respect, Europe has been a puzzling case with high and persistent unemployment rates. In short: Unemployment in Europe was low in the 1960s and it increased in the 1970s and 80s. Since then, unemployment has become highly heterogeneous across Europe. Some countries managed to reduce their unemployment rate to lower levels, others remained on a high plateau.

Over the last decades, the US has had relatively low and constant unemployment rates and it has often been asked why the labour market experience in Europe has been so different to the US. Earlier research relies heavily on exogenous economic changes as an explanation for high unemployment. However, this approach cannot fully explain the experienced unemployment

[1]The new Eastern European member states will not be discussed. In the following Europe or European countries is used synonym to the Western European countries which are also part of the OECD

movements. In particular, shocks like the two major oil crisis[2], changes in technology or productivity and the increased global trade were experienced in all OECD countries, however, unemployment after these events differed significantly across countries.

Siebert (1997) argues that rigid labour market institutions were the key to unemployment in Europe. This has become a widespread view in the policy debate. He argues that changes in labour market institutions between the 70s and 90s were the primary reason for high unemployment in Europe. Furthermore, the different set of labour market institutions in the US compared to Europe, explain their better labour market performance. In turn, the abolition of rigid labour market institutions is seen as the key to cure the unemployment problem in Europe. Countries that have recently followed this advice, according to the argument, have already experienced significant improvements in their labour markets.

Even on a descriptive level, such arguments raise serious questions. For example, some labour market institutions only change slowly and some institutions have remained fairly constant over the last four decades. But unemployment in Europe in the 1960s was much lower than in the US. For example, Chen et al (2001) argue that job security legislation has traditionally been higher in Europe. But in the 1950s and 60s the US unemployment rate was twice as high as in Europe. Hence, a simple positive correlation between rigid labour market institutions and unemployment seems unlikely.

Economic research over the past decade has looked more carefully at the effect of labour market institutions on unemployment in the OECD and OECD-Europe. Institutions affect economic incentives and hence it is likely that labour market institutions do alter labour market outcomes. However, the extent and the mechanism of this relationship is still far from being understood.

This paper will point out the main routes research has taken in the past and critically comment on some of the developments. Recent research has either looked at the direct effect of labour market institutions on unemployment(section 2) or on how such institutions interact with macroeconomic shocks and hence jointly influence unemployment (section 3). Section 4 looks at two areas which are likely to influence the effect of labour market insti-

[2]This was the Arab Oil Embargo in 1973/74 and the Iranian revolution and the Iran-Iraq war in 1979/1980

tutions on unemployment but have not been included in the analysis: (a) Political economy has argued that labour market institutions are likely to be endogenous and first attempts to model such endogeneity have already been made. Furthermore (b) the argument of a non-vertical long run Phillips curve is followed and the potential effect on the research on labour market institutions and unemployment is pointed out. Section 5 concludes.

2 The Direct Effect of Labour Market Institutions

The literature on the direct effect of labour market institutions explains unemployment either by the *level of institutions* or by *institutional changes over time*. Furthermore, past research increasingly focuses on the *interaction among labour market institutions* and their joint influence on unemployment. Freeman (1998) points out that certain institutional features perform differently depending on the country's overall institutional settings. This is because institutions interact with each other. Most authors account for at least some interaction between labour market institutions in their analysis (see e.g. Nickel, 2005). Belot and van Ours (2001 and 2004) however, focus more extensively on such interactions.

2.1 The Levels of Labour Market Institutions

Layard and Nickel (1999) consider whether the level of labour market institutions have a significant effect on economic performance in 20 OECD countries. They focus on unemployment as one determinant of economic performance and look at the following institutions: labour taxes, laws and regulations covering the employees' rights, the bargaining/union structure, the unemployment security system, the system of education and training and barriers to regional mobility. The authors give descriptive background information for each of these variables across countries and point out some caveats when using these aggregated data.

In their analysis they derive a simple theoretical model which can be used to evaluate the effect of labour market institutions on unemployment: A large number of identical firms maximise profits and individual workers maximise their employment prospects N_i and the excess of their net wages over their outside opportunities $w_i(1-\tau)-A$. Here, w is the labour cost per employee, τ the sum of payroll and income tax rates and A are the

outside opportunities. These outside opportunities are determined as wage income and unemployment benefit income, weighted with the probability of being employed or unemployed. The probability of being employed is an increasing function of aggregate employment and the separation rate out of unemployment. This probability is decreasing in search effectiveness. The rationale for this is that - aggregate employment being constant - an increase in search efficiency will make it harder for other unemployed individuals to find a job. Wages emerge through collective bargaining as a solution to

$$max[N_i^{\gamma}(w_i(1-\tau)-A)]^{\beta}\Pi_i \tag{1}$$

Here, γ captures the extent to which workers take the overall employment effect of the wage bargaining outcome into account and β accounts for the worker's power in the bargaining process.

In the following they derive an equation for equilibrium unemployment:

$$u* = f(s, c, b, \beta, \epsilon, \gamma) \tag{2}$$

Equilibrium unemployment increases in the separation rate (s), the benefit replacement ratio (b), the strength of the workers in the bargaining process (β) and decreases in the search effectiveness (c), the elasticity of product demand (ϵ) and the degree to which workers take the overall employment effect of the bargaining process into account (γ).

The effect of labour taxes and the effect of coordination in the bargaining process is not captured within this simple model.

They perform cross country GLS regressions using two time periods[3]. Having the NAIRU framework in mind, they include changes in inflation to their regressions of labour market institutions on log unemployment for 20 OECD countries[4].

Their results are as follows. Labour taxes affect unemployment in the short run and possibly in the long run; labour standards and employment protection do not seem to have produced high unemployment in some OECD countries. They argue however that employment protection increases long term unemployment and reduces short term unemployment. Strong unions

[3]To be more precise, they use 6 year averages for 1983 - 1988 and 1989 - 1994. In their analysis only the findings for 1989 - 1994 are reported

[4]In their analysis they also look at each variable in more detail with additional data descriptions and regression

increase unemployment, but the effect can be offset if wage bargaining is coordinated on a centralised level. Minimum wages had no effect on unemployment in the sample period - with the exception of France, where minimum wages have not been adjusted for younger workers. Unemployment benefits turn out to have a significant effect on unemployment[5] both in their size and in their duration paid. But, the effect of the benefit system can for example be offset by active labour market policies. Finally, the skill and education system have no strong impact on unemployment for the period of interest.

The authors conclude that policy actions should be focused mainly on unions and the social benefit system and that the effort spent on reforming other institutions may not pay out. Hence, this view creates "good" and "bad" institutions, or those which are harmful to unemployment and those which do not really matter.

Nicoletti and Scarpetta (2002)[6] use non agricultural employment rates as dependent variable to analyse the effect of labour market institutions. This employment measure has been attacked by Baker et al. (2004) as unjustified and too narrow. They find significant and sizable relationships for the tax wedge, union density and employment protection legislation and comment that their results are only partly consistent with similar cross country studies.

2.2 Changes in Labour Market Institutions

Nickel et al. (2005)[7] evaluate whether the evolution of unemployment can be explained by changes in labour market institution in OECD countries between the 1960s and 1990s. They mainly follow Nickel and Layard (1999) in their choice of labour market institutions of interest.

They use the level of benefits and the duration of entitlement to calculate the replacement ratio and a duration index. From the 1960s to the 1980s benefits increased in most countries except Germany, Japan and New Zealand. However from the 1980s onwards countries experienced different movements. They note, however, that the strictness of the benefit conditions is unavailable in time series data. This variable captures the rules related to the type of jobs the unemployed has to accept. It is shown that these rules

[5] in particular long term unemployment

[6] For a short review of this study see Baker et al. (2004)

[7] see also Nickel et al. 2002 for a very similar excercise

vary significantly across countries.

To characterise wage bargaining, union density is used. Another variable which would be of interest is union coverage, which for some countries deviates dramatically from the actual density. For example, France with the lowest union density (10%) has one of the highest coverage rates (about 95%) (see e.g. OECD, 2004) . However, coverage rates are not available for the time series Nickel at al. (2005) look at. In addition they use coordination which, if it is high, may offset negative effects of unionisation[8].

They include indexes for employment protection, total labour tax rate and finally as suggested by Oswald (1997) owner occupation rate, which is likely to influence regional mobility.

Econometric exercises heavily rely on the *quality of institutional data*. In particular the question arises how comparable data like those that are used in the literature are. For variables like union density, comparability may be easy, but as for example benefit legislation is very complex in some countries, it may be at least challenging to come up with a comparable data set. In addition it has been argued that many data are ex-post measures. The fact that we actually knew about high unemployment in some major countries when constructing the indices, may involuntarily bias the construction of the data. This is particular true if laws have to be translated into numerical measures.

Nickel et al. (2005) control for the following macroeconomic forces which, in the short run, let unemployment deviate from its equilibrium level[9]: (1) money supply shocks, (2) productivity shocks, (3) labour demand shocks, (4) real import price shocks and (5) the real interest rate. Note, that after transformation, (1) - (4) are shocks which are mean reverting (stationary), whereas (5) may have persistent impact over time. They also include lagged unemployment in their regression to account for unemployment persistence. However the non-stationarity of unemployment as dependent variable may still be a problem of and econometric exercise like the one performed in the paper.

The results indicate that unemployment is highly persistent and/or that

[8]see e.g. Calmfors and Driffill (1988), Calmfors (1993) or Driffill (2005)

[9]this list goes back to Phelps contribution on Structural Slumps in 1994 and Hoon and Phelps (1992)

their specification may not fully capture the determination of unemployment. They argue on the basis of dynamic simulations that institutions do matter and that if one excluded the labour market institutions in the regression (and hence only have the macroeconomic shocks, country and time dummies in it) the goodness of fit would reduced by 50%. However, for some countries, the unemployment specification seem not be able to explain what has been going on[10].

In their GLS panel regressions they establish the following effect for institutions: Employment protection and employment taxes have a positive effect on unemployment. The impact of taxes, however, is fairly small[11] and countries with high bargaining coordination, reverse this positive effect. Employment protection primarily has an impact on unemployment persistence. The benefit replacement rate has an important positive effect on unemployment and magnifies through the interaction with benefit duration. There is no significant influence of union density on unemployment, however, positive changes in union density are associated with higher unemployment. One interpretation is that increasing union pressure drives up wages and has hence negative effects on employment. When union density stabilises, this effect seems to die away. Finally they find a positive effect of owner occupation on unemployment, however this effect is not very significant.

They also use a dynamic simulation with institutions fixed from its initial levels. They argue that in some countries institutional shifts successfully explain the unemployment experience. However in many countries such as Finland, Germany or New Zealand, institutions account only little for unemployment over time.

Dynamic simulations that keep only institutions constant can only be seen as a very indicative calculation excercise. A Lucas-type argument (see Lucas critique, 1976) would point out that policy changes (here, a different institutional setting) alter the economic structure of the system (here, behavioural equations and shocks). Hence if institutions had remained constant over the past decades the system underlying the analysis would have been different too. Furthermore, a least square regression, as the one performed in the paper, will find the best fit for the given independent variables. If we

[10]for example, the dynamic simulation cannot explain unemployment in Portugal and Japan and has trouble to explain certain periods for Germany (from 1980s) and Finland (1980-1990)

[11]In particular, a 10 percentage point increase in total employment tax rate translates to a one percentage point increase in long run unemployment, assuming average coordination

omit certain of these variables in a simulation, it is not surprising to find a poor fit. One may argue that if instead of keeping institutions constant, shocks would have been left out of the simulation, one would have found a similar poor fit and could have argued that unemployment in Europe is due to shocks. It would be interesting to perform such a simulation. What one should have done is simulating the evolution of unemployment on the basis of shocks only and compare such a simulation with the one reproduced in the paper.

Overall, Nickel et al. (2005) argue that changes in institutions can explain a fair amount of unemployment shifts in OECD countries and Europe and argue that with better data it is likely to achieve an even better fit. In the light of the above paragraph, some of their results may be vulnerable to criticism.

A similar framework to the one used in Nickel et al. (2005) is proposed by the IMF (2003). The IMF argues that substantial labour market reforms would significantly benefit the employment picture in Europe. In comparison to Nickel et al. (2005), they add country specific inflation-unemployment trade-offs, indicating that the Phillips curve relationship may be different across countries. In addition they use central bank independency as further control variables and interactions with lagged employment as a measure of persistence. They do not include benefit duration, however, they add a quadratic term for bargaining coordination. This goes back to Calmfors and Driffill (1988), Calmfors (1993) and others who argue that there may be a hump-shaped relationship between coordination and unemployment, indicating that high and low levels of coordination produce lower unemployment than medium coordinated countries.

Baker et al. (2004) critically review the IMF study indicating that the argument against strong labour market institutions cannot be read out of their regression results. In particular, the coefficients greatly vary in size and lead to inconclusive effects on unemployment. In addition they argue that annual data for institutions, which have not only been used in the IMF study, are constructed by interpolation and may hence not represent the true values. Finally, re-regression shows that coefficients for the time trends are unreliable for some countries. Baker et al. (2004) conclude that the study may not add reliable evidence to the existing literature. This is particular striking as the work of multinational organisations like the IMF seriously influence policy decisions.

In their own analysis Baker et al (2004) argue that there is no relationship between the amount of reforms implemented and changes in unemployment in the OECD. With a view to the Netherlands and Ireland as two examples for labour market success stories, they argue that informal changes especially in the bargaining process have significantly improved the state of the labour markets.

In an earlier paper, Baker et al. (2002) point out that simple correlations between rigid labour market institutions and unemployment often show no relationship. They produce various scatterplots between OECD indicators for labour market institution and the unemployment rate. For example, they cannot establish a significant positive correlation between the unemployment benefit replacement rate and unemployment in 20 OECD countries from 1980 to 1999. Also, the relationship between benefit duration and unemployment, bargaining coordination and unemployment, union density and unemployment or labour taxes and unemployment for the same sample is ambiguous. In addition there is no evidence that countries which have managed to deregulate their labour markets in the 1990s have experienced a lower NAIRU.

2.3 Interactions among Labour Market Institutions

The work discussed so far mostly accounts for at least some interaction between labour market institutions. Though, the choice of included variables is rather ad hoc. One strand of the literature focuses primarily on complementarities between labour market institutions and their joint effect on unemployment. Some examples of recent research are discussed in the following.

The main idea is that the effect of institutions on unemployment cannot be viewed independently of the overall institutional framework. This is because labour market institutions work together and in turn have a joint effect on employment outcomes. A specific institutional feature is likely to perform differently depending on the other institutions in the country. If labour market institutions interact, so do policy changes and hence changing one institutional feature will have different effects in different countries depending on the overall state of the labour market.

Coe and Snower (1996) argue that partial labour market reforms which have been widely adopted in many European countries are unlikely to have significant effects on high unemployment. They theoretically model complementarities between various labour market institutions in a search and matching framework. If institutional complementarities are present, insti-

tutional changes have different effects depending on the overall institutional setting in the country. In this case, institutions with a negative effect on unemployment can stop beneficial institutional changes from working.

In particular they examine the interaction between job creation measures (e.g. tax reforms or relaxation of exit entry for firms), job security legislation (with respect to firing costs), search promoting measures (search costs, mobility measures), unemployment benefit system and the bargaining system. They find theoretical support for the hypothesis that many of the above measures work together and hence complement their effects.

Daveri and Tabellini (2000) analyse the effect of labour taxes on unemployment and find strong correlations. In particular, in countries with high unionisation, the effect of higher labour taxes on labour costs and hence on unemployment is stronger.

Belot and van Ours (2001) present a stylised model of how interactions affect unemployment. They consider two sets of labour market institutions, those who affect the incentive structure in the labour market (labour taxes, unemployment benefits) and those which are structural (union bargaining, union density, bargaining and employment protection). Interaction is possible within the group and between the groups and means that one institutional parameter may be effected by the value of another institutional parameter.

They estimate the effect of labour market institutions on unemployment in the following equation:

$$u_{it} = \alpha_i + \alpha_t + \beta Z_{i,t} + \gamma \delta^2 p_{i,t} + \epsilon_{i,t} \tag{3}$$

where the unemployment rate is a function of country fixed effects α_i and time fixed effects α_t, of labour market institutions $Z_{i,t}$, which may be interacted, the change in inflation $\delta^2 p_{i,t}$ and an i.i.d. error $\epsilon_{i,t}$. In a first step they do not use interactions between labour market institutions and omit both country and time fixed effects. They find significant effects for many labour market institutions. However, the results seem to be driven by fixed differences between countries and time periods as the significant effect of labour market institutions on unemployment diminishes when introducing α_i and α_t. If they account for the interaction between labour market institutions[12] they find a significant impact of interacting labour market in-

[12]In particular they introduce an interaction term between the tax rate and the replacement rate and analyse the effect of employment protection and union density for different

stitutions on unemployment. In particular, interactions between the tax rate and the replacement rate are significantly positive if one controls for fixed effects, suggesting that if taxes are high, the effect of a high replacement rate increases and vice versa. In addition, only in decentralised bargaining regimes, union density and employment protection seem to have a significant effect. In a decentralised bargaining situation, higher employment protection decreases unemployment, whereas higher union density seems to increase unemployment.

In a later paper, Belot and van Ours (2004) extend their formal framework. They make the theoretical argument that an increase in the replacement rate will have an ambiguous effect on unemployment, depending on the labour tax system. They further argue that an increase in union density has stronger effects in a decentralised framework, as the labour demand curve is likely to be relatively flatter than in a centralised environment due to a lower level of monopoly power. Finally they point out that changes in employment protection are abiguous. However, in decentralised bargaining systems the effects on employment will be most pronounced.

As in Belot and van Ours (2001), the authors point out that the significant effects from recent research may in reality be driven by fixed differences between countries and time periods. They interact the replacement rate with taxes, employment protection with centralisation and union density with centralisation and find support for their theory that employment protection and union density only have strong effects if bargaining is decentralised. They also test for the non employment rate as dependent variable and find robust results. In particular the interaction between employment protection and centralisation is negative, between union density and centralisation is positive and the interaction between taxes and the replacement rate has a positive effect on non-employment.

3 Labour Market Institutions and Macroeconomic shocks

So far, this paper has looked at the direct effect of labour market institutions (either in a pure or interacted form) on unemployment. This section deals with a literature which focuses on the interaction of macroeconomic shocks

bargaining regimes (in terms of centralisation)

and labour market institutions.

Macroeconomic shocks are likely to affect employment and for a long time, they were the primary explanation for unemployment in Europe. However, it is questionable if they can persist over decades and hence explain unemployment in European countries since the 1960s. In addition, shocks do a weak job in explaining the heterogeneity in the labour market as many of them hit the whole economy and not just one particular country (Blanchard and Wolfers, 2000). With respect to institutions as the primary cause of unemployment, the authors argue that labour market institutions would be successful in explaining heterogeneity between countries but as institutions are by definition fairly stable, they cannot explain the evolution of unemployment over time. However, macroeconomic shocks may have different effects depending on the overall institutional setting.

Blanchard and Wolfers (2000) analyse an OECD panel from the 1960s onwards. The shocks they see as likely candidates for shaping the European unemployment experience are (1) the decline in total factor productivity growth, (2) the real interest rate and (3) and shifts in labour demand. First, they treat shocks as unobservable but common to all countries and institutions as time invariant. Then they use actual time series for the three shocks experienced in the countries of interest and treat institutions once time invariant and once time variant.

They conclude that, if one allows for the effect of shocks, institutions and their interaction both the rise and the heterogeneity of unemployment in Europe can be explained much better. Their results are fairly robust, however, they establish weaker results when letting institutions vary over time. This is somewhat puzzling, however, time-series for the evolution of labour market institutions are rare and often not very good. It might be that the indicators are only a weak representation of actual changes.

Nunziata (2002) uses an improved set of institutional time series provided by the OECD. First, the direct effect of institutions on the time pattern of unemployment is assessed. In a second step, he interacts institutions with macroeconomic shocks to understand the additional explanatory power on unemployment. The paper finds some evidence for the interaction of institutions with adverse shocks. Though the results lack robustness. He argues that even without the interaction of shocks and institutions, a significant amount of unemployment can be explained by the direct effect of changes in labour market institutions.

The empirical strategy is to estimate the following equation

$$U_{it} = \beta_0 + \beta_1 U_{it-1} + \gamma' z^{-}_{w,it} + \lambda' h_{it} + \phi' s_{it} + \Phi_i t_i + \mu_i + \epsilon_{it} \quad (4)$$

where the unemployment rate in percentage points in country i at time t (U_{it}) is a function of a vector of labour market institutions ($z^{-}_{w,it}$), a vector h_{it} of interacted labour market institutions and a vector s_{it} of controls for macroeconomic shocks. In addition he includes a time trend for each country t_i, a fixed country effect μ_i, a year dummy λ_t and an error term ϵ_{it}.

The vector of labour market institutions consists of employment protection EP_{it}, Unemployment benefit replacement rate BRR_{it}, unemployment benefit duration BD_{it}, the union density UD_{it}, the bargaining coordination CO_{it} and the tax wedge (direct, indirect and labour tax rate) TW_{it}. Hence, one can write:

$$\gamma' z^{-}_{w,it} = \gamma_1 EP_{it} + \gamma_2 BBR_{it} + \gamma_3 BD_{it} + \gamma_4 \delta UD_{it} + \gamma_5 CO_{it} + \gamma_6 TX_{it} \quad (5)$$

Note that changes in union density are used as union levels are not significant. To account for complementarities between institutions they interact the benefit replacement rate with the benefit duration, union density and the tax wedge both with coordination in the following way:

$$\lambda' h_{it} = \lambda_1 BRRBD_{it} + \lambda_2 UDCO_{it} + \lambda_3 TWCO_{it} \quad (6)$$

Finally, the vector of macroeconomic controls consists of a labour demand shock (LDS_{it}), a total factor productivity shock ($TFPS_{it}$), a money supply shock ($D2JS_{it}$), the long term real interest rate ($RIRL_{it}$) and a terms of trade shock TTS_{it} [13].

$$\theta' s_{it} = \Theta_1 LDS_{it} + \Theta_2 TFPS_{it} + \Theta_3 D2MS_{it} + Theta_4 RIRL_{it} + \Theta_5 TTS_{it} \quad (7)$$

Note that the shocks above are all mean reverting (except of the real interest rate). To account for interaction between macroeconomic shocks and institutions, he models shocks via a time effect assuming that they are common to each country but unobservable and interact this time effect with the vector of labour market institutions. To understand wether institutions affect the persistence of unemployment he also interacts lagged unemployment

[13] for definitions of the above variables see Nunziata (2002)

with the institutional vector.

Empirically, he points out, macroeconomic control variables seem to be important and omitting them leads to inconsistent results for the institutional variables. Second, he cannot rule out a significant effect of labour market institutions in their interaction with macroeconomic shocks. But the regression results are not robust.

Similar to Nickel et al. (2005), Nunziata (2002) performs country specific dynamic simulations via a recursive method using the baseline model. They compare the baseline simulation with a simulation keeping shocks at their average level, they find that shocks can explain a fair amount for countries like New Zealand and Portugal, in the 1980s and for Austria, Canada and the Netherlands and for the 1990s in Norway. Apart from this, they argue, they cannot explain much. For example for Germany, shocks are unable to explain unemployment. In the same paper, they argue however on the base of a dynamic simulation keeping institutions constant at their 1960s level, that for Germany, institutions are unable to explain the evolution of unemployment either. Dynamic simulations of this kind are vulnerable to criticism, as it has been argued in this paper.

Nickel et al. (2005), also confront the direct effect of institutions with the interaction hypothesis to see which fits the data better. In a first step, similar to Blanchard an Wolfers (2000) they regress unemployment on time dummies interacted with sample averages of the institutional variables. They get, similar to Blanchard and Wolfers, significant time effects. By using time effects they treat shocks as unobservable but common in all OECD countries. They then add the interaction terms to the model they used to evaluate the direct effect of institutions and regress it by nonlinear least squares. They cannot establish significant effects for the interaction terms and conclude that interactions of institutions and shocks do not add to the explanatory power of the model which is only based on direct effects of institutions.

Chen, Snower and Zoega (2001) analyse the effect of firing cost on unemployment in a dynamic setting. They show in their theoretical model that the effect of firing costs on unemployment depends on the economic environment. Firing cost may only have negative effects under weak general economic circumstances such as slow productivity grows and a high probability of recessions. In a more favourable economic environment, firing costs can even boost employment.

The latter might have been experienced in the 1950s and 1960s. However, in the 1970s and 1980s productivity growth slowed down and the likelihood of recessions due to oil price shocks and raw material price shocks increased. Under these circumstances, firing costs may have led to high unemployment. They can significantly verify these effects for a sample of OECD countries. This leads to the general conclusion that the presence of a certain degree of firing costs may have positive effects in one country or epoch but negative effects in the other.

Blanchard (2005) suggests that the initial rise of unemployment were due to the macroeconomic shocks mentioned above and indeed the US have seen similar movements to their unemployment rate as Europe, however, unemployment has been much more persistence in Europe and this, may be due to labour market institutions which alter the effect of the experienced macroeconomic shocks.

4 Two neglected areas

Evidence for the effect of labour market institutions on unemployment are very mixed. Research so far has not been able to find a consistent framework to analyse the relationship between these two variables. In particular, in the empirical analysis, the coefficients for labour market institutions vary significantly in its size leading to an inconclusive pictures.

There are two research areas which have not been included in the framework of labour market institutions and unemployment: First, endogeneous institutions and second, a potential long-term trade off between monetary shocks and unemployment.

4.1 Endogeneity of Labour Market Institutions

In the analysis so far labour market institutions are seen as exogenously given. A recent strand in the literature, however argues that this assumption is too strong. Instead, labour market institutions are likely to be an outcome of a political process dependent on the status quo of the economy. Saint-Paul (1999, 2000) models the evolution of labour market institutions in a political economy framework. He argues that if labour market institutions were harmful for the whole society, they would be unlikely to exist. Hence, they only arise if there is political support for such institutions. He introduces the idea or rents. Rents are defined as the difference between the welfare of

an employee to the welfare he/she could achieve if unemployed (the outside option). He argues that labour market institutions give rise to rents if the once benefiting from them are politically powerful.

In an economy with many skill levels rigid labour market institutions will mainly be supported by the employed middle class with intermediate skills. More skilled workers may also support rigid institutions as this resolves a fiscal redistribution conflict between the skilled and unskilled. Such rent-creating institutions will be opposed by the unemployed, the most skilled and the very low skilled. The latter groups however are often less powerful in the political process and hence, rigidities arise.

Saint-Paul (1999) points out that support for high rents is higher if exposure is low, as the employed harm the unemployed in the absence of the expectation to be unemployed soon. With a high elasticity of labour demand for the group with insider power, wages increase only marginally if more unskilled workers are employed. In turn, there is only limited support for higher rents. Greater inequality will trigger stronger support for high rents as the internal conflict within the middle class would otherwise increase.

Note the bi-directional relationship between rents and labour market institutions. A certain set of labour market institutions creates a certain degree of rents and at the same time, the degree of rents influences the evolution of labour market institutions. Take employment protection as an example: Becoming unemployed results in a welfare loss which has precisely the size of the rent. If this rent is positive (e.g. due to a set of rigid labour market institutions), the demand for increasing employment protection laws rises. This is because the likelihood of becoming unemployed and hence the likelihood of experience the welfare loss, is reduced. Employment protection lowers the exposure to unemployment and as stated above, the lower the exposure to unemployment, the higher the demand for rent-creating institutions. There is hence a complementary effect of rent-creating and rent-protecting institutions.

One may argue that if unemployment is high due to rigid labour market institutions which produce high rents, the demand for rent-preserving institutions is higher. If bargaining insiders are successful and increase rigidities, this would induces further unemployment. Here, unemployment increases the demand for labour market institutions which may further increase unemployment. However, at the same time, when unemployment rises due to macroeconomic shocks, the exposure to unemployment increases and hence

the demand for rent-creating institutions decreases. Whether unemployment increases or decreases the political demand for more rigid institutions depends on the source of unemployment.

The literature on the effect of labour market institutions on unemployment does not model this endogeneity. However, by taking institutions as exogenously given, the effect on unemployment can be misstated. Furthermore, if institutions are endogenous they potentially bias regression results in empirical work.

Baker et al (2002), point out a two-way causation between unemployment and labour market institutions. In particular they argue that, if unemployment is high, governments are likely to respond with higher benefits. In the light of the analysis above, this may be true if unemployment is due to rigidities and if political insiders can successfully assert their demands for rent creating institutions.

Nickel et al. (2002) mention the potential endogeneity of labour market institutions, however they do not worry about strong distorting effects. This statement, though, is not based on computations. Also, they argue that in the absence of suitable instruments one will not be able to tackle the potential problem anyway.

4.2 Reflections on the NAIRU

Most research on labour market institutions and unemployment assumes that there is no long-run trade off between unemployment and inflation. Hence the long run Phillips curve is assumed to be vertical. In turn, shifts in long run unemployment are explained by shifts in the natural rate of unemployment, possibly due to changes in labour market institutions. There is some evidence for a long run trade-off between monetary shocks and unemployment for European countries - especially for low levels of inflation. Hence, not only institutions may be important in explaining unemployment, but also the monetary tightening of the past decades.

Karanassou et al. (2003) provide a theoretical model where monetary shocks permanently effect real variables. In their empirical part they derive a long-term inflation-unemployment trade off for European countries. They find support for a non-vertical relationship. In particular they argue that a 10 percent increase in long-run money growth translates in a 3.14 percent-

age point fall in European unemployment. The convergence to this long-run relationship is slow and in the short and medium run the trade-off seems to be even bigger.

Arestis and Sawyer (2005) question the NAIRU framework. In an structuralist view of inflation, they argue that inflationary pressure stems from the conflict over income shares and from cost elements, oil being very important.

Stockhammer (2004) confronts a similar Keynesian approach with the labour market institutions story. He uses time series data from the mid 1960s to the mid 1990s for Germany, France, Italy, K and USA and looks at unemployment benefits, union density, and the tax wedge to evaluate the NAIRU story. In his Keynesian approach unemployment is primarily due to the slowdown in capital accumulation. The Keynesian specification does a much better job, whereas in the institutions framework only the tax wedge has a positive effect of unemployment. However, they rely on time series data of institutions which are limited. That is why they only look at a limited number of labour market institutions. Furthermore, time series rely on interpolation which may not represent the reality. Still the presented evidence suggests that a focus solely on labour market institutions as cause of unemployment is too shortsighted.

Gottschalk and Fritsche (2005) estimate a long-run Phillips curve for Germany. Their findings cannot support the natural rate hypothesis and suggest a New Keynesian model which allows for hysteresis effects. Franz (2005) notes that the NAIRU is very hard to determine and the idea of a time varying NAIRU difficult to support. Coenen (2003) derives a long run Phillips curve under downward nominal wage rigidity. In his simulation for the Euro area, he finds a non-vertical long run relationship between inflation and unemployment, however, the non-verticality is only noticeble at inflation levels below one percentage point and even then, the effect is fairly small.

5 Concluding Remarks

This paper has pointed out some caveats about a simple relationship between rigid labour market institutions and unemployment. There has been a vast amount of literature on the direct effect of labour market institutions and on potential interaction with macroeconomic shocks. Some main contributions have been reviewed in the sections above. A framework of how labour market

institutions affect unemployment is still missing. What is, however known is that the view that rigid labour market institutions are the main reason for unemployment is insufficient. The economic profession has increasingly accepted the difficulties in understanding how unemployment is influenced by labour market institutions and tries to go new ways.

It seems that some institutions matter more than others in producing unemployment. In addition, several institutions are likely to interact with each other. It has been suggested that changes in one institutions are likely to have different effects in different countries and time periods depending on the overall setting of labour market institutions. A simple adoption of measures to reduce unemployment which have worked in one country is likely to fail. Instead an overall institutional framework has to be designed for each country and introduced as a set. This also suggests that it is likely that there are more than one set of institutions which can lead to low unemployment.

The research on interacting labour market institutions is still in progress. Most research only looks at pairs of institutions which interact. Empirical research agrees that interactions matter but have a lesser idea about how these work. There seems to be some consensus that unions and employment protection have stronger effects in decentralised countries and that there is some trade off between labour taxes and the replacement rate. An advanced theoretical framework about the interaction of institutions is still missing.

In addition, macroeconomic shocks are important in explaining unemployment in European countries and their effect may be magnified in their interaction with institutions. However, there is no unambiguous account for the precise effect of this interaction and a theoretical foundation is not fully available.

This paper has pointed out that empirical work may still suffer from data limitations. In particular, institutional indicators are created on an ex-post basis which gives rise to potential bias. Furthermore, most time series data rely on interpolation which may not represent the reality.

The limitations in our understanding can be due to the fact that important areas have not been sufficiently applied to this area: (1) So far labour market institutions have been modeled as exogenous. Theoretically, the case has been made that political insider power can affect the evolution of institutions. Also, labour market institutions do not only interact in terms of their effect on unemployment (as e.g. in Belot and van Ours, 2004), they

may also be complementary in a political economy framework. In particular, the increase in one institutions may alter the insider power and hence effect the demand for other institutions. The dimension to which endogeneity does matter is a question for future research. In the light of the inconclusive findings on labour market institutions on unemployment this is a line of research worth pursuing.(2)There may be a long-term trade off between monetary shocks and unemployment which would question the idea of a NAIRU. In the light of this research, the exact effect of labour market institutions would have to be reconsidered. Even if the long run trade-off between inflation and unemployment is non-vertical, labour market institutions can shift the non-vertical Phillips curve, however, variables which capture such a long-term trade-off should be included in models and regressions.

Even though the profession increasingly accepts the limited knowledge in this area, simplified arguments such as that rigid labour markets are the main reason for the different labour market experience between the US and Europe are still widespread at multinational organisations and in the policy debate. However, reforms are likely to fail or to be counterproductive if the complex interrelation between the variables of interest are not taken into account. This highlights the importance of further research on the link between labour market institutions and unemployment.

6 References

Arestis, P. and M. Sawyer (2005), Aggregate Demand, Conflict and Capacity in the Inflationary Process, Cambridge Journal of Economics, Vol. 29.

Baker, D., Glyn, A., Howell, D., and John Schmitt (2004), Unemployment and Labour Market Institutions: The Failure of the Empirical Case for Deregulation, ILO Working Paper No. 43.

Baker, D., Glyn, A., Howell, D., and John Schmitt (2002), Labour Market Institutions and Unemployment: A critical Assessment of the Cross-Country Evidence. CEPA Working Paper 2002-17.

Belot, M. and J. van Ours (2004), Does the recent success of some OECD countries in lowering their unemployment rates lie in the clever design of their labour market reforms?, Oxford Economic Papers, No. 56.

Belot, M. and J. van Ours (2001), Unemployment and Labour Market

Institutions; and Empirical Analysis, Journal of Japanese and International Economics, Vol. 15.

Blanchard, O. (2005), European Unemployment: The Evolution of Facts and Ideas, NBER Working Paper 11750.

Blanchard, O and J. Wolfers (2000), The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence, Economic Journal, Vol. 110.

Calmfors, L. (1993), Centralistion of Wage Bargaining and Macroeconomic Performance - A Survey, OECD Economic Studies No. 21

Calmfors, L. and J. Driffill (1988), Bargaining Structure, corporatism and Macroeconomic Performance, Economic Policy Vol.6

Chen, Y., Snower, D. and G. Zoega (2003), Labour Market Institutions and Macroeconomic Shocks, Review of Labour Economics and Industrial Relations, Vol.17, No. 2.

Coe, D. and D. Snower (1996), Policy complementarities: The Case for Fundamental Labour Market Reform, IMF Working Paper WP/96/93.

Coenen, G. (2003), Downward Nominal Wage Rigidity and the Long-Run Phillips Curve: Simulation-Based Evidence for the Euro Area, ECB Working Paper No. 270.

Daveri, F. and G. Tabellini (1997), Unemployment, Growth and Taxation in Industrial Countries, IGIER Working Paper No. 122.

Driffill, J (2005), The Centralisation of Wage Bargaining Revisited - What have we learned?, Working paper for a seminar at the European Institute, LSE.

franz, W. (2005), Will the (German) NAIRU Please Stand Up?, German Economic Review, Vol. 6, No.2

Freeman, R. (1998), War of the Models: Which Labour Marketin Institutions for the 21st Century?, Labour Economics, Vol. 5.

Freeman, R. (2002), Institutional Differences and Economic Performance

Among OECD Countries, CEP Discussion Paper.

Gottschalk, J and U. Fritsche (2005), The New Keynesian Model and the Long-Run Vertical Phillips Curve: Does it hold for Germany?, DIW Discussion Paper 521.

Hoon, H. and E. Phelps (1992), Macroeconomic Shocks in a dynamised model of the natural rate of unemployment, American Economic Review, Vol. 82.

IMF (2003), Unemployment and Labour Market Institutions: Why Reforms Pay Off. World Economic Outlook, Chapter 4.

Karanassou, M., Sala, H. and D. Snower (2003), Applied Economics Quarterly, Vol. 49, No. 2.

Layard, R. and S. Nickell (1999), Labour Market Institutions and Economics Performance, in Ashenfelter, O. and D. Card, Handbook of Labour Economics, Vol.3 Part C, Chapter 46, Amsterdam, North-Holland.

Lucas, R. (1976). Econometric Policy Evaluation: A Critique, Carnegie-Rochester Conference Series on Public Policy, No. 1.

Nickell, S., Nunziata, L. and W. Ochel (2005), Unemployment in the OECD since the 1960s. What do we know?, The Economic Journal, Vol. 115.

Nickell, S., Nunziata, L., Ochel, W. and G. Quintini (2002), The Beveridge Curve, Unemployment and Wages in the OECD from 1960s and the 1990s, CEP Discussion Paper.

Nicoletti, G. and S. Scarpetta (2002), Interactions between Product and Labour Market Regulations: Do they Affect Employment?, Paris: OECD Economics Department.

Nunziata, L. (2002), Unemployment, Labour Market Institutions and Shocks, Economics Papers 2002-W16.

OECD (2004), Wage-setting Institutions and Outcomes, Employment Outlook, Chapter 3.

Oswald, A. (1997), The Missing Piece of the Unemployment Puzzle - An Inaugural Lecture.

Phelps, E. (1994), Structural Slumps: The Moden Equilibrium Theory of Unemployment, Interest and Assets. Harvard University Press, Cambridge.

Saint-Paul, G (2000), The Political Economy of Labour Market Institutions, Oxford University Press, Oxford.

Saint-Paul, G (1999), Toward a theory of labour market institutions" mimeo

Siebert, H. (1997), Labour Market Rigidities: At the Root of Unemployment in Europe, Journal of Economic Perspectivem Vol. 11, No.3.

Stockhammer, E. (2004), Explaining European Unemployment: Testing the NAIRU Hypothesis and a Keynesian Approach, International Review of Applied Economics, Vol. 18, No.1.