

The preceding analysis suggests that the UK labour market has become more flexible since 1997. To make a success of UK membership of EMU would require that these improvements are not just experienced at a point in time but are sustained into the future. This section provides an analysis of the institutional environment including policies towards the labour market, which have been shown to influence both equilibrium unemployment and how well an economy adjusts to shocks. The main findings are:

- since 1997, the Government has implemented a number of reforms to the tax and benefit system to ensure that work is financially rewarding. Figures show that the UK has a **replacement rate** comparable to the US and lower than in many European countries. The **tax wedge** is also one of the lowest in the OECD and has been on a broadly downward trend since the 1980s;
- the Government's New Deal programme has aimed to increase the effective labour supply by improving work skills and disciplines and by focusing on improving the labour market attachment of young people, lone parents and the long-term unemployed. A number of studies have found that these **active labour market policies** have enhanced participants' ability to find employment;
- evidence suggests that **employment protection legislation** is less heavy handed than in many other OECD countries and more conducive to labour market flexibility. New legislation has been introduced since 1997 to improve standards in the workplace, such as the **National Minimum Wage** and the **Working Time Directive**. The evidence to date is that these have not unduly compromised the flexibility of the labour market;
- the UK's labour market is characterised by a decentralised system of **collective bargaining**. Such a system means that relative wages can adjust more readily to industry, sectoral and regional conditions. The decline in collective bargaining over the past two decades also supports aggregate wage flexibility; and
- a high level of competition will increase the benefits associated with a decentralised bargaining system. Evidence suggests that in the UK the **product market**, which is becoming an increasing feature in discussions of labour market rigidities, is one of the least regulated in the euro area and indeed the OECD.

Overall, the section suggests that recent improvements in the performance of the UK labour market are well founded. It concludes by presenting a summary indicator of flexibility based on these institutional factors. While there is no blueprint for success, the analysis and indicator rankings suggest that the institutional environment in the UK appears to be more conducive to labour market flexibility than in many other countries, particularly in Europe. Progress has been made in Europe, but labour market reform needs to be pursued with vigour to improve the functioning of the EU labour market.

**4.1** Section 2 discussed how the labour market adjusts to changes in the supply of and demand for labour. When adjustment is fast, this tends to be reflected in superior labour market outcomes, as set out in Section 3. Both sections suggested that there has been an improvement in labour market performance in the UK since 1997.

**4.2** Successful membership of EMU requires that these improvements are not just experienced at a point in time but that they are sustained into the future. This section therefore complements the preceding analysis and provides an analysis of a number of labour market policies and institutions which influence both equilibrium unemployment and how well an economy adjusts to shocks. The evolution of these institutions is important because supply side reforms may take time to affect behaviour; an assessment of these institutions now can indicate the outcomes that may emerge in the medium to long term.

**4.3** At the outset, it is worth setting out how these institutions might be expected to influence equilibrium unemployment and the way in which an economy adjusts to shocks. Table 4.1 attempts such an exercise on the basis of the consensus among analysts on the expected impact. Some institutions affect wages directly, and thereby the potential responsiveness of wages to disequilibrium in the labour market. Other factors directly influence the effectiveness with which the unemployed are matched to vacancies. Given that this may lead to an increase in long-term unemployment, this can lead to a secondary impact on wage pressures.

**Table 4.1: The influence of labour market institutions**

|                                   | Expected impact on:                              |  |   |
|-----------------------------------|--|--|---|
|                                   | Matching process<br>(+ = improve,<br>- = worsen) | Wage pressure<br>(+ = increase,<br>- = decrease) | Equilibrium unemployment<br>(+ = increase,<br>- = decrease) |
| Employment Protection Legislation | -?   | +?   | +?  |
| Tax wedge                         |  | +?   | +?  |
| Replacement rate                  | -  | +  | +   |
| Benefit duration                  | -  | + (secondary)                                    | +   |
| Active Labour Market Policy       | +  | - (secondary)                                    | -   |
| Union density                     |  | +  | +   |
| Union coverage                    |  | +  | +   |
| Union/employer coordination       |  | -  | -   |

**4.4** While there is a broad agreement about the expected impact of institutional factors, opinion is more divided regarding their quantitative importance, which can vary subject to model specification and country coverage and can be strongly influenced by interaction effects.<sup>1</sup> This section does not attempt a quantitative weighting but concludes by presenting a summary indicator of flexibility based on these institutions, drawing on a recent influential study.<sup>2</sup>

## LABOUR MARKET FLEXIBILITY AND EMPLOYMENT OPPORTUNITY

### The tax and benefit system

**4.5** The interaction of the tax and benefit system is an important influence on labour market flexibility via its impact on labour supply, unemployment and wages. The Treasury's assessment of the five economic tests in 1997 noted that:

*"We also need to ensure that our tax and benefit system supports an effective and flexible labour market and ensures that work pays". (HM Treasury, 1997, page 24.)*

<sup>1</sup> Coe and Snower (1997) and Belot and van Ours (2000) both suggest that institutions interact with one another and have complementary effects on unemployment. A priori, this might suggest that those countries that undertook comprehensive labour market reform and exploited these complementarities would have more favourable market outcomes.

<sup>2</sup> Blanchard and Wolfers (2000).

**4.6** The impact of the tax and benefit system on labour market flexibility chiefly flows through two channels, namely the extent to which it causes real wage resistance and the extent to which it reduces incentives to participate in the labour market.

**Real wage resistance** **4.7** The concept, whereby workers attempt to sustain real wages despite shifts in equilibrium unemployment, is known as real wage resistance. There is evidence to suggest that real wage resistance exists, at least in the short run, such that a tax increase leads to higher unemployment, although this can vary across countries. Daveri and Tabellini (2000) found that in continental Europe, but not other OECD countries, higher labour tax rates translate into higher gross wages. For each percentage point increase in labour taxes, there is a corresponding increase in the real wage of nearly half a percentage point. Tyrväinen (1995) also found that the degree of real wage resistance is low outside of continental Europe, for example in the UK and US. Evidence suggests that the effect may not persist into the long run, or if it does that the effect on unemployment is not particularly large (Nickell and Layard, 1999).

**Incentives to work** **4.8** The tax and benefit system can also interact to create disincentives that discourage participation in the labour market or reduce the number of hours an individual is willing to work, namely:

- *the unemployment trap*: those individuals without work find that the difference between in- and out-of-work incomes is too small to provide an incentive to take a job; and
- *the poverty trap*: those already in work may be discouraged from working longer hours or taking a better paid job because simultaneously paying more tax and receiving less benefit may leave them little better off.

**4.9** Because the unemployment and poverty traps discourage individuals from moving into employment or taking a more financially rewarding job, they can reduce the flexibility of the labour market. For example, discouraging job search can reduce the stock of workers able to fill the available vacancies, which might discourage employers from opening vacancies. High benefits can also impact on wage pressures directly. By reducing the fear of unemployment or reducing competition for jobs, they can increase the reservation wage or encourage unions to push for excessive wages.

**4.10** Although the actual direction of the supply response to a tax change is theoretically ambiguous,<sup>3</sup> evidence supports the principle that high tax rates influence the labour supply decision of certain individuals. In particular, partners in single earner couples and lone parents are generally found to be the most responsive to incentives, while the labour supply of prime-age males is less likely to respond to a tax change (Carone and Salomäki, 2001).

**4.11** This existence of incentive effects is also evident in studies that look at the tax and benefit system jointly. For example, Disney (2000) finds that high average replacement rates (the ratio of out-of-work income to in-work income) tend to lengthen the spell of unemployment.

**Tax and benefit reforms since 1997** **4.12** Since 1997 the Government has reformed the UK tax and benefit system to ensure that work pays more than welfare and that there are incentives to move up the earnings ladder. In particular:

<sup>3</sup>There are two offsetting effects to a tax change – the income and substitution effects. A cut in taxation would encourage the individual to work more because the opportunity cost of leisure has increased (the substitution effect). However, as income increases, the same goods (leisure) can be purchased with less work effort, i.e. the individual is encouraged to work less (the income effect).

- a new lower starting rate of income tax was introduced in April 1999 and the basic rate of income tax was reduced in April 2000 to the lowest level for 70 years;
- the entry fee on national insurance contributions (NICs) was abolished in April 1999 and the threshold above which employees pay NICs was increased to be aligned with the income tax personal allowance in April 2000 and 2001; and
- a number of in-work tax credits have been introduced to provide additional targeted support for working families (see HM Treasury, 2002e).

**4.13** The reforms have been targeted at all levels of the income distribution, but especially on those with low incomes. This in itself is potentially important for labour market flexibility. The effect of taxes on unemployment and wages depends on the structure of taxation. Progressive taxation is likely to be friendlier towards employment because low-wage workers, who have higher wage elasticities, pay less tax (Pissarides, 1999).

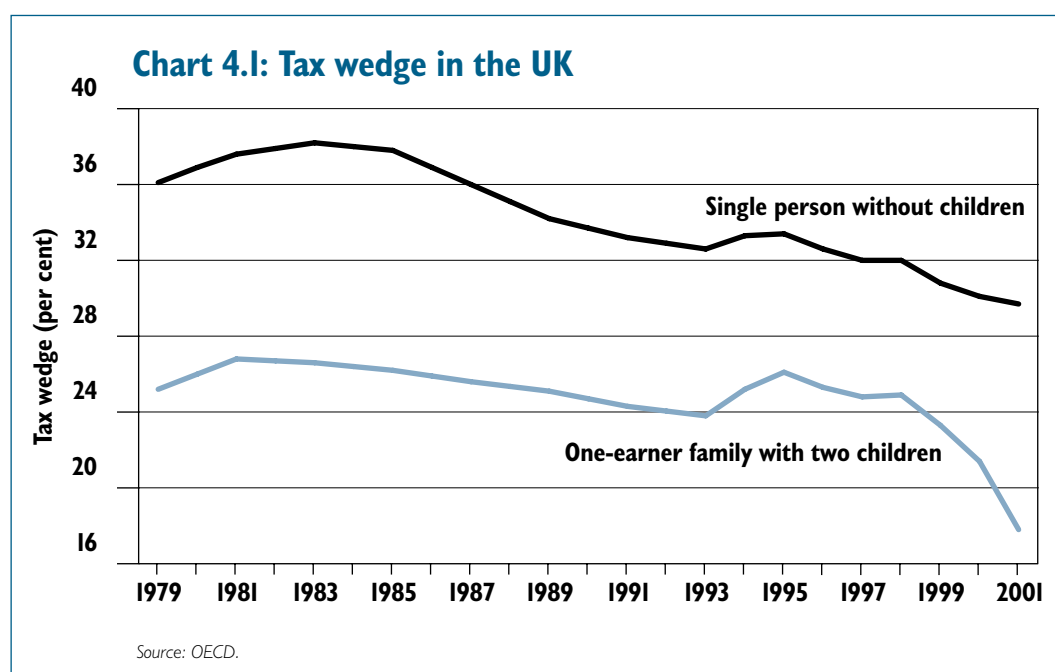
**Reducing unemployment and poverty traps . . .**

**4.14** The tax and benefit reforms have significantly increased the gains to work across households (HM Treasury, 2002e). The available evidence suggests that, in doing so, these reforms have had positive effects on labour market participation in the UK (Gregg *et al.*, 1999; Blundell *et al.*, 2000; HM Treasury, 2000b; Blundell and Hoynes, 2001).

**4.15** Moreover, these reforms have also lessened the poverty trap, which may imply a significant change in work effort for those who face lower withdrawal rates. The number of families facing a marginal deduction rate of over 70 per cent has fallen by two thirds since 1997 (HM Treasury, 2002e). While the number of families facing a withdrawal rate of 60 per cent has increased, this reflects the extension of in-work support to families who were previously not eligible for such assistance. Moreover, any effect on work incentives is mitigated by the income disregard in the new tax credits,<sup>4</sup> which means that recipients will not see their tax credits reduced as soon as their income rises.

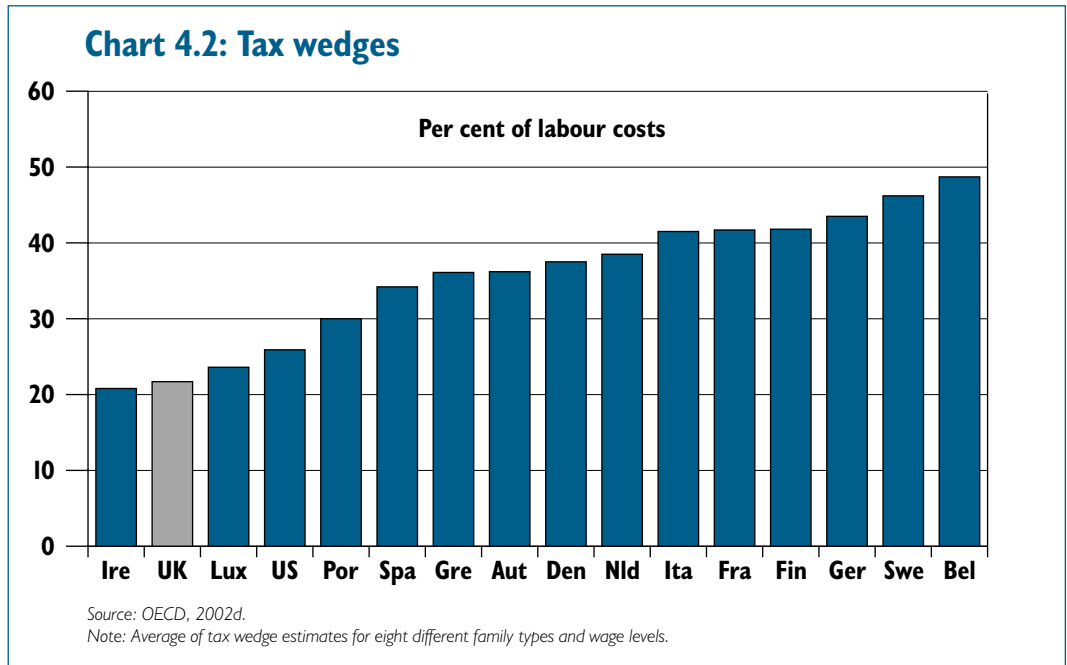
**. . . and the tax wedge**

**4.16** The reforms have also led to a reduction in the tax wedge in the UK. Chart 4.1 shows estimates of the tax wedge for single people and for one-earner families with two children. Both have resumed the downward trend seen over the 1980s, which was interrupted briefly during the mid-1990s. For the former, the tax wedge has fallen by over 2 percentage points between 1997 and 2001, and for the latter by 7 percentage points.

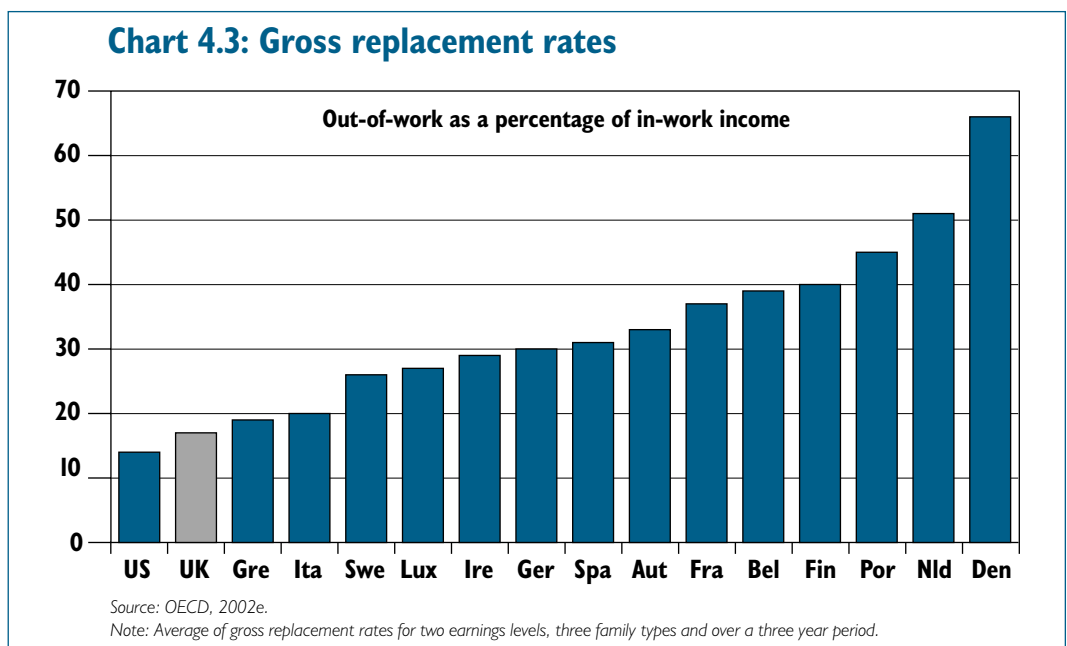


<sup>4</sup>If gross family income rises by up to £2,500 then during the financial year in which the rise takes place the tax credit is unaffected.

**The tax wedge is low by international standards . . .** **4.17** Chart 4.2 shows estimates of the tax wedge in EU countries and US, taken as a straight average across eight family types. The tax wedge in the UK is lower than in the majority of EU countries and the US. Tax wedges in continental Europe increased from the early 1980s and in a number of cases still remain higher than in the early 1980s levels. However, since 1997 tax wedges across the rest of Europe have fallen, reflecting moves across Europe to boost work incentives (see Carone and Salomäki (2001) for a thorough overview).



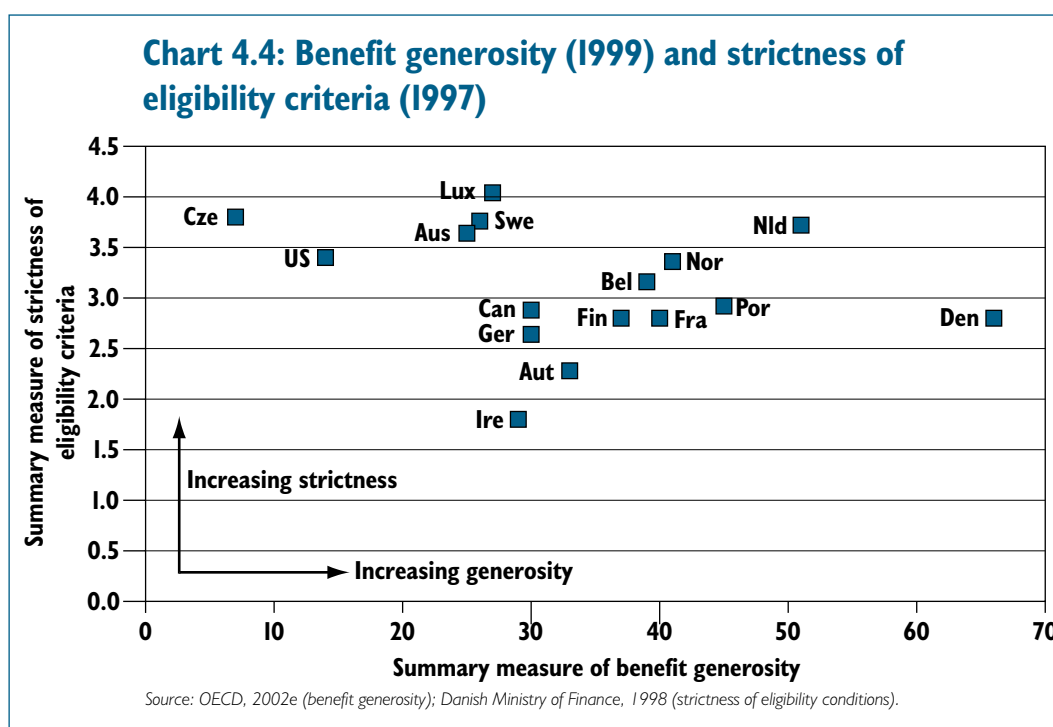
**. . . as is the replacement rate** **4.18** As noted above, taxation is only half of the story. Even if the tax system rewards employment, incentives to work could be low if the benefit system discourages job search. Chart 4.3 shows the OECD's summary measure of benefit entitlements – the gross replacement rate. It illustrates that, on average, the UK has one of the lowest gross replacement rates in Europe (the replacement rate is a measure of the ratio of out-of-work to in-work income). Over the 1990s, the replacement rate has remained broadly stable in the UK and at a lower level than the majority of the EU.



**Benefit administration also matters** **4.19** However, despite high replacement rates, some continental European economies have managed to maintain work incentives and sustain high rates of employment. Empirical evidence suggests that the way in which the benefit system is administered is just as important as the level of financial support; most notably, the eligibility period and the eligibility requirements.

**4.20** For instance, Buti *et al.* (1997) and Scarpetta (1996) found that the eligibility period for benefits has a significant impact on the duration of unemployment, while there is empirical evidence of a spike in the exit rate from unemployment before the point at which benefits are exhausted (Bover *et al.*, 1996). Nickell (1997) found that high unemployment was associated with generous benefit systems that were allowed to run on indefinitely, combined with little or no pressure on the unemployed to find work, and Grubb (2000) also found a significant impact via eligibility criteria.

**4.21** Chart 4.4 plots the gross replacement rate, a summary measure of benefit generosity, against a summary measure of the strictness of eligibility criteria in unemployment benefits.<sup>5</sup> It shows that some continental European economies offset generous benefits by imposing strict eligibility criteria. These data are out of date and for some countries may not reflect current positions. The UK is not shown in the comparison because the estimates for the strictness of eligibility criteria do not reflect the current position, and in particular do not reflect the strengthening of the compulsion and conditionality elements of the New Deal programmes.<sup>6</sup>



**Housing Benefit** **4.22** Housing Benefit provides help with rental costs for low income tenants in and out of work. Around 3.8 million tenants currently rely on it for help with their rent. However, the design and administration of Housing Benefit can hinder the transition to work for some people. Claimants often do not know until after they have moved into a property whether or not their entitlement will meet the cost of their rent. Moreover, delays in processing new applications after a claimant returns to employment can lead to rent arrears and debt, dissuading some people from moving into work.

<sup>5</sup> See Danish Ministry of Finance (1998) for full details of the indicators. Also see Grubb (2000) for a discussion of this approach.

<sup>6</sup> Were updated UK estimates available, they would be likely to show the UK in the upper left portion of the chart.

**4.23** The Government recently announced new measures to simplify and streamline the administration of Housing Benefit, reducing its capacity to act as a barrier to work, including pilots in Pathfinder areas of a flat rate local housing allowance for tenants in the deregulated private rented sector. These measures will also provide valuable evidence on which to base further action to improve and reform the functioning of Housing Benefit over the longer term.

**Conclusion: tax and benefit system** **4.24** Overall, evidence suggests that the tax and benefit reforms introduced since 1997 have improved the flexibility of the UK labour market. The adverse incentive presented by the unemployment trap has been reduced and the tax wedge, which was already low by international standards, has fallen further. The reforms have dramatically reduced the incidence of the very highest marginal deduction rates. Although the incidence of families facing withdrawal rates above 60 per cent has increased, this reflects the extension of in-work support to those who were previously not eligible for assistance.

**4.25** Continued tax and benefit reform represents a common challenge for the EU, but with individual reform paths being set by Member States. Reform is being pushed by the recommendations of the Broad Economic Policy Guidelines and the Employment Guidelines and many Member States have reformed, or announced plans to reform, personal income taxes.

### Active Labour Market Policies (ALMPs)

**Employee effectiveness matters for flexibility** **4.26** In addition to creating an environment that rewards work, it is also important to raise the effectiveness of the unemployed and smooth their reintegration into the labour market. This can reduce the need for employers to raise wages and therefore increase the medium to long-run responsiveness of wages to unemployment, in particular by:

- *increasing competition in the labour market:* extended periods out of work can have adverse effects on the unemployed or employers' perceptions of the unemployed. The unemployed can become demotivated, their skills can atrophy or become outdated and they can lose the habits associated with working. This will make employers reluctant to hire them. The unemployed thus become less able to compete in the labour market for vacancies against those already in work or employers may use long-term unemployment as a reason to discriminate during the selection process. Employment programmes can re-skill the unemployed, give them experience of working and get them back into the habit of work. This increases the effective supply of labour and means that employers face less pressure to raise wages in order to attract people to work for them;
- *increasing the matching of the unemployed to job vacancies:* job search assistance to the unemployed can help to ensure that they search for jobs both more intensively and more effectively, thereby speeding up the process of matching an unemployed individual to a vacant job. Programmes targeted at the economically inactive – who are not searching at all – can encourage them to return to the labour market, increasing the pool of people available to fill vacancies. An open vacancy imposes costs on employers in terms of lost output and profits. Employers may therefore increase wages in order to fill the vacancy more quickly. Job search assistance, by reducing the time these jobs are vacant for a given wage level, can decrease these costs, giving employers less incentive to raise wages and more incentive to open vacancies; and
- *reducing the mismatch between labour demand and labour supply:* the skills that the unemployed have to offer employers may not match those which employers require. This includes not just mismatch in terms of skill shortages

or shortages of people to do particular jobs, but also regional or area mismatch (where the unemployed are concentrated in areas where jobs are sparse and vice versa). Training programmes can, where carefully targeted both on individuals and employers' needs, help to reduce such mismatch. This will mean that employers do not have to bid up wages in order to attract particular types of labour that would otherwise be scarcer.

**4.27** Raising the effectiveness of the unemployed therefore both reduces the NAIRU and increases the speed of adjustment of the labour market back to the NAIRU – particularly if policy prevents a build up of long-term unemployed and workless individuals in a recession.

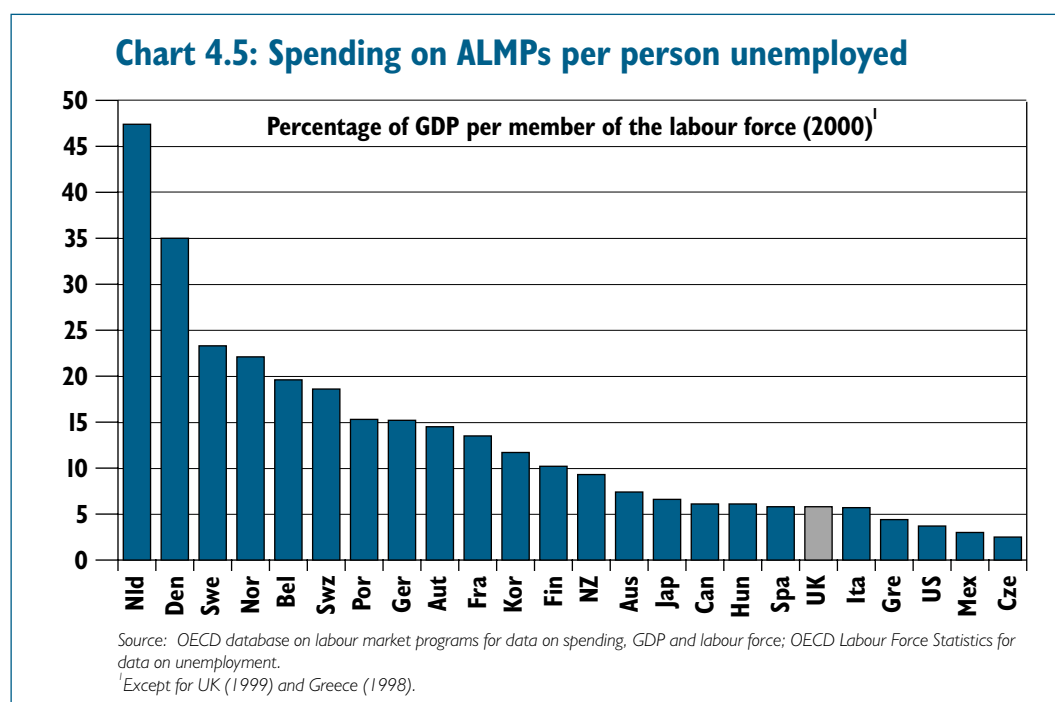
#### Active Labour Market Policy in the UK

**4.28** Since 1997, the Government has introduced a range of Welfare to Work policies to prevent the unemployed from becoming permanently detached from the labour market, and to successfully reintegrate the long-term unemployed and inactive into employment (HM Treasury, 2002e).

**4.29** Notably the Government has introduced the New Deal programme to help reduce long-term and youth long-term unemployment and to address the barriers to work faced by those on the margins of the labour market, including lone parents and the over 50s.

#### ALMP spending is low compared to other countries

**4.30** Figures suggest that spending on Active Labour Market Policies is still low in the UK compared to other countries. Chart 4.5 shows spending on ALMPs per person unemployed (as a percentage of GDP per member of the labour force). It suggests that the UK and the US devote a relatively small amount of spending to this type of policy.



**4.31** However, what is more important is the effectiveness of the spending, and it has been questioned whether the programmes that have been undertaken in the OECD have achieved their original objectives for programme participants (OECD, 2001). The IMF notes that there is little evidence that the use of ALMPs in Germany, France, Italy and Spain has contributed to increasing employment or creating longer lasting jobs (IMF, 2001).

#### Has ALMP in the UK worked?

**4.32** Evidence, drawn from both the UK and other OECD countries on the success of ALMPs, is growing. The conditions associated with the receipt of the main benefit for unemployed people – the Job Seekers' Allowance (JSA) – make it an active policy. Recipients of JSA must be

actively searching for and available for work, and Jobcentre Plus check that people are meeting these requirements. The tightening of job search benefit conditionality in 1986 (Restart Programme) and 1996 (the introduction of JSA replacing previous benefits) has been shown to have raised employment (White and Lakey, 1992; Dolton and O'Neill, 1996; McKay *et al.*, 1999; Rayner *et al.*, 2000).<sup>7</sup>

**The New Deal 4.33** There is also positive evidence as to the effectiveness of a number of the New Deal programmes. Nearly two million people have started in the New Deal, and over 750,000 have moved into jobs.

**4.34** Long-term youth unemployment is estimated to have fallen by 40,000 between March 1998 and March 2000 as a result of the New Deal for Young People (NDYP) (Riley and Young, 2000). Long-term youth unemployment fell from 118,000 in March 1998 to 52,000 in March 2000. Without the NDYP it would have been almost twice as high. Separately, Van Reenan (2001) estimates that unemployed young men are around 20 per cent more likely to find jobs each month as a result of the NDYP and that the NDYP has led to an increase in steady state youth employment of over 17,000.<sup>8</sup>

**4.35** The New Deal 25 Plus has so far helped more than 126,000 people into work. Research has confirmed the positive impact of the New Deal 25 Plus. The Institute for Employment Research (2002) have concluded that the re-engineered New Deal 25 Plus, launched in April 2001, has had a positive impact on job entry. Since its introduction, there has been a marked increase in the speed with which participants pass through the programme and into work.

**4.36** The New Deal 50 plus appears to have increased employment. Evaluation results suggest that around 42 per cent of claimants would not have taken up the job they are in without the Employment Credit (EC50+) part of the programme (Atkinson and Dewson, 2001). Furthermore the EC50+ was found to both reduce the reservation wage and increase job search activities for around half of programme participants. Those clients who did lower their wage expectations were statistically more likely to find work than those who did not. A similar, though smaller, impact was also found for the broadening effect of the EC50+ on job search activity.

**4.37** The New Deal for Lone Parents after 18 months reduced the number of lone parents on Income Support by 3.3 per cent, similar to comparable lone parent welfare-to-work programmes overseas (Hasluck *et al.*, 2000).

**Conclusion: 4.38** Long-term unemployment is associated with more unemployment persistence.  
**ALMPs** Evidence suggests that since 1997 ALMPs in the UK have eased the transition into work, reduced the duration of job search and had a positive impact on employment. The evidence suggests therefore that such measures have improved the functioning and flexibility of the UK

<sup>7</sup>In addition a comparison with Incapacity Benefit (IB) is instructive. Under IB there is no requirement to search or be available for work. The contrast between outflows from these benefits is stark – 91 per cent leave JSA within a year, but only 32 per cent leave long-term IB within a year (although this may be related to heterogeneity, with those on IB facing greater barriers to work).

<sup>8</sup>Not all of the unemployed individuals who receive assistance from Welfare to Work programmes and subsequently move into work represent a net increase in employment. Some would have moved into work without the programme. This is termed deadweight. Others who, without the programme, would not have moved back into work may get these jobs at the expense of other individuals. This is termed substitution. Displacement is similar to substitution but operates via the product market. For example, a company employing subsidised ex-unemployed workers may be able to undercut the prices charged by other companies in its industry taking their custom, and causing them to cut back on production and employment. Evaluation studies such as these estimate the impact of programmes after accounting for deadweight, substitution and displacement.

labour market. However, there remain significant challenges around tackling persistent economic inactivity and repeated periods of worklessness.

## LABOUR MARKET FLEXIBILITY AND REGULATION

**4.39** An appropriate degree of regulation can correct market failures and increase fairness and safety in the workplace. Effectively targeted regulation can also improve the flexibility of the labour market by improving the quality of job matching and therefore reducing the cost of labour turnover to firms. However, if regulation is set ineffectively then it can constrain the choices of employers and employees, i.e. reduce labour market flexibility.

**4.40** Since 1997, the Government has introduced a framework of decent minimum standards to promote fairness in the workplace, including the National Minimum Wage and a new Working Time Directive. However, if this legislation were applied sub-optimally, it could discourage the creation of entry-level jobs, especially for the low-skilled.

**Can a minimum wage reduce labour market flexibility?**

**4.41** The Government introduced the National Minimum Wage in April 1999 to ensure fair minimum standards of pay and to underpin the reforms to the tax and benefit system. With regard to membership of the single currency, however, some commentators have argued that the introduction of a minimum wage will reduce the flexibility of the labour market. There are two ways that a minimum wage could do this:

- *by inhibiting the workings of the price mechanism:* this is the case if a minimum wage sets an inappropriate 'going rate' for wage rises more generally, leading to stronger wage growth in the aggregate economy than would be expected given the state of the labour market; and
- *reducing employment:* under a competitive model of the labour market, if a wage floor is set above market clearing levels then, in the low productivity – low wage end of the labour market, employment will fall. If the individuals that move into unemployment or inactivity become detached from the labour market, either permanently or at least for a time, then they are less able to exert pressure in the wage bargaining process and wages become less responsive to unemployment.

**4.42** In the UK, the National Minimum Wage is not adjusted in a mechanical way. Instead the Low Pay Commission (LPC) reviews the level of the main National Minimum Wage and the development rate and makes recommendations, if appropriate, for change. The LPC make particular reference to the effect on pay, employment and competitiveness; the impact on different groups of workers; the impact on pay structures; and the interaction with the tax and benefit system. In maintaining a degree of discretion over its level, the potential for the National Minimum Wage to set an inappropriate benchmark is reduced. This helps to ensure that wages can still respond effectively to a particular labour market situation.

**Evidence suggests no adverse impact on earnings...**

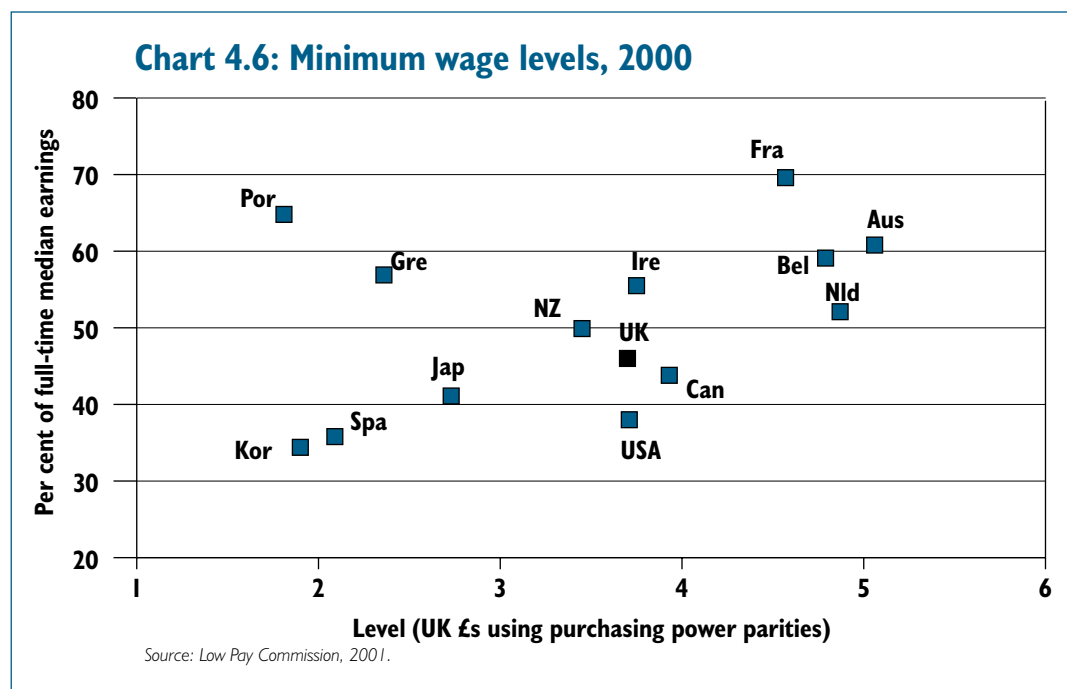
**4.43** Research to date suggests that the National Minimum Wage has not had a notable impact on earnings growth. Dickens and Manning (2002) find that there has been virtually no impact on the pay of those workers who were not directly affected. Moreover, the changes that did occur happened in the immediate months following its introduction, with the impact declining over time, reflecting the fact that the National Minimum Wage has not been adjusted on a regular cycle. In addition, Gregg and Pasanen (2001) find that the tightening labour market is the most likely cause of improved adult entry wages since 1996 rather than the introduction of the National Minimum Wage.

**...or employment** **4.44** Ultimately whether minimum wages are good or bad for employment depends on their level. At some point a minimum wage will hit the demand constraint and reduce both employment and the ability of firms to deal with shocks. Evidence so far, however, would suggest that the level of the National Minimum Wage is still below the point where the constraint starts to bite, and that there has been no adverse impact on aggregate employment (Stewart, 2002; Dickens, 2001).

**4.45** Given that productivity rises with labour market experience, the constraint for youth workers is at a lower level. This implies the need for a lower youth wage, as has been introduced in the UK. Again the evidence suggests that there has been no discernible impact on youth unemployment (Stewart, 2002). The only area where the National Minimum Wage appears to have reduced employment is in the care home sector (Machin *et al.*, 2002).

**4.46** Moreover, the impact of a minimum wage may potentially be rather different if the low wage end of the labour market does not approximate to the simple competitive model. If instead the labour supply curve to the individual firm is upward sloping, then minimum wages could, over a certain range, increase employment. One class of models with this property incorporate labour turnover and associated costs. In these models, a firm attempting to attract additional workers will need to raise the wage it offers. These sorts of models may help to explain why the latest evidence suggests that the elasticity of youth employment with respect to minimum wages is so low (Brown, 1999).

**International minimum wage comparisons** **4.47** Chart 4.6 provides estimates of the minimum wages across countries in terms of their level and as a proportion of full-time median earnings (ideally this would be calculated at a lower point of the income distribution, but this is the only measure available for cross-country comparison). It shows that in the UK, the National Minimum Wage appears moderate in relation to earnings and does not appear to be significantly higher or lower than elsewhere, despite the fact that minimum wages have fallen relative to average wages over time in many countries.



**4.48** In conclusion, the National Minimum Wage could potentially reduce employment and the ability of the labour market to adjust to shocks. However, the evidence so far suggests that the National Minimum Wage is set at a level below where this constraint starts to bite. Membership of EMU would not affect the Government's ability to determine the level of the National Minimum Wage in the UK.

**Working time regulations** **4.49** Working time regulations, introduced in October 1998, set workers a limit of a 48 hour working week on average. The Government has sought to ensure that working time regulations balance the interests of employees and employers, and do not reduce labour market flexibility unduly. Evidence suggests that few firms have adapted to the regulations by changing working hours or working practices, instead choosing to comply with the regulations by using individual opt-outs, derogations or workforce agreements (Neathey and Arrowsmith, 1999).

**Employment Protection Legislation** **4.50** Employment Protection Legislation (EPL) sets out the rules governing hiring and firing in the workplace. It defines the rights of employees with respect to factors such as the length of working time and working patterns, in so doing insuring workers against unanticipated job loss or discriminatory dismissals. It also sets out the constraints on employers such as the regulation of dismissals and severance payments. Therefore, if EPL is well designed, it offers clear benefits to employees.

**4.51** EPL affects both job creation and destruction. An employer may be reluctant to dismiss staff due to the firing costs involved. They may similarly be discouraged from hiring workers if they believe that they will be required to retain employees who will eventually become surplus to requirements.

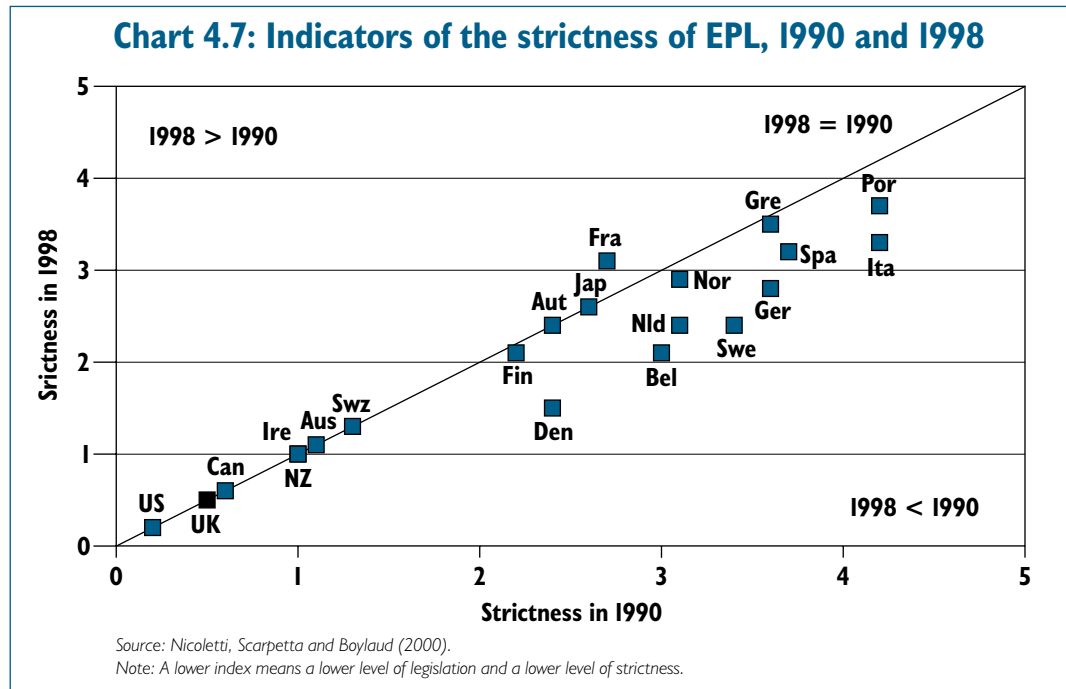
**4.52** It is not clear which, if either, of these effects dominates. The net impact of EPL on employment and unemployment is therefore uncertain. Evidence suggests the impact is small and/or ambiguous (Bertola, 1999; Jackman *et al.*, 1996) or that there is only a general relationship, which can break down when other explanatory factors are taken into account (OECD, 1999b).

**4.53** What is clear, however, is that the impact of EPL on labour market turnover is unambiguously negative. This can increase the duration of unemployment spells and hence increase the amount of hysteresis in wage setting (Nickell, 1997; Jackman *et al.*, 1996). Moreover, there are two further effects that EPL could have on labour market adjustment. It could:

- *reduce the efficiency of job matching:* from an employee perspective, EPL could reduce the diversity of working patterns. For example, if the demand from employers is affected by the legislation affecting different types of work this could potentially push workers into forms of employment they would prefer not to be in; and
- *increase employee bargaining power:* EPL can also have a direct effect on wages by increasing the job security of those in work, encouraging them to demand larger pay increases without a fear of dismissal during negotiations, i.e. increasing insider-outsider effects. Saint-Paul (1999), for example, notes how to some extent EPL makes it more difficult for employers to resist wage demands by refusing to employ the worker any longer.

**4.54** Chart 4.7 shows an indicator of EPL over the 1990s. Bearing in mind certain caveats,<sup>9</sup> the pattern that emerges is one where regulations in Southern Europe appear more heavy handed compared to regulations in other economies. The chart also illustrates that there has been a general easing of EPL over the 1990s in the rest of Europe, primarily through the liberalising of legislation covering temporary contracts. The data only go up to 1998, but the trend of reducing the strictness of EPL appears to have continued towards the end of the 1990s (Garibaldi and Mauro, 2002). Despite this, the UK remains one of the countries where EPL is the least heavy handed.

<sup>9</sup> Bertola *et al.* (2000) suggest that revised EPL indicators are needed to capture the complexity of the existing institutional framework, insofar as current EPL rankings are not a reliable guide. Morgan (2001) attempts to rank the strictness of EPL based on a question in the European Commission's ad hoc labour survey as to whether regulation on shedding staff is an obstacle to employing more people. Morgan finds that there are differences between how countries perceive regulatory provisions with the rankings implied in Chart 4.7.



**Product market regulation** **4.55** The role of product market regulation is increasingly featuring in discussions of labour market rigidities in the UK and EU. Competitive product markets create incentives to use labour efficiently. In the Layard, Nickell and Jackman (1991) framework both the labour market and the product market determine the NAIRU jointly.

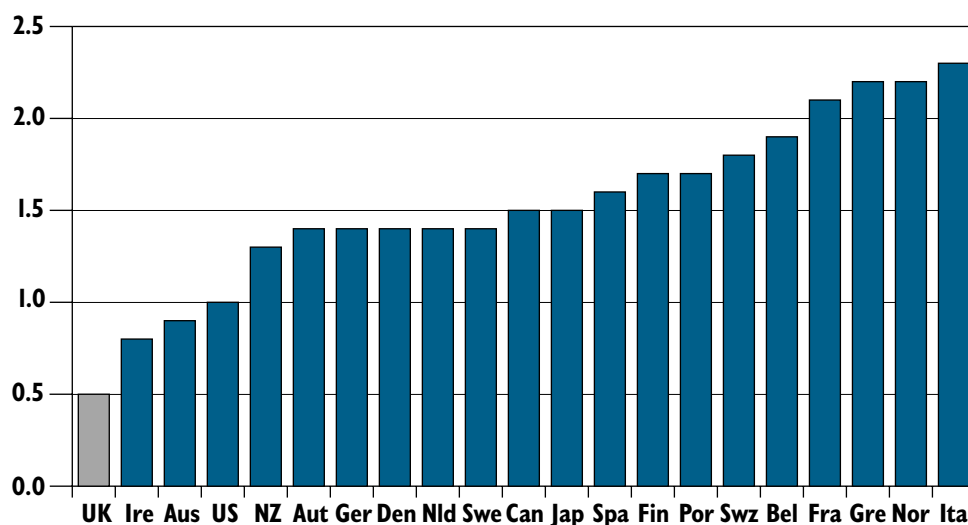
**4.56** For example, Krueger and Pischke (1997) emphasise (although they do not test formally) that labour market flexibility alone does not explain why employment growth has been stronger in the US than in Europe. Rather, they suggest that restrictions on entrepreneurs and product market regulations can distort labour demand. More recently, Pissarides (2001) finds that company start up costs can affect employment patterns by influencing the creation of new firms and therefore total job creation, while Jean and Nicoletti (2002) suggest that product market restrictions can increase wage premia.

**4.57** An authoritative account of the cross-market effects of labour market and product market regulations can be found in OECD (2002f) and Anderson *et al.* (2000). However, given that these interactions exist, it is informative to examine indicators of product market regulation as a means of describing the underlying performance or flexibility of the labour market.

**4.58** A full assessment of the flexibility of the product market is beyond the scope of this study and would be for the assessment of the flexibility test. To underpin the assessment, Chart 4.8 shows an overall indicator of the degree of product market regulation. It suggests that the UK has the most flexible product market in the OECD, with the general pattern being that the degree of regulation is higher in continental Europe. Although this is only one survey and dates back to 1998, the results are consistent with separate qualitative surveys of business people and experts (Nicoletti and Pryor, 2001).

**Conclusion: regulation** **4.59** The overall level of regulation appears to be relatively low in the UK. Employment protection legislation in the UK is less heavy handed than in many other OECD countries, and more conducive to market flexibility. However, at the same time there have been moves across Europe to reduce the stringency of these rules and regulations. The National Minimum Wage could reduce the flexibility of the labour market if it were either set at too high a level, or set an inappropriate going rate. However, evidence to date suggests it has not been unduly restrictive. Membership of the single currency would not affect the ability of the UK Government to determine the level of the National Minimum Wage.

**Chart 4.8: Summary indicator of product market regulation, 1998**



Source: Nicoletti, Scarpetta and Boylaud, 2000.

Note: A lower index means a lower level of regulation.

## LABOUR MARKET FLEXIBILITY AND COLLECTIVE BARGAINING

**4.60** A large body of evidence has discussed whether the structure of collective bargaining is correlated with economic performance. The most often cited piece of work is that of Calmfors and Driffill (1988) who looked at the impact of centralised and decentralised bargaining systems on the performance of the labour market.

### The centralisation of collective bargaining

**4.61** Centralisation refers to the level at which wages are negotiated. Under a decentralised system, wage settlements are agreed at the company level between employees and individual employers. In the extreme, individual contracts are agreed separately for each employee in a particular industry and wage outcomes should approximate those of perfectly competitive markets.

**4.62** As the bargaining process becomes more centralised, a larger number of companies in an industry conduct wage negotiations jointly. In the extreme, one union and one employer agree wages at the national level. In between the decentralised and centralised systems is an intermediate position, where trade unions representing industries, groups or regions bargain, for example, with employer associations.

**4.63** Calmfors and Driffill reasoned that a non-linear relationship exists between the degree of centralisation and labour market performance. This arises because of two relationships:

- *the price elasticity of demand for the product:* the more competition that a firm faces, the greater will be the price elasticity of demand for its product. As competition intensifies then a given price increase due to higher wages will have a larger negative impact on the demand for the firm's output. As bargaining moves to a more centralised/ industry level there are fewer close substitutes for products such that a higher price will not reduce demand to the same extent. The general conclusion is that the decentralised wage bargaining system will give rise to more wage discipline via the higher elasticity of demand for the product; and

- *negative externalities*: wage bargains for certain groups may negatively impact on individuals not directly affected by the negotiations. As wage bargaining becomes more centralised/ country wide, then the distinction between those who benefit and those who are harmed by higher wage claims becomes less well defined. The general conclusion is that centralised bargaining systems internalise this negative externality and have outcomes characterised by lower wage increases.

**4.64** The result of the interaction of these two relationships is that the highest wage demands tend to be associated with an intermediate position. In this situation unions are too large for competitive forces to work but too small to internalise the negative effects of their wage demands. Employers' bodies are large enough to 'bind' their members, but not sufficiently large so as to take account of the needs of all employers and potential employers. This results in a hump-shaped relationship between the centralisation of wage setting and wage outcomes. Or in other words, wage flexibility tends to be higher when bargaining is highly centralised or highly decentralised.

#### Coordination and the breadth of collective bargaining

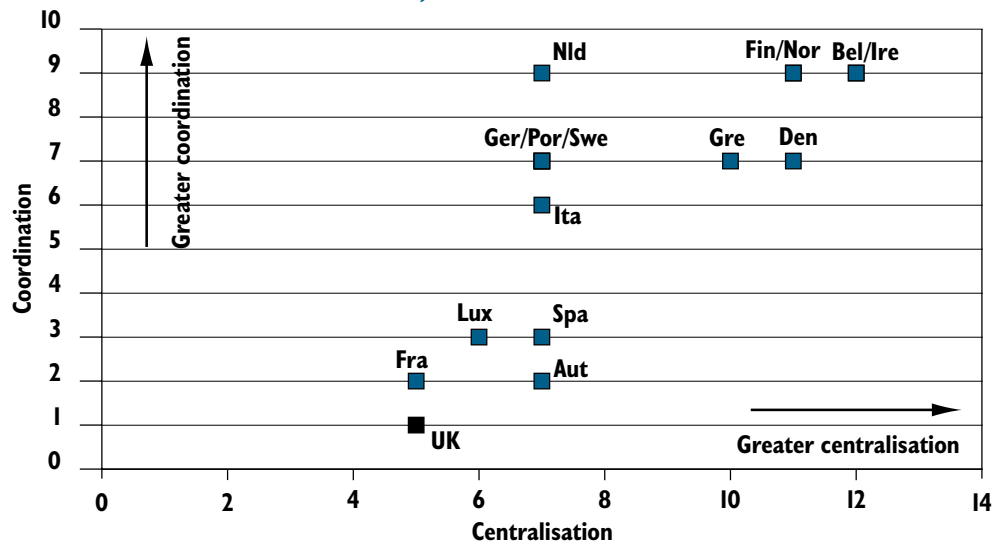
**4.65** Whether this relationship holds empirically is not clear, and research tends to produce a variety of findings (OECD, 1997). This may reflect the fact that Calmfors and Driffill only consider the level of centralisation. A more rounded picture of collective bargaining would also need to look at:

- *the degree of coordination*: this refers to the degree of consensus among bargainers. Even if bargaining is relatively decentralised, if negotiations are highly coordinated among unions and/ or employers then the actual outcome might approximate that of a more centralised bargaining system; and
- *the breadth of collective bargaining*: this refers to the presence of trade unions in the labour market, measured by trade union density (trade union membership as a percentage of all employees) and union coverage (the proportion of employees whose pay is affected by collective agreements). Even centralised bargaining will have a small impact if union density and coverage are low.

#### The UK became more decentralised over the 1980s

**4.66** Over the 1980s, the UK moved towards more decentralised and less coordinated collective bargaining. As Chart 4.9 illustrates, the UK's degree of centralisation and coordination is also low by international standards. If the hump-shaped hypothesis holds, then on the basis of the chart, relative wage rigidity would be higher in most of continental Europe, where bargaining is carried out at the intermediate level.

**Chart 4.9: Level of wage bargaining centralisation and coordination in the EU, 2000**



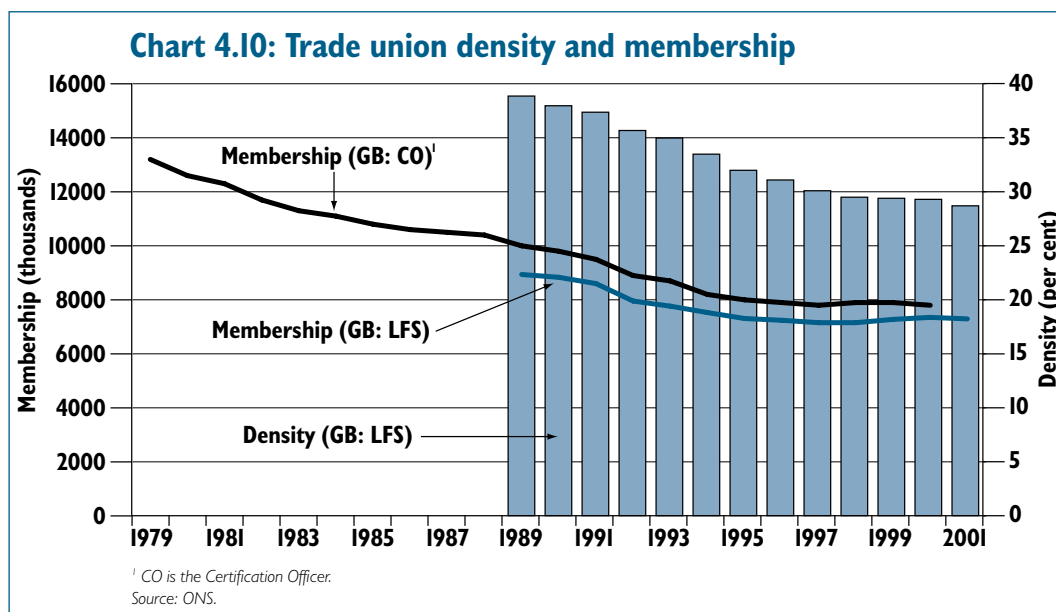
Source: Based on data from the European Industrial Relations Observatory.

**4.67** The fact that decentralisation and coordination are low in the UK is conducive to relative wage flexibility, i.e. wages can adapt more readily to the prevailing conditions in a particular industry. Moreover, under the Calmfors and Driffill hypothesis, the benefits of decentralisation should increase the greater is the degree of competition in the product market. As has already been discussed, the level of product market competition is relatively high in the UK which would likely augment the positive outcomes associated with decentralisation.<sup>10</sup>

**4.68** The trade-off of such a decentralised and uncoordinated system, according to Calmfors and Driffill, would be that wage setters in the UK would push for higher wages without considering the impact on aggregate variables, i.e. aggregate wage flexibility would be lower. Although this might be true as far as it goes, the argument does not consider the degree of union power or density. Union power is also an important determinant of aggregate wage flexibility. Trade unions can directly affect the real wage through their influence on nominal wage setting. Where union power is higher, the prevalence of insiders, who may care less about increasing employment prospects of outsiders and more about their own wages will also be higher. The incentive for wage moderation will therefore be less if unions pursue a mark-up for their members.

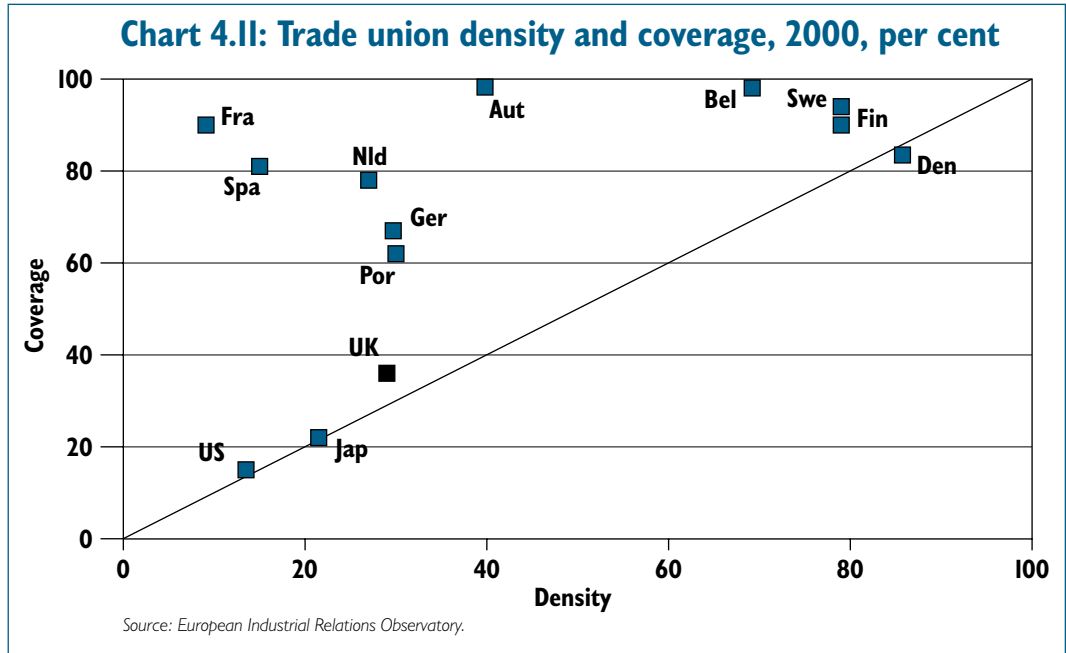
**Trade union density has declined in the UK**

**4.69** In the UK there has been a marked fall in trade union density since the 1970s (see Brook (2002) for an overview). The proportion of employees who were union members declined from over half in the 1970s to less than 30 per cent in 2001. This largely reflects the impact of trade union legislation over the 1980s, and the relative decline of sectors traditionally associated with unionisation. In absolute terms, the number of trade union members has fallen by up to 5<sup>1</sup>/<sub>2</sub> million over the past two decades (Chart 4.10).



<sup>10</sup> McHugh (2002) notes that increased product market competition makes the difference between centralised and decentralised bargaining regimes irrelevant, and that it can counteract the negative externalities due to the coordination failure associated with decentralised systems.

**Trade union coverage is also low** **4.70** Union density may not reflect accurately the true number of employees affected by union activity. France, for example, has a fairly low level of trade union density, but coverage is very high because laws extend union contracts to non-union workplaces (Chart 4.11). However, in the UK, trade union density and coverage are virtually synonymous. In 2001, just over one third of employees were covered by collective agreements, some way below the level in the early 1980s. Indeed in the UK, US and New Zealand union coverage has fallen alongside the fall in union density while across continental Europe the gap appears to be widening (Nickell *et al.*, 2001).



**Does the UK's framework support work-related training?** **4.71** Theory would seem to suggest that the system of industrial relations in the UK would not encourage work-related training. Under a decentralised bargaining system, the prevalence of different settlements across firms could lead to job switching or poaching. The argument would be that this may dissuade employers from providing training if they fear that their own employees will move to another firm (Hall and Soskice, 2001). Similarly, Arulampalam and Booth (1998) found that non-union employees are less likely to receive training than individuals in a union covered job. In practice, there is a modern role for trade unions to play in delivering functional flexibility. This underlines the importance of encouraging work-based training and ensuring that employees are equipped with skills before entering the workplace, as discussed in Section 2.

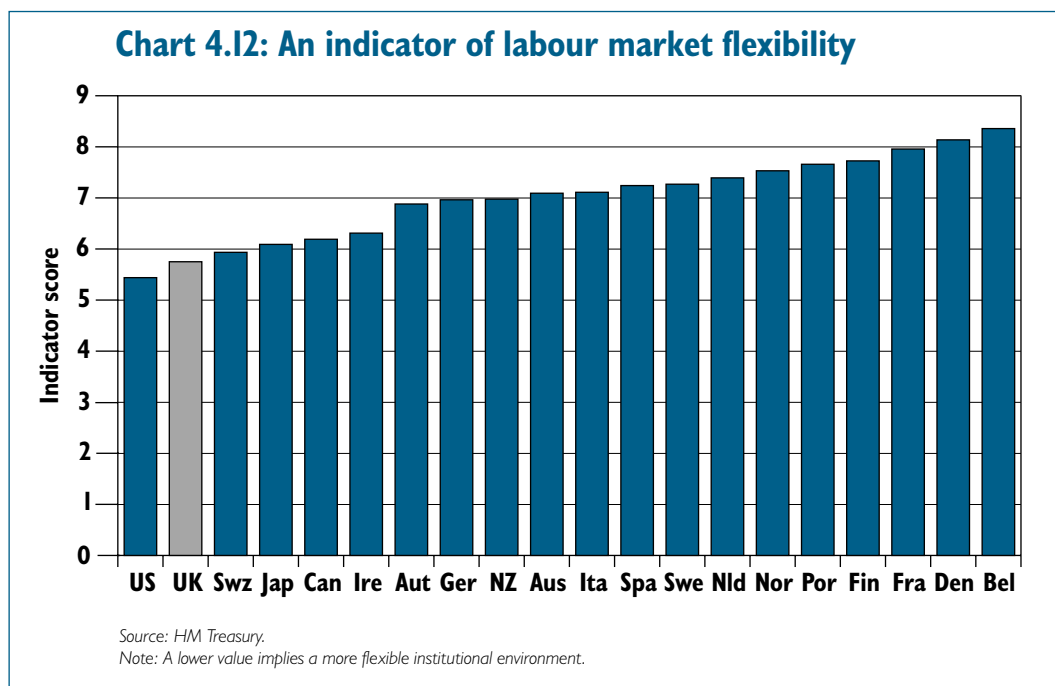
**Conclusion: collective bargaining** **4.72** In conclusion, the UK system of industrial relations is one that appears conducive to wage flexibility. The decentralised and uncoordinated nature of collective bargaining means that relative wages can adjust to conditions across industries, sectors and regions. The decline in collective bargaining over the last past two decades also supports aggregate wage flexibility.

## AN INDICATOR OF LABOUR MARKET INSTITUTIONS

**An indicator of flexibility** **4.73** Building on the results of a recent econometric study<sup>11</sup> into the institutional determinants of labour market performance, Chart 4.12 presents an indicator of labour market flexibility developed by HM Treasury for this study.

<sup>11</sup> Blanchard and Wolfers (2000).

**4.74** The indicator pools together the evidence on the institutional environment, thereby giving some indication of the sustainability of labour market outcomes and the progress of economic reform. It combines measures discussed earlier in this section – the replacement rate, benefit duration, spending on active labour market policies, employment protection legislation, the tax wedge, union coverage, and union density – into one single measure of flexibility (Annex B sets out its full derivation).



**4.75** The indicator enables a summary comparison of how flexible countries are relative to one another, based on a set of institutional factors. An averagely flexible economy (relative to other countries) scores a value of seven. Countries that are more (less) flexible than the average score a value less (more) than seven.

**4.76** What the indicator does not enable is an assessment of whether an economy has become more flexible over time. Nor should it be seen as suggesting a blueprint for labour market reform. The EU Member States with the highest employment rates all have very different institutional environments. Economic reform needs to be tailored to the needs and aspirations of a diverse and changing Europe.

**4.77** Nevertheless, the results are consistent with the discussion in this section, namely that labour market institutions and regulations are less stringent in the UK than in continental Europe and suggests that the improved labour market performance observed in recent years is well founded.

**4.78** The results also correlate closely with other composite indicators of labour market performance (see, for example, Dicks and Papadavid, 2002). Although some question marks remain surrounding the ranking of certain countries, it shows that greater flexibility tends to be associated with countries outside of continental Europe.

**EMU as a catalyst for reform** **4.79** In determining whether or not a monetary union is economically beneficial, the state of the labour market is often assumed to be exogenous. In actuality, it is unlikely that this would be the case – the Lucas critique. That is to say, entry into EMU itself might act as a catalyst for labour market reform. However, the actual direction of the effect is inconclusive. For example:

- EMU could increase the desire for reform because the elimination of the nominal euro-sterling exchange rate and monetary policy as adjustment mechanisms increases the need for flexible labour markets i.e. there is a precautionary motive for reform; and
- EMU could lead to less reform if there is a coordination failure. A country could introduce structural reforms that reduced the structural unemployment rate. However, they might not get the benefits of lower interest rates that would be evident under an independent monetary policy because the ECB responds to euro area wide inflation developments (see, for example, Saint-Paul, 2002).

**4.80** While some work suggests that reform is a function of the exchange rate regime, (Viñals and Jimeno, 1996; Anderton and Barrell, 1993; Eichengreen, 1998; and Bertola *et al.*, 2001) it is difficult to draw a definitive conclusion. The ambiguity is apparent in other literature, see for example Berthold and Fehn, 1998; Sibert and Sutherland, 2000; Calmfors, 2001.



**5.1** Labour market flexibility is an important objective irrespective of whether a country is inside or outside of a currency union. But it takes on an added importance when neither the nominal exchange rate nor national interest rates can be adjustment mechanisms in the face of economic shocks.

**5.2** This study has discussed the flexibility of the UK labour market in the context of and to inform the Treasury's assessment of the five economic tests for possible entry into EMU. It has discussed the flexibility of the UK and euro area labour markets, both in general and in terms of the specific forms of flexibility that are most relevant to a currency union. The analysis is intended to help inform the question of whether the UK labour market could cope effectively with any problems that might emerge in EMU.

**5.3** The Treasury's previous assessment in 1997 concluded that there was insufficient flexibility in the labour market to meet the challenges of EMU membership. This study has re-examined the issues raised at that time, but has also broadened and deepened the analysis. This has been structured under a comprehensive framework that has:

- examined the different mechanisms by which the labour market can adjust – the **characteristics** of flexible labour markets;
- discussed the current position of the UK labour market, in relation to its historical performance and in comparison with other countries – the **outcomes** in flexible labour markets; and
- looked at the **institutional environment** in the labour market and how these institutions can slow the adjustment of prices and quantities.

**5.4** The following key points stand out from the preceding analysis under this framework:

- in line with the favourable growth of average earnings, a new econometric exercise undertaken for this study has presented some evidence of increased real wage flexibility in the UK. However, this has not been significantly tested in recent years and could be more severely tested if the UK decided to join EMU, where price movements would need to play a greater role in adjustment to shocks;
- evidence would seem to be against geographic mobility being prevalent in terms of equilibrating movements of labour between and within EU countries. However, this study has argued that the practical importance of labour mobility, while a relevant factor, has been overplayed in the academic debate about monetary unions in general, and EMU in particular. However, this requires that other characteristics such as wage flexibility, employment flexibility and functional flexibility can compensate for a low level of geographic mobility and allow labour markets to function effectively;
- there have been significant improvements at the macroeconomic level where, in particular, alongside employment growth there has been a reduction in the NAIRU and the growth of average earnings has been benign. At the microeconomic level, government intervention has focused on ensuring that individuals have the right skills to adapt to economic change. However, while there has been a significant decline in long-term unemployment, the stock of workers with low skills is being reduced only very slowly; and

- the changes to the institutional environment in the UK over the 1980s and 1990s have contributed to improving the flexibility of the UK labour market. A new indicator of flexibility based on these institutions also suggests that the UK performs well in relation to other economies. The impact of recent and on-going reforms will only emerge gradually over a number of years, and so may have yet to fully materialise in wider labour market outcomes.

**5.5** In conclusion, there is evidence that the UK labour market has become more flexible since the Treasury's previous EMU assessment in 1997 and that the labour market would be in a better position to respond to any problems that might emerge within EMU, were the UK to decide to join. Macroeconomic stability has undoubtedly contributed to the favourable outcomes that have been observed, but another important element has probably been that the institutional and policy environment has been conducive to labour market flexibility.

**5.6** But, despite evidence of improvement in the UK labour market, major challenges remain. More progress is needed to advance the Government's long-term goal of employment opportunities for all, in particular, to reduce persistent inactivity and repeated spells of worklessness. In addition, wage flexibility has not been fully tested in recent years and could be more severely tested if the UK decided to join EMU.

**5.7** Progress across the rest of Europe has been mixed, with more concrete signs of improvement being evident in some of the smaller EU Member States. Progress in the larger EU economies has been slower and starts from a weak position in terms of unemployment and employment levels. Continued progress on structural reform will ensure that all of Europe's labour markets work to their full potential raising employment and reducing unemployment to the benefit of Europe. Improved labour market flexibility will also enable the existing and prospective euro area members to better reap the potential benefits of EMU.

**5.8** These issues are considered in the assessment of the flexibility test – the second of the Government's five economic tests for EMU entry.

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**A1** This annex gives more detail on the new estimate of real wage flexibility presented in Section 2.

**A2** The estimates of real wage flexibility are derived from a simplified version of the wage equation in the Treasury model – a forecasting model of the UK economy. The wage equation is estimated as:

$$\begin{aligned}
 (1-g)\text{Ln}[(\text{PSAVEI})(1+\text{TE})] = & \alpha_1 + \sum_{i=0}^3 \beta_i g^i (1-g)\text{Ln}(\text{PGVA}) + \alpha_2 (1-g)\text{Ln}(\text{ILOUR}) \\
 & + \alpha_3 (1-g)\text{Ln}(\text{PROD}) + \\
 & + \alpha_4 (1-g)\text{Ln}(\text{PRXMIP}/\text{PGVA}) \\
 & + \alpha_5 g \text{Ln}((\text{PSAVEI} * \text{TE}) / (\text{PROD} * \text{PGVA})) + \alpha_6 g \text{Ln}(\text{ILOUR}) \\
 & + \text{dummies}
 \end{aligned} \tag{1}$$

where PSAVEI is the private sector average earnings index, ILOUR is the ILO unemployment rate, PROD is whole economy productivity, PGVA is the GDP deflator, TE is the employers' tax rate and PRXMIP is the retail prices index excluding mortgage interest payments. The model assumes static and dynamic homogeneity in prices and static homogeneity in productivity. The equation has the static long-run solution (for the level of real wages) of:

$$\text{Ln}(\text{PSAVEI}/\text{PGVA}) = \partial_1 - \partial_2 \text{Ln}(\text{ILOUR}) + \text{Ln}(\text{PROD}) - \text{Ln}(\text{TE}) \tag{2}$$

**A3**  $\partial_2$  is the long-run elasticity of real wages with respect to unemployment and therefore can be viewed as a measure of 'real wage flexibility'. If real wage flexibility has increased, the absolute value of  $\partial_2$  should have got larger; in this equation more negative.

**A4** Denoting  $\partial_{2t}$  as the value of  $\partial_2$  over the sample period there are two ways to obtain estimates of this series using recursive least squares. The first of these is to estimate it directly by running recursive estimates of equation [2]. However, simply estimating the long-run solution of the model risks losing valuable information by omitting variables that are known, through equation [1], to have important short-run effects and in turn might bias the estimated long-run coefficients. An alternative approach, which uses all the information available, is to derive estimates of  $\partial_2$  from recursive estimates of the structural unemployment and error correction parameters in equation [1] since:

$$\partial_{2t} = \alpha_{6t} / \alpha_{5t} \tag{3}$$

**A5** This is the approach taken in the new work and is the parameter plotted in Chart 2.3.



**B1** This annex sets out how the flexibility indicator presented in paragraph 4.73 of Section 4 was derived.

**Table B1: The role of institutions in explaining unemployment**

|                    | Coefficient | Range of independent variable |         | Implied range of effect of shock (mean = 1) |      |
|--------------------|-------------|-------------------------------|---------|---|------|
|                    |             | Minimum                       | Maximum |   |      |
| Replacement rate   | 0.017       | -46.3                         | 32.6    | 0.21  | 1.55 |
| Benefit duration   | 0.206       | -2.0                          | 1.6     | 0.60  | 1.33 |
| ALMPs              | 0.017       | -47.2                         | 9.5     | 0.20  | 1.16 |
| EPL                | 0.045       | -9.5                          | 9.5     | 0.58  | 1.42 |
| Tax wedge          | 0.018       | -17.8                         | 22.2    | 0.68  | 1.40 |
| Union coverage     | 0.098       | -1.7                          | 0.3     | 0.83  | 1.03 |
| Union density      | 0.009       | -30.4                         | 39.6    | 0.73  | 1.36 |
| Union coordination | 0.304       | -2.0                          | 2.0     | 0.40  | 1.60 |

Source: Blanchard and Wolfers (2000), Table 1.

**B2** The indicator makes use of coefficients derived in an important study by Blanchard and Wolfers (2000). Their study seeks to explain the role of shocks and institutions in the rise in unemployment across Europe. One of the models that the authors derive allows for unemployment to depend on the specific set of labour market institutions in a country. While this specification does not capture the interactions between institutions and shocks it does capture the hypothesis that, for a given shock, those countries with worse institutions will have higher unemployment.

**B3** There are eight institutional factors considered by Blanchard and Wolfers: the replacement rate; benefit duration; spending on active labour market policies; employment protection legislation; the tax wedge; union coverage; union density; and (union and employer) coordination. These enter the model as deviations from the cross-country average. Table B1 presents one of the results tables from their model.

**B4** Column 1 shows the estimated coefficients from the regression, while the second and third columns are the minimum and maximum value of the institution across the panel of countries (as a deviation from the cross-country mean).<sup>1</sup> The interesting columns are the final two and can be interpreted as follows: suppose an adverse shock raises unemployment by 1 percentage point in a country with an average value of the tax wedge. The same shock will only increase unemployment by 0.68 percentage points in the country with the lowest tax wedge but by 1.4 percentage points in the country with the highest tax wedge.

**B5** The indicator presented in Section 4 gathers together the latest data on each of these institutions (except for the union coordination series). These were then applied to the coefficients derived in the Blanchard and Wolfers study,<sup>2</sup> giving seven series that show the effect of a given shock on unemployment. The indicator of flexibility is simply the sum of these series. Because of the way the indicator is constructed, a country scoring more than seven is less flexible than an average economy, while a country scoring less than seven is more flexible than an average economy. It should be noted that the indicator does not

<sup>1</sup> The variables for active labour market policy and coordination were multiplied by minus 1. Therefore all variables in the equation have the predicted sign.

<sup>2</sup> The coefficients are those reported in table 3 column 3 of Blanchard and Wolfers (2000), which is based on the index of employment protection legislation rather than the ranking.

attempt to model interaction effects, of the institutions, i.e. their overall impact can be greater or less than the sum of their parts.

**B6** As Chart 4.12 in Section 4 shows, the UK ranks second out of the countries considered in terms of its degree of flexibility. The rankings are broadly in line with those presented in a recent study by Dicks and Papadavid (2002) – the correlation between the country rankings in the two studies is 0.81. The labour market flexibility indicator derived by Fabiani and Rodriguez-Palenzuela (2001) also shows a sizeable gap between labour market flexibility in the US and continental European countries, with the UK in between.