EMU and labour market flexibility

EMU study
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This is one of a set of detailed studies accompanying HM Treasury’s assessment of the five economic tests. The tests provide the framework for analysing the UK Government’s decision on membership of Economic and Monetary Union (EMU). The studies have been undertaken and commissioned by the Treasury.

These studies and the five economic tests assessment are available on the Treasury website at: www.hm-treasury.gov.uk

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# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive summary</td>
<td>1</td>
</tr>
<tr>
<td>1. The concept of labour market flexibility</td>
<td>7</td>
</tr>
<tr>
<td>2. Characteristics of flexible labour markets</td>
<td>13</td>
</tr>
<tr>
<td>3. Labour market outcomes</td>
<td>43</td>
</tr>
<tr>
<td>4. The institutional environment</td>
<td>61</td>
</tr>
<tr>
<td>5. Conclusions: flexibility in the UK and euro area</td>
<td>81</td>
</tr>
<tr>
<td>References</td>
<td>83</td>
</tr>
<tr>
<td>Annex A: Real wage flexibility</td>
<td>93</td>
</tr>
<tr>
<td>Annex B: An indicator of labour market flexibility</td>
<td>95</td>
</tr>
</tbody>
</table>
Labour market flexibility describes how labour markets function. A flexible and efficient labour market implies higher employment, and so an economy that is fairer (in terms of, for example, reducing social exclusion), as well as more competitive and more productive. It also implies an economy that is better able to adapt to the changing economic environment.

Labour market flexibility is a central element in determining the overall performance of the UK economy, irrespective of whether the UK decides to join Economic and Monetary Union (EMU).

However, a low level of flexibility could be more costly within EMU than outside it, since neither an independent monetary policy nor the sterling-euro exchange rate could be adjustment mechanisms in the face of economic shocks. Recognising this, an appraisal of labour market performance was a central element of the Treasury’s 1997 assessment of the five economic tests. That assessment concluded:

“In the UK, persistent long-term unemployment, lack of skills and in some areas insufficient competition indicates insufficient flexibility to adapt to change and to meet the new challenges of adjustment that a single currency would bring”. (HM Treasury, 1997, page 24.)

This study returns to the issue, building on and expanding the analysis undertaken in the 1997 assessment. It analyses the flexibility of the UK labour market and also flexibility in existing euro area economies, particularly developments since 1997. It does not, however, attempt to judge whether the level of labour market flexibility is sufficient for the UK to adjust to changes in the economic environment within the constraints of a monetary union. This issue is considered in the assessment of the flexibility test – the second of the Government’s five economic tests for EMU entry.

Although labour market flexibility has been discussed widely, it has been defined in a number of different ways. This study identifies two related concepts of labour market flexibility. The first relates to how the labour market adjusts to a period of disequilibrium. This is achieved through a combination of adjustments in wages, the supply of labour and the demand for labour. In this interpretation, flexibility is characterised by the rapid redeployment of labour between industries, occupations or regions, ensuring that any disturbance to the labour market is short-lived.

The second concept relates to the institutional factors that determine the structural level of unemployment. In this interpretation, flexibility is characterised by high employment and low structural unemployment rates. The two concepts are related because the long-term unemployed can often find it harder to re-enter employment than those who have been unemployed for short periods. Since slow adjustment tends to raise the level of long-term unemployment, it also tends to raise the level of structural unemployment and may lead some workers to withdraw from the labour market altogether.

With this in mind, the analysis in this study uses a new framework that considers the characteristics, outcomes and institutional environment of the labour market. This framework provides a rounded analysis of labour market performance and its determinants, allowing a consideration of current outcomes alongside indicators of likely future performance, i.e. whether current outcomes are likely to be sustained.
Section 2 discusses the different ways the labour market can adjust – the characteristics of flexible labour markets. It looks at labour market adjustment in general but also identifies the specific forms of adjustment that are most relevant to EMU. It is not necessary for a well-performing labour market to be highly flexible on all of these counts, since high flexibility in one dimension may help to compensate for low flexibility in another. Nonetheless, greater flexibility in each dimension will enable the labour market to operate more effectively and increase its ability to adapt to changing economic conditions.

In most markets, price adjustment is an important factor enabling the market to function effectively. The labour market is no exception, with wage levels a major determinant of the supply of and demand for labour. Adjustment in the labour market primarily consists of ensuring a smooth transfer of labour out of contracting industries and into expanding ones. The level of relative wage flexibility needs to be sufficiently high to provide the necessary incentives for labour to move.

Relative wage flexibility appears to be reasonably high in the UK. While the rate of inflation remains a key benchmark in wage negotiations, there is considerable scope for variations in wage settlements to reflect conditions in individual industries and regions. Wages appear to have adjusted to regional labour market conditions in the UK and the level of responsiveness seems to have increased over time. That said, some institutional factors act to constrain relative wage flexibility, including the prevalence of national wage agreements in certain industries and sectors.

Aggregate real wage flexibility determines the overall balance of supply and demand in the labour market and is a key substitute for the adjustment roles of the nominal exchange rate and an independent monetary policy. Although conceptually distinct from relative wage flexibility, the two are likely to be closely related, in particular when labour market adjustment requires a reallocation of labour at the sub-national level.

In the past, real wage flexibility has appeared relatively weak in the UK, and may have contributed to the high unemployment experienced in the 1980s and early 1990s. But there is emerging evidence that the level of real wage flexibility has improved, including new econometric work undertaken for this study. The fact that unemployment has declined sharply in recent years without igniting inflationary pressures in the labour market suggests that the improvement is genuine. There is also some evidence of greater wage moderation in the euro area.

Nominal wage rigidity can arise as a particular source of real wage rigidity, relating to the fact that wages are adjusted at set intervals. Wages are generally adjusted annually in the UK, providing scope for a relatively high degree of nominal flexibility. The bonus component of wages has also allowed private sector earnings to adjust in recent years. Downward nominal rigidity could be a particular concern, since employees are naturally resistant to nominal wage cuts, and employers reluctant to impose them. In recent years, RPIX inflation has been close to its target of 2 1/2 per cent a year and average earnings have increased by around 4 1/2 per cent a year, providing considerable scope for movements in real and relative wages even where there is resistance to nominal wage cuts. However, this potential constraint could be more severely tested if the UK were to join EMU since greater nominal wage flexibility may be needed to compensate for the fact that the exchange rate would be fixed.

While the analysis suggests there is a high degree of wage flexibility in the UK, this has not been fully tested in recent years, and there has been a relatively more stable macroeconomic environment than in the past. Wage flexibility 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.
Wage flexibility is not the only adjustment mechanism operating in the labour market. Other characteristics serve to complement wage flexibility, by influencing the degree to which movements in relative or real wages induce changes in labour supply and demand. In particular, adjustment can occur through the reallocation of the workforce, between different employers, different locations or different tasks.

Geographic labour mobility appears to be relatively low both between and within European economies. This has been cited as evidence that the euro area might have insufficient flexibility to adjust to shocks. However, geographic mobility is an imperfect substitute for monetary policy given the latter’s role in responding to shocks that are more cyclical in nature. The importance of geographic mobility as an adjustment mechanism also depends on the level of flexibility in other dimensions. For example, high relative wage flexibility, functional flexibility and employment flexibility may reduce the need for geographic mobility.

Employment flexibility represents the ability of employers to adapt working patterns to meet the demands of prospective employees, and hence boost the available labour supply. The UK and other parts of Europe score well on this measure. A wide variety of working practices including part-time and flexible working arrangements enable employees to combine employment with other activities and responsibilities.

The ability of the labour force to acquire and apply different skills, enabling them to adapt readily to technological change, is described as functional flexibility. The 1997 assessment expressed concerns that skill shortages might constrain the ability of the UK to respond to the structural changes and increased competition that EMU might bring. Since 1997, the steady decline in UK unemployment, including long-term unemployment, suggests that functional flexibility has been less of a constraint than the 1997 assessment suggested it might be.

However, skill imbalances remain, in particular regarding the low level of intermediate skills in the UK and correspondingly high numbers with low skill levels. There is a modern role for trade unions to play in delivering functional flexibility, especially in the development of skills. Employers, employees and the Government will need to continue to work together to ensure that recent improvements are maintained.

The effectiveness of these adjustment mechanisms will be reflected in labour market outcomes, as discussed in Section 3. Labour market performance in the UK was poor during the 1970s and 1980s. Wage pressures in the labour market contributed to the poor inflation performance during the 1970s, while ILO unemployment averaged around 9½ per cent of the labour force between 1981 and 1996. The Treasury’s 1997 assessment of the five economic tests noted that the economy was then reaching a critical point in the economic cycle where, in the past, wage inflation would have accelerated, and that it remained too soon to tell whether the performance of the labour market had improved or would revert to past patterns. It concluded that:

“In labour markets particularly, the UK has not yet achieved sufficient flexibility to meet the challenges of EMU membership.” (HM Treasury, 1997, page 7.)

The performance of the UK labour market since 1997 shows more concrete signs of improvement. ILO unemployment has fallen further to slightly over 5 per cent of the labour force and the employment rate is close to 75 per cent. Meanwhile wage pressures have remained moderate and consistent with the Government’s inflation target and trend productivity growth.
This improved performance has carried through to the UK regional level where there has been a reduction in the regional dispersion of unemployment rates, as the labour market has been better able to match the supply of and demand for labour in individual regions. Regional claimant unemployment rates ranged from 2.4 per cent to 12.8 per cent in April 1990, but this range had fallen to 1.7 per cent to 4.7 per cent in December 2002. However, challenges still remain to ensure employment opportunities for all.

The 1997 assessment also emphasised the importance of ensuring that specific groups did not become permanently detached from the labour market and, in particular, highlighted the level of long-term unemployment as a key failing of the UK labour market. The level of long-term ILO unemployment has fallen substantially from an annual average of 710,000 in 1997 to 316,000 in October 2002. Moreover, since 1997 there have also been increases in the employment rates of youth workers, older workers and lone parents. However, there remain significant challenges to reduce persistent economic inactivity and repeated periods of worklessness, and to raise levels of employment in the most deprived areas and among people from ethnic minorities.

Overall, the evidence on outcomes is consistent with a reduction in the non-accelerating inflation rate of unemployment (NAIRU). Estimates of the structural rate of unemployment in the UK, which abstract from movements in the cycle, have fallen over the 1990s to a level similar to the US, suggesting that there has been a structural improvement in the UK labour market.

The 1997 assessment also noted that Europe as a whole needed to create jobs and respond to structural change. Between 1997 and 2001 over 10 million jobs were created in Europe, and unemployment fell by 4 million, albeit from a high starting point. However, performance has been mixed, with falls in the structural unemployment rate more evident in some of the smaller EU Member States. The European employment strategy is now reviewed and coordinated on an annual basis under the Luxembourg Process. This strategy was reinforced at the Lisbon European Council in 2000, when EU leaders agreed a strategy to enable Europe to become “the most competitive and dynamic knowledge-based economy in the world, capable of sustaining economic growth with more and better jobs and greater social cohesion”. Labour market reform needs to be pursued with renewed vigour in order to ensure that the objectives of the Lisbon Programme are met and that EMU is a success.

The recent improvement in the UK labour market is attributable to a number of institutional and policy factors, which are examined in Section 4. The design of the tax and benefit system is critical to the operation of the labour market, with potential effects on both the demand for and supply of labour. Care needs to be taken to provide an adequate level of social insurance while ensuring that the operation of the tax and benefit system does not erode the incentive to seek work. Since 1997, the Government has implemented a number of reforms to the UK tax and benefit system in order to make work pay, including reforms to income tax, national insurance contributions and the introduction of a system of targeted tax credits. OECD figures show that the UK has replacement rates (the ratio of out-of-work to in-work income) comparable to the US and lower than in many other European countries.

Labour market flexibility can be enhanced by active labour market policies, which provide incentives for employers to take on the long-term unemployed, and help the unemployed with their job search and the acquisition of new skills. Since 1997, the Government’s New Deal programmes have focused on raising employment rates, especially among groups where employment rates have traditionally been below average. A number of studies have found that these schemes have enhanced participants’ ability to find employment and have increased total employment and reduced total unemployment.
Well designed employment protection legislation (EPL) offers clear benefits to employees and employers. But badly designed EPL can impose excessive costs on employers and deter them from offering jobs where the returns from creating the job are too low in relation to the expected cost. Where this is the case, EPL acts as a barrier to labour market flexibility. Measuring the impact of EPL on labour market flexibility is not straightforward, and the results need to be interpreted with care. Overall, EPL in the UK is less strict than in many other OECD countries, and more conducive to labour market flexibility.

The National Minimum Wage was introduced in 1999 and underpins the Government’s tax and benefit reforms. Because the National Minimum Wage sets a floor to wage levels, it is potentially a barrier to labour market flexibility. The Government recognises that there is a trade-off between ensuring that it is sufficiently high to provide employees with an adequate minimum wage guarantee and making sure that it is not so high that it deters employers from offering jobs.

The evidence to date suggests that the National Minimum Wage has not compromised the flexibility of the labour market. The UK Government would still be able to determine the level of the National Minimum Wage within EMU and ensure that it was set at a level that provided a fair minimum income from work to recipients, without generating disincentives to job creation.

Building on the results of econometric studies of the determinants of labour market performance, this study constructs a new indicator of labour market flexibility that combines a variety of institutional factors in the labour market. This measure suggests that the institutional environment in the UK labour market compares favourably with that in many other countries, and suggests that the improved labour market performance observed in recent years is well founded.

The analysis of characteristics, outcomes and the institutional environment contained in this study provides a range of evidence which taken together points to an improvement in the functioning of the UK labour market since 1997. There have been significant falls in the level of overall unemployment, long-term unemployment and the regional dispersion of unemployment. Macroeconomic stability has undoubtedly contributed to these favourable outcomes, but another important element has been that the institutional environment has fostered labour market flexibility.

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.

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.

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

1.1 The UK Government’s central economic objective is to raise the economy’s sustainable rate of growth and achieve rising prosperity through creating economic and employment opportunities for all. To this end, it has put in place a macroeconomic policy framework to avoid excessive swings in output and inflation and to deliver stability for the long term. Notably, the Bank of England has been given operational independence to set national interest rates and a new fiscal policy framework underpinned by two strict fiscal rules has been introduced to deliver sound public finances.

1.2 The performance of the labour market is also central to the well being of both the economy and society. A flexible and efficient labour market, combined with a stable macroeconomic environment, implies an economy that is fairer, more competitive and more productive. It also means an economy that is better able to respond to economic change. In particular, the labour market:

- is key to the economy’s sustainable rate of growth and contributes to overall competitiveness and productivity;
- is a major influence on the welfare of individuals and households. Employment goes hand in hand with social justice and, as the Lisbon European Council of March 2000 noted, the best safeguard against social exclusion is a job; and
- can help to relieve the fiscal burden, particularly if there is an ageing population, i.e. higher rates of employment are beneficial for the sustainability of the public finances and pension systems.

1.3 If the UK were to join Economic and Monetary Union (EMU) it would mean neither national interest rates nor the nominal sterling-euro exchange rate could be adjustment mechanisms in the face of economic shocks. All other things being equal, this would imply that the UK economy would find it harder to respond to shocks. It is therefore important that if the UK were to join EMU the economy should be able to adjust by other means. Particular examples would be adjustment in labour, product and capital markets.

1.4 The purpose of this study is to examine labour market flexibility both in the UK and the euro area. It does this in general and also in the context of the specific forms of flexibility most relevant for EMU. The study does not attempt to judge whether the UK labour market is flexible enough to meet the new challenges of adjustment that a single currency would bring. That is the purpose of the assessment of the five economic tests and, in particular, the second test which asks: “if problems emerge is there sufficient flexibility to deal with them?” This study does, however, inform the assessment.

1.5 Labour market flexibility played a key role in the Treasury’s 1997 assessment of the five economic tests for EMU membership, which noted that:

“For successful membership of a monetary union the UK needs labour and product markets that work effectively...with the loss of domestic control over monetary policy and the exchange rate as a means of adjusting to shocks, a greater burden of adjustment will fall to factor and product markets”. (HM Treasury, 1997, page 18.)

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1 In the long run the employment rate will affect the level of output and not its growth rate. However, when the employment rate is changing it can contribute to economic growth.
1.6 For example, adjustment to a country-specific or asymmetric shock may require a change in the real exchange rate and relative wages between countries to keep the adverse impact on unemployment and output to a minimum. Outside a currency union, this can be achieved either through an adjustment of the nominal exchange rate or an adjustment of factor and goods prices complemented by an appropriate monetary policy. Without the nominal exchange rate within a single currency, this would imply a less flexible economy, unless one of the following conditions hold (Soltwedel et al., 1999):

- the exchange rate never worked as a shock absorber, so nothing is sacrificed by giving up this adjustment tool;
- there is only a small probability that economies will be hit by shocks; or
- markets alone are flexible enough to adjust to a shock.

The 1997 conclusions

1.7 On the latter point, the 1997 assessment noted that further progress was needed to ensure that the UK labour market could adjust sufficiently to an economic shock. It concluded that:

"In labour markets particularly, the UK has not yet achieved sufficient flexibility to meet the challenges of EMU membership". (HM Treasury, 1997, page 7.)

1.8 This conclusion was based on there being insufficient evidence both that unemployment could fall further without igniting wage pressures and that individuals had the right skills to adapt to changes in the economy. The 1997 assessment also acknowledged that further work was needed to ensure the European Union (EU) as a whole was able to create jobs and respond to structural change.

Framework for the study

1.9 This study therefore revisits the issues raised in the 1997 assessment and assesses developments since, while broadening and deepening the analysis. It is structured around a comprehensive and coherent framework designed to assess the efficiency of different labour market adjustment mechanisms. The framework, as set out below in paragraphs 1.16 to 1.17, assesses a range of indicators at three different levels, the characteristics of, the outcomes in and the institutional environment conducive to flexible labour markets, in general and for the requirements of EMU in particular.

Related EMU studies

1.10 This study focuses solely on labour market flexibility, although the actual assessment of the flexibility test includes both product and capital market flexibility. Its findings form a key analytical building block. Other studies include:

- Analysis of European and UK business cycles and shocks, which assesses the extent to which the UK is liable to experience asymmetric shocks. This underlies the importance of assessing the strength and speed of market adjustment mechanisms;
- The exchange rate and macroeconomic adjustment, which analyses the extent to which the exchange rate enables adjustment to shocks;
- Modelling shocks and adjustment mechanisms in EMU, which assesses how adjustment processes, including labour market flexibility, might operate within EMU; and
- The United States as a monetary union, which assesses how the US labour market adjusts to shocks.

1 Country-specific or asymmetric shocks may be the result of a shock specific to just one country or region within a country. Alternatively, differences in structure may lead to a common or symmetric shock having a differential or asymmetric impact across countries.

1 The links between employment and the product market are discussed briefly in Section 4 on the institutional environment.
What does labour market flexibility mean?

Definitions of labour market flexibility

1.11 Labour market flexibility has been defined in a number of different ways (see for instance Lagos, 1994; Pissarides, 1997; Forstater, 2000). For some, flexibility is defined as the speed with which the labour market can adjust in response to an economic shock. Others either identify a flexible labour market as one that exhibits a good equilibrium, i.e. a low structural unemployment rate, or characterise it in terms of the institutional features that influence wage setting and supply and demand in the labour market, and ultimately labour market performance.

1.12 All three of these approaches warrant attention. Chart 1.1 shows the evolution of unemployment rates since the 1960s. It illustrates that in the 1960s and 1970s, the US had a higher unemployment rate than the UK and euro area, with the UK in line with the euro area average.

1.13 During the past 30 years the global economy has been hit by a number of shocks. These shocks have been predominantly symmetric in nature and led to significant increases in unemployment from the 1960s. However, the adjustment paths that the economies took were notably different, with high and persistent rates of unemployment in the euro area, and until the mid 1990s the UK, and lower and more stable unemployment rates in the US.

Chart 1.1: Unemployment rates


*In particular, the decline in productivity growth at the start of the 1970s, the oil price shocks in 1973 and 1979, the rise in real interest rates at the start of the 1980s, and the skill-biased change in labour demand in the 1990s. However, large asymmetric shocks, such as the impact of German re-unification, should also be noted.*
1.14 Shocks help explain much of the ratcheting up in unemployment since the 1960s, causing it to deviate from its equilibrium. Recent analysis and evidence suggests that it is the interaction between shocks and labour market institutions that determines the evolution of unemployment, employment and labour market performance more generally (Barro, 1988; Blanchard and Wolfers, 2000; Den Haan et al., 2001; Bertola et al., 2001; Nickell et al., 2002; Garibaldi and Mauro, 2002; Chen et al., 2002).5

1.15 Institutions can slow the adjustment process such that the increase in unemployment following a shock becomes a more permanent or long standing change. This phenomenon is sometimes called partial hysteresis. In the extreme case, there can be full hysteresis where the unemployment rate can drift upward or downward with no tendency to return to its original equilibrium. Unemployment quickly becomes structural rather than temporary, with the result that the equilibrium unemployment rate tracks the actual unemployment rate. However, there are competing explanations of the long-term persistence of unemployment in Europe.6

- insufficient aggregate demand: because labour is a derived demand it follows that a shortfall in aggregate demand will translate into higher unemployment. Some commentators have argued that the low level of labour demand is responsible for higher unemployment in Europe (Glyn and Salverda, 2000); and
- globalisation: import competition from developing economies has increased unemployment in low-skilled manufacturing industries in Europe.

STRUCTURE OF THE STUDY

1.16 This study employs an organising framework for the analysis which highlights three facets of the labour market – characteristics, outcomes and the institutional environment – which are illustrated in Figure 1.1. This study defines a flexible labour market as one that has the ability to adjust to changing economic conditions in a way that keeps employment high, unemployment and inflation low, and ensures continued growth in real incomes. This applies whatever the monetary regime, but EMU puts a particular premium on certain aspects of flexibility, including that of wages.

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5 Minford and Naraidoo (2002) argue that the increase in structural unemployment emerges from a political process. A change in unemployment (caused by shocks) causes workers to demand policy changes – an example would be higher benefits. This effect is self reinforcing, i.e. unemployment increases further so the demand for extra protection increases. Eventually this effect subsides as the need for additional tax financing creates too high a burden, reform goes the other way and unemployment falls from its peak. Therefore, although the long-run level of output is largely supply determined, the interaction between demand policies and the institutional structure may influence the precise position of the equilibrium level of unemployment.

Flexibility is a difficult concept to quantify and therefore to test numerically. While it would be conceptually appealing to define an absolute level of flexibility, this is very difficult to achieve in practice. Instead this study analyses whether there is evidence that UK labour market flexibility has changed in relative terms, both over time and compared with other advanced economies, especially those in the euro area. The study is structured as follows:

- Section 2 discusses the different ways in which the labour market can adjust and the relative speed and strength of these adjustment mechanisms – the characteristics of flexible labour markets. Labour market adjustment is discussed in general but also in terms of the specific forms of flexibility that matter most for EMU. The focus is on a key issue raised in the 1997 assessment – real wage flexibility – and the discussion includes a new econometric analysis by HM Treasury, which tests for signs of improved real wage flexibility in the UK. Section 2 also builds on the previous assessment with a fuller discussion of the role of nominal wage flexibility, labour mobility and skills;

- labour market outcomes can differ across countries, even when shocks are of a similar nature. Section 3 discusses the employment performance of the UK and euro area and focuses on those outcomes that are consistent with a flexible labour market, i.e. those that can illustrate smoother labour market adjustment and those that can show whether any recent improvements are sustainable;
successful membership of EMU requires that any improvements are not just experienced at a point in time but that they are sustained into the future. Section 4 highlights the institutional environment and the process of economic reform both in the UK and in the rest of the EU. This is an important exercise because supply side reforms may take time to affect behaviour and so an assessment of these institutions now can help indicate the outcomes that may emerge in the medium to long term. Section 4 also presents a new cross-country indicator of flexibility developed by HM Treasury based on these institutional factors; and

Section 5 concludes on the relative degree of flexibility in the UK and euro area.

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Karanassou and Snower (1998) look at the issue of adjustment lags and why unemployment may persist despite labour market reforms. The OECD (2000a, page 165) notes that the impact of labour market reforms on the NAIRU can be substantial but slow to emerge.
This section looks at the different ways in which the labour market can adjust – the characteristics of flexible labour markets. It looks at labour market adjustment in general in the UK and euro area but also identifies the specific forms of adjustment that are most relevant to EMU membership, in particular the additional emphasis it would put on real and nominal wage flexibility, alongside other characteristics.

Wages in the UK appear relatively responsive to labour market conditions:

- **relative wage flexibility** is reasonably high in the UK meaning that wages adjust in response to imbalances across regions and across skills;
- there is some evidence that **real wage flexibility** has improved in the UK since 1997. A new econometric exercise undertaken by HM Treasury for this study suggests that real wages have become more responsive to the level of unemployment. Empirical research also suggests that real wage flexibility relative to other countries has been improving; and
- **nominal wages** are generally adjusted on an annual basis in the UK, providing scope for a relatively high degree of **nominal wage flexibility**. However, the existence of some downward nominal wage rigidities could potentially interfere with labour market adjustment in the UK.

While this suggests a relatively high degree of wage flexibility in the UK, this has not been fully tested in recent years, and there has been a relatively more stable macroeconomic environment than in the past. Wage flexibility 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.

**Geographic labour mobility** has not been a key means of equilibrating movements of labour between and within EU countries, although this study argues that low levels of geographic mobility need not necessarily undermine the flexibility of the labour market as a whole. 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.

The UK and other parts of Europe exhibit a relatively high degree of **employment flexibility**, demonstrated by a high incidence of part-time working and the adoption of flexible working practices.

In terms of **functional flexibility**, the stock of workers with low skills in the UK is being reduced only very slowly. Government intervention has focused on ensuring that individuals have the right skills to adapt to economic change, the need for which would be greater in EMU. In short, EMU would put a premium on the need for greater flexibility in all aspects of the labour market.

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**Overview** 2.1 This section looks at the different mechanisms by which the labour market adjusts both in general and in terms of the specific forms of adjustment that are relevant to EMU. The process of adjustment will depend on the type of shock affecting the economy, with some channels more important for shocks that impact on the economy as a whole, and others more important when adjustment is required in particular industries or regions. Together, the various channels of adjustment represent the **characteristics** of flexible labour markets. Typically, the faster and greater the response, the more flexible the labour market.
Perfect flexibility 2.2 A perfectly flexible economy would be one in which prices and then quantities adjusted instantly in response to any shock, and in such a way so as to ensure full resource utilisation. For the labour market, perfect flexibility would imply that following any change in the economic environment, the labour force would be immediately redeployed to its most efficient use, with unemployment remaining at its structural level.

Imperfect flexibility 2.3 In practice, there are costs and impediments to such instantaneous adjustment, which are reviewed in more detail in Section 4 on the institutional environment. Such factors mean that it takes time for relative prices and quantities to fully reflect the new economic environment. These adjustment periods will be periods of sub-optimal resource utilisation. In the labour market, this is likely to imply a rise in unemployment. In the case of a flexible labour market, the adjustment period will be short-lived, as prices and quantities move rapidly to restore equilibrium. But for less flexible economies, the adjustment period will be more protracted.

Different levels of flexibility in a monetary union 2.4 In practice, it would seem that policy should seek to maximise labour market flexibility. Box 2.1 describes a body of evidence that discusses the implications of the labour market in one region in a monetary union adjusting more rapidly than the labour market in another. However, the argument goes beyond labour markets, and a full appraisal would also examine capital and product market flexibility. As such, the argument is not pursued further in this study.

Box 2.1: Different levels of flexibility in a monetary union

A higher degree of labour market flexibility implies a more rapid adjustment to economic shocks, such that the economy spends a shorter period out of equilibrium or, in terms of the output gap, actual output remains closer to trend or potential. It would appear, therefore, that the more flexible is the labour market the better.

However, a body of evidence has discussed the effects of differences in the degree of flexibility between different regions of a monetary union (Scheremet, 2000; Guichard and Laffargue, 2000; Hughes Hallett and Viegi, 2000; Dellas and Tavlas, 2002; and as described in Andrew Hughes Hallett’s contribution to the EMU study Submissions on EMU from leading academics). The literature discusses how such differences may affect the transmission mechanism of economic shocks. A shock that initially has a symmetric effect across the monetary union will evolve into an asymmetric shock if one region adjusts more rapidly than another. Guichard and Laffargue note that:

“Industrialized countries’ labor markets display great heterogeneity concerning wage bargaining processes, degrees of job protection and provision of replacement incomes, etc...therefore, labor markets are likely to lead an initially symmetric shock to have asymmetric consequences; this is also an important source of concern for the EMU”.

(Guichard and Laffargue, 2000, page 2.)

Either way, greater flexibility in all regions would help to ensure a more efficient adjustment process throughout a single currency area. It is important therefore that the existing euro area as well as the UK is flexible in order to realise fully the benefits of EMU. Further progress towards meeting the Lisbon Economic Reform Programme, as set out in depth in HM Treasury (2002a) and HM Treasury (2002b), would therefore contribute to the success of EMU, whether or not the UK becomes a member.
Where flexibility is particularly limited, the labour market may fail to adjust completely. In this case, the change in unemployment may become a permanent rather than a transitory phenomenon. As the economy is constantly adjusting to a changing economic environment, it is analytically helpful to think of actual unemployment as consisting of structural and cyclical components, where the cyclical component corresponds to the transitional aspect of unemployment, while the structural component corresponds to the permanent element.\footnote{In practice, however, the dividing line between structural and cyclical unemployment is indistinct, with one tending to shade into the other.}

Irrespective of whether the UK is a member of EMU, shocks will lead to changes in the economic environment. There are several mechanisms through which the labour market might adjust to such shocks. In a standard demand and supply model, adjustment can take place either through a change in the price level (wages), or through movements in the labour demand and labour supply curves.

A good exposition of this approach is given in Pissarides (1997). He defines separately a wage setting mechanism (how quickly real or nominal wages respond to a shock), a labour supply relation (the ability and willingness of labour to move to new jobs), and a labour demand relation (the ability of employers to alter employment quickly). Drawing on such an approach, this section assesses the characteristics of flexible labour markets in terms of:

- **relative wage flexibility**: describes movements in wage differentials across particular segments of the labour market, such as different regions or different occupations;
- **real wage flexibility**: how rapidly real wages (the pay of an individual after adjusting for changes in the price level) respond to imbalances between labour demand and labour supply;
- **nominal wage flexibility**: the ease with which nominal wages (the pay of an individual before adjusting for changes in the price level) adjust, in particular when this adjustment entails potential wage cuts;
- **geographic labour mobility**: the ability or willingness of workers to commute or move residence in order to find employment;
- **employment flexibility**: the ability of employers to adapt working patterns in response to labour supply conditions. Examples include the use of part-time and flexible working that make it easier for employees to combine employment with other activities and responsibilities; and
- **functional flexibility**: the ability of the workforce to perform different tasks and to acquire and apply different skills, enabling employees to perform a wide range of jobs, and to adapt readily to technological change.

It is not necessary for a labour market to be highly flexible on all of these counts, since high flexibility in one dimension may help to compensate for low flexibility in another. For example, as discussed in Box 2.2 later in this section, geographic labour mobility is cited as a key adjustment mechanism in the early versions of Optimal Currency Area (OCA) theory. The subsequent development of OCA theory has emphasised that real, nominal and relative wage flexibility and capital mobility provide alternative ways for economies to adjust to shocks. If these mechanisms are sufficiently strong then a currency area may be able to respond efficiently to asymmetric shocks even if the geographic mobility of labour is low.

Nonetheless, greater flexibility in each and every dimension will enable the labour market to operate more effectively and increase its ability to adapt to changing economic conditions.
WAGE FLEXIBILITY

2.10 In most markets, price adjustment is an important factor enabling the market to function effectively. The labour market is no exception, with wage levels a major determinant of the supply of and demand for labour. There are three key dimensions: relative wage flexibility, real wage flexibility and nominal wage flexibility.

Relative wage flexibility

2.11 Adjustment in the labour market primarily consists of ensuring a smooth transfer of labour out of contracting regions, industries or sectors and into expanding ones. If the unemployment rate in one market segment is high then there are two key mechanisms through which adjustment can take place: either relative wages across these segments can adjust or labour can move. Geographic labour mobility is discussed in paragraphs 2.60 to 2.84, and the analysis demonstrates that mobility is limited as an equilibrating mechanism in both the UK and the euro area. Therefore, relative wage flexibility needs to be sufficiently high to provide the necessary adjustment.

2.12 Relative wage flexibility concerns the adjustment of wages across market segments (such as regions and occupations) in response to a change in the composition of demand or supply. Flexible relative wages therefore tend to reduce the likelihood of mismatch between labour supply and demand occurring at the sectoral or regional level. In the extreme, if relative wages were perfectly flexible and there was no labour mobility (but a lot of job mobility) all adjustment would occur through changes to wage differentials, and other things being equal, unemployment would be equal across sectors.

2.13 If wages are relatively flexible across regions then wage growth should be lower in high unemployment regions than in low unemployment regions such that firms are able to sustain competitiveness, thereby encouraging investment and the creation of more jobs. A lack of relative wage adjustment has been a particular concern across Europe, and is a major reason behind the regional unemployment disparities that exist between the former East and West Germany as well as between northern and southern parts of Spain and Italy (see, for example, Soltwedel et al., 1999).

2.14 Historically, inflexible relative wages across regions were also a problem in the UK. During previous troughs in unemployment in the UK, large regional unemployment disparities existed, as relative wages failed to adjust sufficiently and labour failed to move in response to high unemployment in the North and relatively lower rates in the South. This is discussed further in Section 3.

2.15 However, as Section 3 also sets out, in the most recent economic upswing the variability of UK regional unemployment rates has narrowed. Chart 2.1 plots the regional ILO unemployment rate in 1999 against the growth rate of gross weekly earnings over the period 1999 to 2001. It illustrates that wages have grown relatively more slowly in the high unemployment regions, suggesting that relative wages have responded to regional unemployment differences.

What is relative wage flexibility?

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Wage flexibility across regions is a problem in parts of Europe...

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...but relative wages appear to adjust in the UK

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It is also possible that firms become more mobile, responding to smaller wage differentials than before.
2.16 Research suggests that between 1974 and 1997, regional wage growth had a responsiveness of around 0.3 to regional unemployment (Jackman and Savouri, 1999). This implies that if a region’s unemployment rate exceeds the national average by 1 percentage point then its wages tend to grow by 0.3 percentage points less than the national average. Furthermore, the authors also found that the responsiveness increased to around 0.5 after 1986, implying that relative wage flexibility has strengthened since that time. Beatson (1995) found evidence that regional wages might have become better aligned with regional unemployment rates.

2.17 Relative wages can also correct for shifts in the demand for, or the supply of, highly skilled jobs. In the case of an excess demand for skilled workers or an excess supply of unskilled workers, flexible economies should exhibit falling relative wages for unskilled workers or, put another way, as the demand for skilled workers increases so too should their wages. Evidence suggests that in the UK during the 1980s there was an increase in the returns to human capital at a time when labour demand for skilled workers was increasing (Beatson, 1995).

2.18 Chart 2.2 depicts the ratio of the upper to the lower decile of the gross earnings distribution in the UK for both manual and non-manual workers. It shows that the earnings gap between the two groups widened in the 1980s and has continued to widen, albeit at a slower pace, since then. The fact that the earnings ratios are not constant is consistent with relative wages responding flexibly to the demand for different types of worker.
2.19 Another potential indicator of relative wage flexibility is the extent to which movements in inter-industry wage differentials over time encourage the redeployment of labour from declining sectors to expanding sectors. If they do, then industry wage growth in the UK and industry employment growth should be positively correlated, as expanding sectors raise their wage offers relative to declining sectors. However, analysis for the period 1990 to 2001 does not suggest any significant systematic relationship between industry wage and industry employment growth, either positive or negative. This is perhaps not surprising as it is consistent with the usual empirical finding from the mainly US literature that inter-industry wage differentials are highly persistent over long periods of time (see, for example, Borjas and Ramey, 2000).

2.20 The fact that relative wages appear flexible in the UK may reflect the moves towards more decentralised bargaining, as discussed in Section 4. This has helped to ensure that wages are sensitive to specific demand conditions at the local level. In their Article IV report on the UK in 2000, the IMF noted that:

“The U.K. labor market has undergone a number of institutional and structural changes since the 1980s, and there are reasons to believe these changes have contributed to increasing both aggregate and relative wage flexibility...both the improved aggregate performance of the 1990s and changes in the structure of relative wages across skills, sectors, occupations and regions are consistent with the view that institutional changes in the 1980s have increased the flexibility of wages in response to changes in demand for output and employment”. (IMF, 2000, page 117.)

Real and nominal wage flexibility

2.21 EMU membership would place a greater onus on the adjustment mechanisms that can replicate the role of an independent monetary policy and the nominal exchange rate. One of the key labour market adjustment mechanisms cited in the literature is that of real wage adjustment, as the OECD note in the context of EMU:

“Labour market adjustment, however, could be sharpened by greater sensitivity of real wages to excess supply and demand across regions and sectors. The capacity of wages to adjust rapidly to a change in labour market conditions is critical”. (OECD, 1999a, page 156.)
Real wage flexibility describes the degree to which real wages respond to unemployment or to market disequilibria. When unemployment is high, workers' bargaining power is weak, so real wages tend to decline. The decline in real wages increases employers' demand for labour and hence brings unemployment back towards its equilibrium level. When unemployment is low, the same processes operate in the opposite direction, with real wages tending to rise, leading to a decline in the demand for labour, until unemployment returns to its equilibrium level. Labour market adjustment is faster when real wages are more sensitive to labour market conditions.

The real wage can adjust through changes in the price level or through changes in the nominal wage. Therefore, nominal rigidities are important because they can slow the adjustment of real wages to an economic shock and increase the negative impact on output and employment. Nominal wage flexibility by itself is insufficient because it only facilitates adjustment to purely nominal shocks. Any real shock, whether emanating from the supply side of the economy or the demand side (such as a switch in consumer preferences), requires relative prices to change, and hence requires real flexibility.

The following discussion therefore addresses two key questions:

- how flexible are real wages in the UK?
- do nominal rigidities exist in the UK labour market and to what extent do they slow the adjustment of real wages?

Real wage flexibility

The 1997 assessment found that a lack of real wage flexibility in the UK meant that the labour market was insufficiently flexible to deal with any problems that might emerge in EMU. With specific reference to wages, the 1997 assessment noted the UK had:

“A system of wage determination that is relatively successful at ensuring that relative wages reflect new and changing demands. But it remains to be seen whether the historical problem of recurrent cycles of wage inflation and unemployment has been addressed”. (HM Treasury, 1997, page 21.)

Much recent research has looked at real wage flexibility using cross-country comparisons. In line with the preceding analysis, econometric studies typically measure the degree of real wage flexibility by the coefficient on the unemployment variable (or a similar concept) in an aggregate wage equation. Table 2.1 summarises the results. The methodologies and datasets differ, making it difficult to compare the results across studies, so the table presents an ordinal ranking. The consistent conclusion of research prior to the mid 1990s was that the UK had a relatively low level of real wage flexibility. This is quite a striking observation given the different techniques used.

---

1 Layard, Nickell and Jackman (1991) contains a full exposition of the wage bargaining model.
2 If real wages are very flexible then an estimated wage equation may give a low or insignificant coefficient on unemployment. In the extreme case of perfect real wage flexibility, a shock is absorbed instantaneously by real wages such that unemployment is constant. Therefore, no relationship is observed between the real wage change and unemployment despite there being a clear connection between the two. For more detail on this point see Goubert and Omey (1996).
3 Beatson (1995) contains a similar approach.
### Table 2.1: Real wage flexibility rankings over time (1 = most flexible)

<table>
<thead>
<tr>
<th>Period</th>
<th>GJL</th>
<th>Coe</th>
<th>NS</th>
<th>BLN</th>
<th>Coe(2)</th>
<th>AM</th>
<th>LNJ</th>
<th>ABWVP</th>
<th>EM</th>
<th>H*</th>
<th>AB</th>
<th>TY</th>
<th>GO</th>
<th>TRS</th>
<th>RIV</th>
<th>Vj</th>
<th>OECD</th>
<th>TS</th>
<th>HSZ</th>
<th>BFT</th>
<th>MR</th>
<th>BD</th>
<th>FRP</th>
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<tbody>
<tr>
<td>Rank</td>
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</tr>
<tr>
<td>1</td>
<td>JAP</td>
<td>SWZ</td>
<td>GER</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>JAP</td>
<td>NLD</td>
<td>US</td>
<td>AUS</td>
<td>EA</td>
<td>POR</td>
<td>POR</td>
<td>SWE</td>
<td>FIN</td>
<td>GRE</td>
<td>BEL</td>
</tr>
<tr>
<td>2</td>
<td>NZ</td>
<td>CAN</td>
<td>AUS</td>
<td>NZ</td>
<td>AUS</td>
<td>NZ</td>
<td>AUS</td>
<td>NZ</td>
<td>AUS</td>
<td>NZ</td>
<td>AUS</td>
<td>NZ</td>
<td>AUS</td>
<td>NLD</td>
<td>US</td>
<td>AUS</td>
<td>EA</td>
<td>POR</td>
<td>POR</td>
<td>SWE</td>
<td>FIN</td>
<td>GRE</td>
<td>BEL</td>
</tr>
<tr>
<td>3</td>
<td>SWZ</td>
<td>AUT</td>
<td>NOR</td>
<td>ITA</td>
<td>SWZ</td>
<td>AUT</td>
<td>NOR</td>
<td>ITA</td>
<td>SWZ</td>
<td>AUT</td>
<td>NOR</td>
<td>ITA</td>
<td>SWZ</td>
<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
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<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
<td>EUR</td>
</tr>
<tr>
<td>8</td>
<td>FIN</td>
<td>FRA</td>
<td>ITA</td>
<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
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<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
<td>FRA</td>
<td>EUR</td>
<td>EUR</td>
</tr>
</tbody>
</table>

**Key:**
- **GJL** = Grubb, Jockman and Layard (1983);
- **Coe** = Coe (1985);
- **NS** = Newell and Symons (1985);
- **BLN** = Bean, Layard and Nickell (1986);
- **Coe(2)** = Coe et al (1987);
- **AM** = Alogoskoufis and Manning (1988);
- **LNJ** = Layard, Nickell and Jackman (1991);
- **ABWVP** = Anderton et al. (1992);
- **EM** = Elmiasov and MacFarlan (1993);
- **H*** = Heylen (1993);
- **AB** = Anderton and Barrell (1993);
- **TY** = Tyranen (1995);
- **GO** = Goubert and Omey (1996);
- **TRS** = Turner et al. (1996);
- **RIV** = Roeger and in’t Veld (1997);
- **Vj** = Viol and Jimeno (1998);
- **OECD** = OECD (1999a);
- **TS** = Turner and Seghezza (1999);
- **HSZ** = Horn et al. (1999);
- **BFT** = Berthaud, Fehr and Thode (1999);
- **MR** = McMorrow and Roeger (2000);
- **BD** = Barrell and Dury (2001);
- **FRP** = Fabiani and Rodriguez-Palenzuela (2001).

**Notes:**
1. Equal 7th.
2. EU area.
3. Constructed as average of previous literary studies.
4. Equal 9th.
5. Equal 5th.
Research since the mid 1990s suggests that there has been an improvement in the UK relative to other countries, with estimates of the responsiveness of real wages to unemployment ranking among the top half of the sample of countries considered. This could be consistent with an improvement in real wage flexibility in the UK, as the IMF (2000) note:

"Consistent with the better cyclical performance of the labor market in the 1990s, recent estimates of the responsiveness of aggregate real wages to unemployment show a greater degree of real wage flexibility for the United Kingdom than previous estimates". (IMF, 2000, page 100.)

However, it may only be true that the UK’s relative position has changed, with no absolute improvement. Flexibility may have deteriorated elsewhere, but to a lesser extent or not at all in the UK. In order to look for signs of improvement in the UK over time, aggregate wage equations can be examined to see if a structural break has occurred. This will overcome one problem with the results presented in the cross-country studies, namely that the estimation procedure requires a long back-run of data, such that any recent improvements in the supply side of the economy will be difficult to identify.

The literature on UK real wage flexibility is dated, and appears somewhat inconsistent with the apparent improvement observed in the past few years (see Section 3). Some evidence does suggest that structural reforms in the UK have tended to increase the degree of real wage flexibility in the UK (Turner et al., 1996) while other research finds no such evidence (Ramaswamy and Prasad, 1994; Anderton et al., 1992).

New HM Treasury work points to an improvement in real wage flexibility in the UK, and is shown in Chart 2.3. It shows an estimate of real wage flexibility derived from the Treasury model’s wage equation, plotted over the period 1982–2000. If real wage flexibility has increased, the value of the long-run coefficient on unemployment should have fallen (i.e. become more negative) over time, showing that any given level of unemployment has a bigger (offsetting) impact on wages.

Chart 2.3: Long-run unemployment coefficient

Source: HM Treasury.

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A relative improvement in the UK

2.27

A new econometric exercise by HM Treasury...

2.30

More detail on this approach is contained in Annex A.
The long-run coefficient on unemployment has fallen, consistent with an increase in real wage flexibility over time. However, identifying significant changes with confidence is difficult under this approach – indeed the change is not statistically significant. In short, the balance of evidence is suggestive of, and consistent with, an improvement in real wage flexibility, but the econometric work alone cannot support a definitive conclusion.

Another way to examine whether real wage flexibility has improved over time is from looking at how the coefficient on unemployment has evolved between two sample periods split at different points. The results presented in Table 2.2 suggest that the long-run unemployment coefficient (the unemployment rate divided by the ECM coefficient) increases during the second part of the sample period (with the sample splits at 1983, 1985 and 1990) and in most cases the changes are significant.7

Table 2.2: Split sample estimates of the coefficient on unemployment

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Unemployment rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coefficient</td>
<td>-0.020</td>
<td>-0.023</td>
<td>-0.020</td>
<td>-0.027</td>
<td>-0.011</td>
<td>-0.036</td>
</tr>
<tr>
<td>t-ratio</td>
<td>2.8</td>
<td>2.9</td>
<td>3.0</td>
<td>3.3</td>
<td>2.1</td>
<td>3.8</td>
</tr>
<tr>
<td>ECM coefficient</td>
<td>-0.441</td>
<td>-0.172</td>
<td>-0.359</td>
<td>-0.244</td>
<td>-0.155</td>
<td>-0.294</td>
</tr>
<tr>
<td>t-ratio</td>
<td>2.5</td>
<td>3.2</td>
<td>2.8</td>
<td>3.6</td>
<td>2.3</td>
<td>3.2</td>
</tr>
<tr>
<td>LR unemployment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coefficient</td>
<td>-0.04</td>
<td>-0.13</td>
<td>-0.05</td>
<td>-0.11</td>
<td>-0.07</td>
<td>-0.12</td>
</tr>
<tr>
<td>Wald test CHSQ(1)</td>
<td>13.82</td>
<td>9.94</td>
<td>5.00</td>
<td></td>
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</tr>
</tbody>
</table>

7 Testing the restriction that the LR coefficient is equal to the estimated coefficient for the other part of the sample. Critical value = 3.84 (i.e. readings greater than this imply that the changes are significantly different from the first sample period).

Source: HM Treasury.

A separate approach involving splitting the unemployment coefficient at a point in time (such that the equation includes two unemployment variables) was also tried. These results suggested that flexibility had been declining over the estimation period, albeit at a slow rate. However, it should be borne in mind that this approach holds the ECM coefficient constant. These results therefore suggest that the changes in the long-run coefficient are driven by changes in its denominator rather than the numerator. This is also evident from Table 2.2 where in some cases the absolute value of the ECM coefficient gets significantly smaller in the second part of the sample, pushing up the absolute value of the long-run unemployment coefficient. This implies that the (unrestricted) long-run coefficients move over time, not just the coefficient on unemployment, and therefore may be indicative of more general instability rather than relating purely to changes in wage flexibility.
Table 2.1 illustrates that, at least until recently, the degree of flexibility of real wages in the long run has appeared higher in continental Europe than in the UK. However, the picture is different for the speed of adjustment in the short run. Chart 2.4 illustrates that the actual speed of adjustment of real wages towards their long-run equilibrium level is relatively fast in the US and UK; half of the adjustment is complete in under two years for both, compared with three and a half years in Germany and four years in France (OECD, 1999a).

Chart 2.4: Real wage flexibility

Source: OECD, 1999a.

1 Years required for real wages to complete half of the adjustment towards their long-run equilibrium level.

So although unemployment has a significant downward influence on real wages in continental Europe in the long run, the slow pace at which real wages adjust may lead to short-term costs, such as output loss and job losses.

Nominal wage flexibility

Real wages can adjust either through a change in the nominal wage or through changes in the price level. In a low inflation environment, the distinction between nominal and real wage rigidities becomes less clear. Nevertheless, the existence of downward nominal rigidities may prevent real wages from falling sufficiently in response to a negative shock. The question is whether, and by how much, this leads to an increase in unemployment (reflecting the fact that the wage change may be higher than a worker’s marginal product).
The system under which wages are determined in the UK indicates scope for relatively flexible nominal wages. Wages are generally adjusted annually in the UK, providing potential for a relatively high degree of nominal wage flexibility compared to areas where multi-annual systems dominate, although at the possible price of some rigidity in the short term. Evidence from the CBI Pay Databank suggests that around 95 per cent of company settlements are for 12 months or less (Table 2.3). The prevalence of multi-year contracts in the US is often cited as a major reason for the high level of nominal inflexibility revealed in econometric studies.

Table 2.3: Duration of UK company pay settlements (calendar year 2001)

| Size of settlement (per cent) | Services | | | Manufacturing | | |
|-------------------------------|----------|----------|--------|----------------|--------|
|                               | Less than 12 months | More than 12 months | Less than 12 months | More than 12 months | |
| 2.5 or less                   | 15       | 80       | 1      | 45             | 240    | 7    |
| 2.51–4.5                      | 11       | 249      | 17     | 21             | 425    | 37   |
| 4.51–6.5                      | 3        | 62       | 3      | 2              | 45     | 1    |
| 6.51–8.5                      | 0        | 19       | 2      | 0              | 1      | 0    |
| 8.51–10.5                     | 2        | 9        | 0      | 0              | 5      | 0    |
| 10.51 or more                 | 0        | 11       | 1      | 0              | 2      | 0    |

Source: CBI Databank Survey of Services and Manufacturing.

Where real wage reductions are necessary, downward nominal rigidities could be a particular concern since employees are naturally resistant to a cut in nominal wages, and many employers are reluctant to impose them for fear of lowering their employees’ morale and productivity (Bewley, 1999). Evidence suggests that downward nominal rigidities may exist in the US, although there are variations in terms of the exact size of such effects (see McLaughlin, 1999, for an overview).

A growing body of evidence, using household panel datasets, is now testing for the existence of downward nominal rigidities in the UK. Charts 2.5a and 2.5b show the distribution of hourly pay settlements from the Labour Force Survey (LFS) between 2001 and 2002 for individuals who have not moved employer over the year (although they may have moved jobs within a firm). The two series shown are basic pay and gross pay (the latter includes bonuses and overtime payments).

The LFS shows that annual pays cuts do happen in the UK. The prevalence of pay increases is higher but this is to be expected if workers are paid according to their marginal product and productivity is rising. In the LFS basic pay survey, 14 per cent of individuals received a pay cut, compared to 75 per cent receiving an increase. In the gross pay survey, these figures are 35 per cent and 63 per cent respectively. Analysis using different datasets gives similar results (Nickell and Quintini, 2001; Smith, 2000).

However, there is a concentration of wage settlements at zero in the wage change distribution, suggesting some nominal wage rigidity in the UK. In the LFS basic hourly wage change distribution, 12 per cent of non-job changers had exactly a zero wage change. In the LFS gross hourly wage change distribution this percentage falls to 3 per cent. Similarly, Smith finds that between 1991 and 1996, 9 per cent of non-job changers had zero nominal pay growth. She argues that institutional factors, such as long-term contracting and rounding, exaggerate this and accounting for these factors only 1 per cent of workers have pay that may be downwardly rigid. However, as Nickell and Quintini note, long-term contracts themselves may be a particular source and indicator of nominal rigidities.

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8 Smith (2002) finds that pay cuts reduce workers’ happiness compared with those that do not experience a pay fall. However, she finds no evidence that pay cuts are worse than pay freezes, meaning that the morale theory may explain generalised (or real) downward rigidity but fails to explain downward nominal rigidity.
The distributions also show that gross pay is more flexible than basic pay due to the inclusion of bonuses and overtime. Overtime pay and bonuses tend to be more responsive to the state of demand in the economy and to a firm’s performance than basic pay and they might have allowed the private sector to be more flexible in the recent downturn. However, the role that such payments play in moderating nominal wage changes will be limited because eventually they will reach some minimum level.
2.43 Downward nominal wage rigidities have not been a substantial difficulty for the UK to date. Since 1997, RPIX inflation has been close to its target of 2 1/2 per cent a year and average earnings have increased by around 4 1/2 per cent a year, providing considerable scope for movements in real and relative wages even where there is resistance to nominal wage cuts.

2.44 However, this potential constraint could be more severely tested by a decision to join EMU. For instance, without an independent monetary policy as an adjustment mechanism, more adjustment may fall on prices and the need for nominal wage adjustment would be higher.

2.45 Evidence suggests that downward nominal rigidities vary systematically and inversely with the rate of inflation: the mean of the wage growth distribution increases when inflation and productivity increase. When this happens, the proportion of workers affected by downward wage rigidity should fall. Chart 2.6 shows that a small proportion of workers had a zero per cent annual change in hourly pay in the late 1970s, a particularly high inflation period. This proportion increased substantially in the 1990s, a period of relatively benign inflationary pressures. This highlights the importance of having an appropriate aggregate inflation target to anchor expectations of employees and employers.

2.46 It is difficult to use evidence from existing euro area countries to examine whether nominal rigidities have posed a constraint in EMU. In particular, as Section 4 sets out, the institutional environment is different in many EU Member States. In some Member States, institutional factors such as strict employment protection legislation (EPL), high union coverage or generous unemployment benefits may make workers more resistant to wage cuts. If rigidity does reflect these institutions then higher inflation is unlikely to do much to accelerate real wage adjustment. Holden (2002) notes that workers who are protected by strict EPL are in a stronger position to prevent wage cuts, while, in a similar context, Dessy (2002) notes the significance of EPL and union coverage. The UK may have less of a problem in a low inflation environment than other countries.
2.47 Perhaps the most relevant example in the euro area is Germany, where the inflation rate has historically been lower than that in the UK and is currently one of the lowest in the EU. Decressin and Decressin (2002) find that the prevalence of wage cuts is similar in Germany to the UK and the US; around one fifth of non-job changers experience a fall in their nominal wage, with the most frequent change being a zero change. They also find that the zero bound is more of a constraint at lower rates of inflation, similar to UK experience. Beissinger and Knoppik (2000) note that real wage adjustments in Germany are hampered by low rates of inflation and nominal wage growth.

2.48 More generally, a number of studies have attempted to identify the impact of EMU membership on wage pressures. The focus has been on the interaction between the monetary authority and wage setters, or the impact that EMU could have on contract setting. Some of the possible effects identified are:

- wage restraint may be higher if increased macroeconomic variability in EMU increases the incentives for contracts of a shorter duration, thereby giving firms the capacity to adjust wages in the short term. Under certain assumptions, Calmfors and Johansson (2002) find that EMU membership creates an incentive for a reduction in contract length;

- wage restraint may be lower if being inside EMU reduces wage bargainers’ perception of the inflationary impact of their wage demands. For example, they may feel that the European Central Bank (ECB) will be more accommodating in their response to high wage claims because they target euro area rather than national inflation (Cukierman and Lippi, 2001; Soskice and Iversen, 1998; Grüner and Hefeker, 1999);

- wage restraint may be lower if EMU leads to trade unions cooperating across national borders, meaning that wages respond less flexibly to an asymmetric shock affecting one particular country (Borghijs, 2000); and

- wage restraint may be lower if EMU leads to a greater use of contingency clauses in wage contracts. Calmfors and Johansson (2002) find that EMU increases the incentives for indexation clauses (where higher than expected inflation triggers higher wage increases, but the effect does not operate for lower than anticipated inflation). In this case, the indexation acts in a similar manner to downward nominal rigidity, although the nominal floor is no longer a zero change but rather the increase is given by indexation.

2.49 The results of these studies are theoretical and it is not clear which of these effects would dominate in practice. The OECD note that EMU membership may have increased wage moderation in the euro area:

“Continued wage moderation in recent years partly reflects high unemployment. But it could also suggest the possibility of a structural change in the area’s wage setting…the advent of the euro may also have affected wage setting in the euro area, as there is no longer any possibility for sharp wage increases being accommodated later on by currency realignments”. (OECD, 2002c, page 22.)

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9 Spain is an example of where these clauses operate and in 2002 the inflation outcome exceeded its target. In the preliminary conclusions of their Article IV Report on Spain, the IMF (2002) notes that: “the continued and widespread existence of backward looking wage safeguard clauses is a heritage of a high-inflation past and does not sit well with the requirements of a competitive economy in monetary union. In our discussions, we found a widespread recognition of the benefits of wage moderation, which however risk being undone by such clauses”.

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These effects are discussed in more detail in Lars Calmfors’ contribution to the EMU study Submissions on EMU from leading academics. He notes that the forces that keep wage pressures down may be weakened in EMU relative to the forces that inhibit downward wage adjustment, such as an aversion to pay cuts (which is independent of EMU). This may have an asymmetric impact on the degree of nominal wage flexibility, such that temporary demand shocks lead to an increase in wages that is later hard to reverse. His overall assessment is that more macroeconomic variability would increase the incentive for more wage flexibility, but that it is only likely to counteract the variability to a limited degree.

Similarly, in his contribution to the EMU study Submissions on EMU from leading academics, Barry Eichengreen notes that the loss of the exchange rate as an adjustment mechanism has had a modest effect on encouraging reforms that have enhanced wage flexibility, but that the actual pace of reform is slow.

Separate research argues more strongly that wage moderation has increased in the run-up to EMU. Lauer (1999) notes how a trend shift has occurred in wage determination. Historically, southern European countries tended to conduct a more expansive wage policy than their northern counterparts but were able to maintain their competitive position due to a continuous devaluation in their currencies. Therefore, being within the single currency may have led to more wage moderation.

Research on wage flexibility on countries inside the Exchange Rate Mechanism (ERM) is inconclusive. Anderton and Barrell (1993) found that real wage flexibility improved in Italy over the period of their ERM membership but such an effect was absent for the other nine countries in their study. Barrell and Dury (2001) in their study of eleven countries found a structural break in their Spanish wage equation after Spain joined the ERM.

In their Article IV review of the UK in 2000, the IMF noted that:

“…the potential costs of joining EMU stemming from a lack of sufficient wage flexibility in the United Kingdom may have diminished in recent years.” (IMF, 2000, page 117.)

The evidence presented suggests that UK wages adjust to imbalances across regions and across skills. There is considerable scope for variations in wage settlements to reflect conditions in individual industries and regions. Evidence suggests that wages have adjusted to regional labour market conditions in the UK and that the level of responsiveness has increased over time.

The evidence also shows that real wages have become more responsive to labour market conditions. This is apparent in the new econometric exercise undertaken for this study. While the evidence presented needs to be interpreted with some caution, the findings are consistent with an improvement in the UK’s relative position in international comparisons of real wage flexibility.

Overall, nominal wages are generally adjusted annually in the UK, providing scope for a relatively high degree of nominal flexibility. However, the existence of a spike at zero in the wage change distribution suggests that downward nominal rigidity could potentially interfere with labour market adjustment.

Wage flexibility has not been fully tested in recent years, and there has been a relatively more stable macroeconomic environment than in the past. Looking forward, any decision to join EMU would put an additional emphasis on real and nominal wage flexibility.
LABOUR MOBILITY AND EMPLOYMENT FLEXIBILITY

2.59 Labour market adjustment also occurs through the reallocation of the workforce, between different employers, different locations or different tasks:

- **geographic mobility** – the ability of the labour force to move within and between regions, and across borders;
- **employment flexibility** – the ability of the labour market to generate contractual arrangements that match the demands of employers and employees, including the ability to vary hours of work and length of tenure, as appropriate; and
- **functional flexibility** – the ability of the workforce to perform a range of tasks, and thereby adapt to changes in the demand for different skills, occupations or work practices.

Geographic mobility

2.60 Geographic mobility describes the ability of the workforce to move within and between regions. The discussion here is confined to the role of geographic labour mobility as an adjustment mechanism. Geographic mobility also has a social aspect; for example there is an issue of how much mobility is optimal if it can damage family networks and incur social fracture, as discussed in more depth in HM Treasury (2002a).

2.61 The Treasury’s 1997 assessment of the five economic tests noted that:

“Mobility of labour is important in ensuring that people can find jobs when they need them. Mobility between Britain and other EU countries is not particularly high, especially compared with mobility between US states, for a variety of cultural and institutional reasons”. (HM Treasury, 1997, page 22.)

2.62 This section provides a more comprehensive analysis and contrasts geographic mobility in the UK and euro area with the US. It observes that mobility is weaker in Europe than the US, but argues that this may not constitute a major impediment to overall labour market flexibility in EMU, provided that other characteristics of flexibility are strong.

Mobility in the US

2.63 The EMU study by HM Treasury *The United States as a monetary union* sets out how the geographic mobility of the workforce has been found to be an important adjustment mechanism in the US. Blanchard and Katz (1992) found that following an economic shock in the US, migration was the main mechanism by which the employment rate adjusted back to its original level. Similar findings have been reported elsewhere, for example Bayoumi and Prasad (1996). The work of Blanchard and Katz is often cited as evidence that for monetary unions to be successful, labour must be mobile. The authors noted that:

“Labor mobility across European countries is also likely to remain lower than labor mobility across U.S. states. To the extent that labor mobility is the main source of adjustment in the United States, this suggests that shocks will have larger and longer lasting effects on relative unemployment in Europe...our paper thus warns, the adjustment to relative shocks in the European common currency area may turn out to be a painful and protracted process”. (Blanchard and Katz, 1992, page 56.)
As discussed in Box 2.2, the macroeconomic costs implied by low geographic mobility in a currency union can be traced back to Optimum Currency Area (OCA) theory (Mundell, 1961). It observes that low geographic mobility in the EU may not be as large a constraint as is sometimes perceived. Nevertheless, geographic mobility is still desirable because, for example, it opens up new opportunities for work and training, and hence for the acquisition of further transferable skills.

Despite ‘legally’ free movement across EU Member States (guaranteed in law by the EU treaty), geographic mobility between EU countries is limited and unlikely to act as a significant adjustment mechanism. As set out in HM Treasury (2002a), only around 0.1 per cent of the total EU population changed official residence between Member States in 2000. Moreover, only a small proportion of individuals are willing to commute across borders in order to work, while maintaining residence in their own country. Chart 2.7 shows that around 0.4 per cent of the EU population work in another country, split broadly evenly between working inside and outside the EU.

Further details are provided in Peter Kenen’s contribution to the EMU study Submissions on EMU from leading academics, and also in Bean (1992).

Indeed, Krueger (2000) notes that there was no tendency for mobility to increase after the remaining restrictions on mobility were removed in 1993.
Cross border movements between the UK and other EU Member States are also fairly low. While the UK has experienced a net inflow of migrants during the 1990s, only around one quarter of those entering the UK and one third of those leaving the UK were from the EU countries, with the net flow almost balanced. Much of the net inflow is due to migrants from countries outside the EU, split between Commonwealth citizens and citizens of other non-EU countries. Cross-border migration between the UK and the rest of Europe has not substantially increased over the 1990s.

Data for the US are not strictly comparable, but movements across State boundaries indicate considerably greater mobility. Around 6.7 million people a year crossed state borders in the 1990s, equivalent to 2.5 per cent of the total population.

These cross-border movements have to be seen in the context of mobility within countries, where the factors that limit international mobility (such as language and cultural barriers) apply less strongly. In his contribution to the EMU study *Submissions on EMU from leading academics*, Daniel Gros argues that if mobility is as low within countries of a monetary union as it is between them, then the monetary union should be no more difficult to manage than the situation in individual countries.

Evidence suggests that mobility within EU Member States is low. In 1999, just 1.2 per cent of the total population or 1.4 per cent of the employed population of the EU moved regions (essentially within the same Member State). While comparisons with the US are difficult due to differences in size, evidence suggests that in 1999 around 5.9 per cent of the total US population changed residence between US counties (European Commission, 2002b).

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The European Commission (1995) found that the main reason for not working abroad was in fact simply an unwillingness to do so. Cultural and language barriers, though important, were cited as less of a constraint.
2.70 Table 2.4 provides a cross-country analysis of inter-regional migration. Within the EU, the UK appears to have relatively high gross migration, on a similar scale to that of the US. However, in contrast to the US, net migration is relatively low in the UK, and is similar to other EU countries. One difficulty with these comparisons is that regional classifications differ; data are for level 2 units except for the UK and US, which are on the ‘larger’ level 1 definition. For the UK and US, other things being equal, the size of the migratory flows would appear even larger if smaller regional units were being observed.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of regions</th>
<th>Ratio of gross flows to population 1995</th>
<th>Ratio of gross flows to population 1998</th>
<th>Ratio of net flows to population 1995</th>
<th>Ratio of gross flows to net flows 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>11</td>
<td>1.27</td>
<td>-</td>
<td>0.09</td>
<td>7.4</td>
</tr>
<tr>
<td>Finland</td>
<td>5</td>
<td>0.92</td>
<td>-</td>
<td>0.09</td>
<td>10.3</td>
</tr>
<tr>
<td>France</td>
<td>22</td>
<td>1.49</td>
<td>1.58</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>16</td>
<td>1.24</td>
<td>-</td>
<td>0.10</td>
<td>7.8</td>
</tr>
<tr>
<td>Italy</td>
<td>20</td>
<td>0.50</td>
<td>0.53</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>12</td>
<td>1.61</td>
<td>-</td>
<td>0.07</td>
<td>4.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>7</td>
<td>0.54</td>
<td>-</td>
<td>0.12</td>
<td>21.8</td>
</tr>
<tr>
<td>Spain</td>
<td>17</td>
<td>0.60</td>
<td>-</td>
<td>0.07</td>
<td>11.7</td>
</tr>
<tr>
<td>Sweden</td>
<td>8</td>
<td>1.61</td>
<td>-</td>
<td>0.16</td>
<td>9.8</td>
</tr>
<tr>
<td>UK</td>
<td>12</td>
<td>-</td>
<td>2.30</td>
<td>0.13</td>
<td>5.5</td>
</tr>
<tr>
<td>US</td>
<td>51</td>
<td>2.22</td>
<td>2.40</td>
<td>0.37</td>
<td>15.4</td>
</tr>
</tbody>
</table>


1 Data for 1993 not 1995.

2.71 Empirical evidence confirms that mobility is not a key adjustment mechanism within EU countries (OECD, 1999a; De Grauwe and Vanhaverbeke, 1991; Decressin and Fatás, 1995; Obstfeld and Peri, 1998). The OECD note that:

“Statistical measures of the relationship between migration and regional labour market variables, suggest that geographic labour mobility is limited as an equilibrating mechanism in the euro area”. (OECD, 1999a, page 129.)

2.72 Research that focuses specifically on the UK suggests that geographic mobility is generally limited. In particular, unemployment rates are not found to act as a strong incentive to migrate (Lindley et al., 2002) or at least that large and persistent unemployment differentials are required across localities for workers to start to migrate from declining to expanding regions (Jackman and Savouri, 1999).

2.73 Jackman and Savouri also find that there appears to have been no change in the responsiveness of labour mobility to unemployment between 1974–86 and 1986–97. This is not a unanimous view. For example, Cameron and Muellbauer (2001) find that job migration rates have tended to increase since 1989.

Empirical evidence on mobility

Gross migration (or flows) shows the proportion of the resident population that changed region over the year within the national economy. Net flows show the percentage of total migration that results in an actual change in the regional population.
Unsurprisingly, adjustment in the UK is higher at the local level compared to the regional level. Böheim and Taylor (1999) find that, over the period 1991–97, movements within local authorities account for 66.2 per cent of moves, with movements between regions accounting for 17.5 per cent of total moves. Similarly, Greenaway et al. (2002) find that 10 per cent of the workforce change address each year but only 2 per cent change region.

However, there still exist areas of high unemployment that sit alongside, and within travelling distance of, labour markets with high levels of vacancies. This suggests that mobility is not the root cause of unemployment in the UK, and that other factors are also important. These include a lack of skills and aptitudes; inadequate matching between employers and jobless people; worries about making the transition from benefits into work; and racial discrimination against ethnic minorities (HM Treasury, 2000a). It might also reflect segregation in the labour market where, for example, women can be highly segregated into part-time employment and certain sectors. This can make it difficult to redeploy labour into other sectors to correct for imbalances in the labour market.

A number of reasons have been put forward for the low level of geographic mobility across the EU and the decline in migration rates over the last few decades. These include:

- the general increase in unemployment across Europe since the 1970s: there is little incentive to move to a ‘low’ unemployment region if opportunities there are still limited (Pissarides and McMaster, 1990);
- the narrowing of per capita incomes across the EU: as the gap between wages or incomes has narrowed between EU Member States, this has lowered the incentive to migrate;
- structural factors: this includes the role of housing market regulations and transactions costs; the high use of fixed-term contracts, which carry low job security and so discourage job mobility; and inefficient job matching mechanisms (see Davies and Hallet (2001) and HM Treasury (2002a) for an overview); and
- cultural factors: such as language barriers and family networks.

The housing market may be a particular constraint to labour mobility in the UK. This could be the case if house prices are high in a region where there is excess labour demand. Despite the existence of vacancies in that region, individuals may be unwilling to move if high house prices significantly affect cost of living differentials. Muellbauer and Cameron (1998) found evidence that, while relative employment and earnings do influence regional migration rates, this is counteracted by relatively high house prices.

Housing tenure may also constrain mobility in the UK by affecting an individual’s ability to move between regions. It is not straightforward, for example, for social renters to move between regions. The incidence of social renting is relatively high in the UK, with approximately 21 per cent of households renting from councils or housing associations, although this is down from over 30 per cent in the early 1980s (Lind Frogner, 2002a).

Labour mobility tends to be easier the greater the proportion of private rented accommodation. The transactions costs tend to be low in moving between private rented accommodation and contracts tend to be for a short time relative to other forms of tenure. The UK has one of the lowest proportions of private rented accommodation available, at 11 per cent of the total housing stock (around half the EU average), with only Italy and Ireland having a lower percentage. However, the area of highest house prices in the UK, London, has a higher proportion of private rented accommodation than other regions at 16 per cent of the total housing stock.

Housing market issues are discussed in detail in the EMU study by HM Treasury Housing, consumption and EMU.
As set out in HM Treasury (2002a), many of the barriers to mobility relate to family commitments, career progression and benefits, and property. Therefore, the willingness to change residence tends to drop sharply once individuals reach their mid-thirties, implying that adverse demographics may reduce the mobility of the EU labour force going forward.

In his contribution to the EMU study *Submissions on EMU from leading academics*, Barry Eichengreen notes that the transparency of the single currency will facilitate greater mobility over time, but that it will be a slow process. The question therefore is whether the current low level of geographic mobility is likely to be a constraint to the viability of EMU and its successful operation. There are several reasons why this may not be the case:

- **labour mobility is only appropriate when shocks are permanent:** given the large sunk costs involved in moving residence, a decision to migrate can be largely irreversible and so inappropriate when a shock requires short-term stabilisation. Geographic mobility is therefore unlikely to be an ideal substitute for monetary policy, which responds to short-term or cyclical shocks over the business cycle;

- **mobility is limited within and not just between EU Member States:** as discussed above, mobility has not been a significant adjustment mechanism within EU countries, despite the fact that the persistence of regional differences in unemployment appears to be greater within rather than across Member States (see Section 3). However, despite a low level of mobility, these national monetary unions functioned effectively in the presence of shocks at the regional level (Eichengreen, 1998). In his contribution to the EMU study *Submissions on EMU from leading academics*, Daniel Gros observes that the difference between international and inter-regional mobility in Europe is low, such that low mobility in EMU should be no more of a constraint than within the Member States themselves;

- **the historical importance of mobility in the US might have been overstated:** recent work revisits the numbers of Blanchard and Katz and develops a very different interpretation of US experience, suggesting that in the past 30 years employment rates in the US have actually recovered very slowly in response to state specific shocks (Glyn and Rowthorn, 2002). In a similar vein, Asdrubali et al. (1996) estimate that in the US labour migration accounts for only 2.7 per cent of the adjustment to a shock each year, suggesting that the role of mobility is only of marginal importance;

- **the assumptions of OCA theory:** as discussed in Box 2.2, subsequent developments of OCA theory have emphasised that relative wage flexibility and capital mobility provide alternative ways for economies to adjust to shocks. If these mechanisms are sufficiently strong, then a currency area may be able to respond efficiently to asymmetric shocks even if the geographic mobility of labour is low;

- **social costs:** the economic benefits of geographic mobility need to be weighed against the potential social costs. High geographic mobility may erode social support structures, contributing in particular to the breakdown of family networks; and

- **regional concentration:** in his contribution to the EMU study *Submissions on EMU from leading academics*, Daniel Gros argues that high mobility increases the degree of regional concentration and hence the susceptibility of an economy to asymmetric shocks.
In conclusion, while in theory geographic labour mobility helps an economy respond to structural changes, the slow speed with which labour moves in the EU means it cannot be relied on as an adjustment mechanism. In any case, geographic mobility would be an imperfect substitute for the loss of monetary policy given the latter’s role in responding to shocks that are more cyclical in nature.

Low geographic labour mobility need not necessarily undermine the flexibility of the labour market as a whole. However, this requires that other characteristics can compensate. That said, more geographic mobility would help adjustment where other labour market adjustment mechanisms are slow, supporting a successful EMU for existing members, and for the UK and other countries should they decide to join.

Employment flexibility

Employment flexibility (sometimes called job mobility) refers to the ability, or willingness, of employees to change employment quickly. Two aspects of employment flexibility are considered: the structure of employment, i.e. the composition of work on offer, and the degree of flexibility in working time.

Not all employment is of a full-time or permanent variety. Rather employers and employees can both benefit from a diversity of working patterns, enabling them to offer or take jobs that suit their particular needs. Flexible working arrangements can help to increase the supply of labour, by making it easier for new workers to enter the labour market in order to take up new job opportunities. They can also have a beneficial impact on productivity, by supporting the more effective use of human resources within the economy. This includes, for example, the better utilisation of the skills of those with caring responsibilities. However, if labour market regulations constrain the choices of employers and employees, then this may reduce the patterns of work available. In turn, this may increase the likelihood of an individual becoming unemployed or being excluded from the labour market altogether, hence reducing the flexibility of the labour market.

The proportion of total employment made up of part-time or temporary work is not constant across countries or indeed the business cycle. Chart 2.8 shows that the incidence of part-time employment in the UK increased steadily over the 1980s and early 1990s, from around 20 per cent of total employment to around 25 per cent. Since that time, the figure has remained broadly stable.
The UK has a much higher proportion of part-time employment than most OECD countries. During the 1990s, the incidence of part-time employment increased in many European countries, and by 2001 ranged from around 5 per cent of total employment in Greece to around one third in the Netherlands (Chart 2.9).

When employment is sufficiently flexible to generate part-time jobs, a range of groups are better able to enter the labour market. The composition of part-time employment also suggests that employment flexibility is high in the UK and parts of Europe, notably:

- part-time employment is generally undertaken by females. In the UK, 79 per cent of employees in part-time work are women, a pattern that is reflected across the EU. To a large extent, this reflects choice: in the UK, almost 73 per cent of women working part-time do not want a full-time job (Eurostat, 2001). In addition, it is clear that the availability of part-time employment opportunities has been key to boosting female employment rates. EU data suggest countries with a higher incidence of part-time work tend also to have higher female employment rates, though this relationship is not absolute. However, the prevalence of part-time work may reflect the absence of other flexible working options that enable people to combine full-time work with family responsibilities. As in many countries, the nature of part-time work in the UK generally means lower pay and more limited training and career progression prospects (Walby and Olsen, 2002); and

- in recent years, there has been an increase in male part-time employment in Europe, from around 4.2 per cent of employment in the EU in 1990 to 5.6 per cent in 2001. In part this reflects the increase in the number of students, who often work part-time during study. Again this may illustrate employment flexibility – as the demand from students for part-time jobs increases, the labour market provides them.
However, if the composition of part-time employment becomes overly segregated then this may limit the flexibility of the labour market. For example, in the UK private sector, part-time jobs are heavily concentrated in relatively low-skilled occupations. This may force those choosing to work part time into a low-skilled occupation regardless of their own skill level. For example, the Equal Opportunities Commission (2001) has noted that few women who work part-time are in high status jobs.

Moreover, as noted above, the composition of employment also matters for patterns of pay. Evidence suggests that the relative pay of women in part-time employment has declined since the 1970s (Desai et al., 1999). In terms of full-time employment, the ratio of women's to men's pay has risen since the 1970s. However, in terms of part-time employment the ratio is largely unchanged.

Fixed-term or temporary work contracts may assist labour market adjustment by enabling workers to move jobs quickly. Fixed-term contracts may also provide a bridge to permanent employment by enabling novice workers to gain experience. In addition, employers may be more willing to offer fixed-term contracts when the outlook for the economy is more uncertain. Consistent with this, Otoo (1999) concluded that a rising share of fixed-term employment has reduced the natural rate of unemployment in the US – most likely due to improved matching.

However, a high proportion of temporary workers may be detrimental to the economy if it reduces the incentives for employers to offer training and development opportunities to workers who they judge are unlikely to stay with them in the longer term.

Given these contrasting arguments, it is important to be cautious when drawing conclusions about the relationship between labour market flexibility and the proportion of workers on fixed-term contracts. In addition, the relationship will depend on the ease with which permanent contracts can be terminated.

In the UK, 6.7 per cent of employees were on temporary contracts in 2000. This is low by European standards, where the average was 13.4 per cent (Chart 2.10). Spain is an outlier in EU terms, with a third of employees on temporary contracts.

![Chart 2.10: Temporary contracts, 2000](image)
People may, of course, take part-time or temporary employment only because they cannot find full-time or permanent work. Evidence for the UK suggests that the number of ‘involuntary’ part-time and temporary workers is low. In 2000, the proportion of part-time workers who were in part-time work because they could not find a full-time job was 9.7 per cent, the third lowest in the EU. This compared with an overall EU average of 15.8 per cent, although with a range from 3.5 per cent in the Netherlands to 43.7 per cent in Greece (Eurostat, 2001). Workers who would prefer a permanent job but are in a temporary position appear to be more prevalent. In both the UK and EU, around 35 per cent of workers on fixed-term contracts would like a permanent job but are unable to find one.

Diverse working patterns

Diverse working patterns, such as shift work and evening work, benefit employers because they enable them to match more closely labour inputs to production and also cut down on labour costs by eliminating overtime payments. The evidence presented in Table 2.5 suggests that there is a high incidence of these practices in the UK. Evans et al. (2001), however, note that while such working arrangements have become more common across the OECD countries, they are far from widespread.

<table>
<thead>
<tr>
<th>Table 2.5: Incidence of diverse working patterns (2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of employees who usually work:</td>
</tr>
<tr>
<td>Shift work</td>
</tr>
<tr>
<td>UK</td>
</tr>
<tr>
<td>EU average</td>
</tr>
<tr>
<td>EU (Maximum)</td>
</tr>
<tr>
<td>EU (Minimum)</td>
</tr>
</tbody>
</table>

Source: Eurostat, 2001

It is also informative to look at the degree of job turnover, while recognising that high turnover may also be to the detriment of firm-specific human capital formation. Median job tenure is 3.4 years in Australia, 4.2 years in the US and 5.0 years in the UK compared to 7.3 years in the euro area (OECD, 1999a). The lower tenure in the UK appears to reflect a higher propensity of voluntary quits rather than lay-offs. This is important because a higher number of involuntary job separations such as redundancies may indicate a failure of the labour market to adjust smoothly, whereas voluntary separations are consistent with a more fluid labour market. Moreover, to the extent that high average tenure arises because employment regulations make lay-offs unduly expensive, then this is a sign of inflexibility.

Evidence for the UK suggests that, in aggregate, job tenure has remained relatively stable since the mid 1970s, and that overall quits rather than lay-offs are the main reason behind job separations (Gregg and Wadsworth, 1999). However, there are differences across gender, with tenure among women with children increasing (reflecting the increased provision and use of maternity leave) while tenure has fallen for men and women without children.

Evidence also suggests that the UK has a greater diversity in hours worked than other EU countries. Most countries tend to have a heavy concentration of employees working within a narrow range of hours, shown by a prominent peak in the hours’ distribution. The UK, in contrast, shows little evidence of a spike, suggesting that working hours are generally unaffected by the legislation that is in place (Evans et al., 2001).

In conclusion, the UK economy exhibits a relatively high degree of employment flexibility, demonstrated by a high incidence of part-time working and the adoption of flexible working practices. This may go some way to offsetting the low level of geographic mobility discussed earlier.
Functional flexibility

2.102 Within a single currency area it is important that individuals have the basic skills to compete for a wide and changing range of jobs. Skilled workers can adapt faster and more effectively to technological change, making the economy more flexible and more productive over the longer term. \(^{13}\) In particular, it is important that workers have the ability to respond to any structural changes that membership of a single currency could bring. \(^{14}\) The Treasury’s 1997 assessment noted that:

“Another important area where the performance of the UK may not meet the demands of a monetary union is in the field of lifelong learning and skills. The UK is relatively strong in higher education, but elsewhere levels of attainment remain low, and many young people leave school without the basic skills they need for the modern labour market”. (HM Treasury, 1997, page 24.)

2.103 Functional flexibility describes the ability of the labour force to acquire and apply different skills. It reflects both the educational attainment of the workforce and ongoing training and development. Both are necessary in order to tackle:

- **skills shortages**: this relates to difficulties in recruitment where the skills of the workforce do not match those demanded by actual or potential employers; and

- **skills gaps**: deficiencies in the skill level of a firm’s existing workforce.

2.104 Since the 1997 assessment, there is evidence that the incidence of firms citing skilled labour shortages and skills gaps has been falling in the UK. This has come at a time when, given the continued falls in unemployment, these might have been expected to increase. In particular:

- the Employer Skills Survey shows that the level of skills shortages fell from 102,000 in 1999 to around 94,000 in 2001 for firms with five or more employees. For firms of the same size, the survey shows that the level of skills gaps fell from 860,000 in 1999 to 748,000 in 2001 (see Lind Frogner, 2002b, for more detail);

- Chart 2.11 plots the level of skill shortages, as reflected in the Confederation of British Industry (CBI) Survey and the claimant count unemployment rate. It illustrates that skill shortages are highly cyclical, rising when unemployment falls and the pool of available labour becomes smaller in size. However, it shows that while unemployment has fallen to an historically low level, skill shortages have increased but remain at lower levels than in the previous two troughs of unemployment and are not significantly higher than in 1997; and

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**The importance of skills**

Greenaway et al. (2002) find that individuals in the UK with a high level of general skills are more likely to move from declining to expanding sectors. Mauro and Spilimbergo (1998) find that labour market adjustment is sluggish among the low skilled. Workers with high skills migrate quickly in response to a decline in regional labour demand. In contrast, the low skilled either drop out of the labour force or remain unemployed for a lengthy period.

The existence of skills shortages matters for labour market flexibility because it may encourage employers to raise wages in order to attract workers from other firms and industries. However, Lind Frogner (2002b) discusses what impact skill shortages have had on the growth of average earnings and finds that while skill shortages do increase earnings growth the impact is only small, such that there would need to be a notable increase in shortages for there to be a significant impact on earnings. Lind Frogner also notes that since 1998 there appears to have been a change in the relationship between earnings and skills shortages. Over recent years, it appears that the time it takes for skill shortages to have an impact on earnings has shortened, implying a more flexible labour market with less inertia.
• the British Chambers of Commerce survey shows that, having followed a broadly upward trend in the early to mid 1990s, recruitment difficulties have been broadly stable since 1997 in both the manufacturing and service sectors and on a level comparable to the late 1980s.

2.105 While this suggests that skill shortages have not been as large a constraint as the 1997 assessment suggested they might be, skill imbalances and gaps still remain in the wider economy. Despite debates over the international evidence, some clear messages emerge from the data about the strengths and weaknesses of the UK skills base, as set out in HM Treasury (2002c):

• the number of people in the UK with high skills compares well with international levels (although the UK still trails the world leader – the US); 16
• the level of intermediate skills in the UK is low, especially compared with Germany, other European countries and, under some interpretations, the US; and
• there are a large number of people in the UK workforce with low skills. More than a third of UK workers have low skills, compared to less than a fifth in Germany.

2.106 Intermediate skills are particularly important both in their own right and also in providing a platform for individuals to progress to higher skill levels. There have been some recent signs of improvement, with the percentage of all working age individuals with NVQ level 3 or higher (which broadly represents anything at or above an intermediate level of skills) increasing from 37 per cent in 1997 to 44 per cent in November 2002 (Chart 2.12).

Signs of progress since 1997…

…but imbalances remain

15 International comparisons of human capital are difficult to make. Some countries do not certify all education and training, and it is difficult to establish equivalences between different qualification systems where they do exist. International comparisons therefore tend to vary somewhat depending on the interpretation of the evidence, but the position of the UK relative to its main European competitors in terms of intermediate skills appears poor in almost all studies (see for example, O’Mahony and de Boer, 2002).

16 It is, however, particularly difficult to make skill comparisons with the US. For example, education and training is based on state and local systems, and there are very few nationally recognised qualifications. Moreover, there are difficulties in classifying the skill level of high school graduates. For more detail on this point see HM Treasury (2002b).
Moreover, evidence suggests that, since 1997, the flow of skills into the workforce has improved reflecting a better performance of the school system. In particular, literacy and numeracy levels have increased. Between 1997 and 2002, the percentage of 11 year olds achieving the levels expected for their age in English rose by almost 12 per cent, and in maths by 11 per cent. In addition, the proportion of 16 year olds obtaining at least five GCSEs at grades A* – C rose from 45 per cent in 1997 to 51 per cent in 2002.

However, the Government has recognised that more can be done to increase the supply of skills, and with it improve productivity growth and create stable employment. The Government is taking concerted action to improve both the skills of young people entering the workforce and the opportunities available to those already in the workforce to acquire new skills.

To maintain this progress, the Government has introduced further reforms, including the setting of demanding new targets, such as minimum attainment targets for schools and new targets to increase post-16 participation in education and training; reforms to strengthen and expand vocational programmes such as the Modern Apprenticeships (MA) scheme; and measures to improve access to higher education. More details of this strategy are set out in HM Treasury (2002c) and HM Treasury (2002d).

But, this will only create a gradual change in the supply of skilled workers in the UK and, even over the medium term, the bulk of the UK’s workforce will be made up of existing employees. It is also necessary, therefore, that the UK continues to develop the training opportunities for those already in work. The Government has introduced a number of new policies to this end, including polices to improve the volume, quality and distribution of initial and continuing training.

In particular, the Skills for Life Programme has already supported over 250,000 adults to improve their basic literacy and numeracy skills, while the University for Industry, which offers flexible and convenient learning opportunities, has reached over 500,000 adults. The Government is committed to reducing the number of adults in the workforce who lack NVQ level 2 skills by 40 per cent by 2010. Its plans to achieve this will be set out in detail in a National Skills Strategy, which will be published in summer 2003.
Conclusion: functional flexibility

2.112 Overall, a highly educated workforce with a culture of lifelong learning is more likely to be able to adapt to an economic shock. The number of people in the UK with high skills compares well with international levels. However, the level of intermediate skills is low and a large proportion of people possess low skills. Although skill shortages do not appear to have been as big a constraint for firms as the 1997 assessment suggested they might be, a continual improvement in skill levels, particularly among those with the lowest skills, is necessary in order that the UK economy can continue to respond to technological change: EMU will put a spotlight on functional flexibility alongside other types of flexibility. The Government’s approach to improving skills, which will be set out in the National Skills Strategy, is likely to have a positive impact on labour market outcomes.

(Haskel and Martin (2001) provide econometric evidence that if technological change continues to be skill biased then policies that create a one-off increase in the skill level of the workforce will only lead to a temporary reduction in skill shortages.)
3.1 This section analyses labour market outcomes in the UK and the euro area. It begins by discussing the recent performance of the labour market in both areas, by focusing on employment and jobs. While noting that progress has been made across Europe it asks whether the improvements will unwind following an economic shock. The discussion therefore moves on to consider a range of indicators that enable an appraisal of whether such improvements are sustainable.
Employment in the UK

3.2 Employment is central to reform efforts in the UK and Europe. In 1997, the UK Government set out its aim of extending employment opportunity to all in a changing labour market. The Government’s long-term goal is to ensure a higher proportion of people in work than ever before by 2010. In order to achieve this goal, the Government has implemented a comprehensive programme of reform to improve the performance of the UK labour market.

3.3 Elements of this strategy, such as Welfare to Work policies and reforms to improve work incentives, are discussed in Section 4 on labour market institutions. Reflecting these and other reforms there has been significant progress in the UK towards achieving the goal of high and stable levels of employment.

3.4 The number of people in work in the UK increased by 1.2 million between the third quarter of 1997 and the third quarter of 2002. Over the same period, the employment rate increased from 72.9 per cent to 74.3 per cent. The picture of rising employment has been repeated across the UK, with every country and region benefiting from increased job opportunities, although employment rates remain low in the most deprived areas and for people from ethnic minorities.

3.5 Although employment has risen, overall economic inactivity has fallen by less. In the third quarter of 2002, the inactivity rate was 21.5 per cent, only slightly below the rate of 21.7 per cent achieved five years earlier. However, greater progress has been made in reducing the incidence of households with children where nobody is in work, an area where inactivity had become more concentrated – the percentage falling from 15 1/2 per cent in autumn 1997 to 13.7 per cent in autumn 2002.

3.6 Over the past 20 years, the overall proportion of people of working age who are economically inactive has been relatively stable. However, this masks considerable changes in the composition of the inactive. For example, inactivity rates of the low skilled and people with disabilities have risen, while inactivity rates of women, particularly those with intermediate or higher skills, have fallen.¹

3.7 The impact of the rise in inactivity on different groups and different localities is set out in more detail in HM Treasury (2001). Much progress has been made in improving the labour market since 1997, but nevertheless major challenges remain to reduce persistent economic inactivity and repeated periods of worklessness. More detail on the strategy for building on the positive results the Government has achieved so far is set out in HM Treasury (2002e).

Employment in Europe

3.8 The 1997 assessment noted that all of Europe needed to tackle the problem of high unemployment and to create jobs in order to make EMU work as a whole.

3.9 Employment sits at the heart of economic and social reform in Europe. The Luxembourg Jobs Summit of November 1997 agreed measures to improve employability, support entrepreneurship, increase adaptability and strengthen equal opportunities. Employment strategy is now reviewed and coordinated on an annual basis under the Luxembourg Process.

3.10 Building on Luxembourg, at the Lisbon European Council in March 2000, EU leaders set out their aspirations for a Europe that would be “the most competitive and dynamic knowledge-based economy in the world, capable of sustaining economic growth with more and better jobs and greater social cohesion”. The centrality of labour market reform to this agenda

¹ For example, Labour Force Survey data show that the employment rate of women with A levels has increased by 7 1/2 percentage points over the last ten years to just over 73 per cent, while the rate for those with no qualifications has fallen from around 53 per cent to under 45 per cent.
was underlined by an agreement to ambitious targets for total and female employment, with an employment target for older workers agreed one year later in Stockholm.

3.11 There have been improvements in the employment performance of the EU labour market since 1997, a period which has also seen a pick up in economic growth:

- between 1997 and 2001, over 10 million jobs were created in Europe;
- the EU employment rate increased from 60.5 per cent in 1997 to 63.9 per cent in 2001. On a comparable basis, over the same period, the UK employment rate increased from 70.0 per cent to 71.7 per cent; and
- the EU participation rate increased from 67.7 per cent in 1997 to 69.2 per cent in 2001. On a comparable basis, over the same period, the UK participation rate increased from 75.3 per cent to 75.6 per cent.

3.12 While much has been achieved since 1997 in creating employment opportunities for all, more remains to be done if the EU is to realise its aspirations and potential, as set out in more detail in HM Treasury (2002a). The EU’s key employment weaknesses lie in its lack of opportunities for older workers and women, and a steady withdrawal of men, particularly those without qualifications, from the labour force.

3.13 Europe has seen significant improvements before, which were not subsequently sustained. Indeed, European experience in the face of an economic shock has been one where labour market activity fell and adjustment was insufficiently effective to put the economy back quickly onto a path of sustainable growth and rising employment. Following the economic slowdown during the early 1990s, the adverse impact on employment lasted until 1994, with the employment rate some two and a half percentage points lower than 1991.

3.14 Although employment growth in the UK and Europe has been maintained during the recent period of weaker activity, growth prospects are not guaranteed looking forward. It is not clear therefore that the recent improvements will be sustained if a more prolonged economic shock were to hit the EU economy.

The key labour market outcomes

3.15 The remainder of this section therefore focuses on the key labour market outcomes in signalling a flexible labour market, both in general and specific to the challenge posed by EMU. It examines outcome indicators that point to smoother labour market adjustment and those that show whether any recent improvements are sustainable. It looks at the following UK and euro area indicators, and where applicable uses the US as a benchmark:

- the structural unemployment rate: unemployment has both a cyclical and a structural component. The longer-term or structural component is determined by a set of institutional and behavioural factors, while the cyclical component will change with the economic cycle. The structural unemployment rate therefore shows to what extent a fall in unemployment reflects greater flexibility rather than simply strong cyclical growth;
- wage pressures: Section 2 discussed the importance of real wage flexibility in adjustment. It found some evidence that, in the UK, real wages have become more responsive to the level of unemployment. This section looks at the profile of average earnings growth and long-term unemployment, and examines if their evolution is consistent with such a conclusion;

The targets are to achieve employment rates of 70 per cent in total, 60 per cent for females and 50 per cent for older workers by 2010.
• mismatch: mismatch refers to an imbalance between the supply of and demand for labour in market segments. Mismatch indicators, such as the relationship between unemployment and vacancies or the dispersion of regional unemployment rates, may go some way to illustrate how well labour is able to move and the degree to which relative wages can adjust; and

• the cyclical responsiveness of employment: this refers to the responsiveness of jobs to the economic cycle. An increase in responsiveness may be indicative of an improvement in microeconomic conditions, such as an easing of the restrictions governing hiring and firing or an increase in the incidence of temporary or part-time employment contracts.3

**Structural unemployment**

**The NAIRU**

3.16 It is important to distinguish between the cyclical and structural components of unemployment. The cyclical component reflects the negative impact of a temporary shock whereas the structural component is closely linked to the institutional and behavioural characteristics of the economy. It is only when unemployment is at, or close to, its equilibrium rate that the inflation rate is stable. When unemployment is above this level downward pressure should be exerted on inflation and vice versa. Hence this unemployment rate is termed the non-accelerating inflation rate of unemployment – or NAIRU for short.

3.17 It is not necessary for countries participating in a single currency to have the same NAIRU: it is deviations from the NAIRU that drive inflationary pressures. But it can be shown that the more flexible are labour and product markets, the lower is the structural rate of unemployment (Layard et al., 1991). Therefore, the level of the NAIRU can help to gauge the underlying degree of flexibility of the economy, while changes in the NAIRU can help indicate whether the economy has become more flexible over time. Evidence suggests that increases in the NAIRU are related to poor employment performance (European Commission, 2002c). Therefore the NAIRU is also a good indicator of the sustainability of recent changes in employment.

3.18 Chart 3.1 shows OECD estimates of the NAIRU since the early 1980s.4 Structural unemployment increased almost uniformly in Europe between 1980 and 1990. The discussion in Section 1 set out how this reflects the interaction of economic shocks and labour market institutions, leading to temporary increases in unemployment becoming more permanent and long-standing. Since the early 1990s, on OECD estimates:

- the NAIRU in the UK has fallen from around 8 per cent to around 5 1/2 per cent, (close to the Treasury’s own estimate of around 5 1/4 per cent). This is approaching the current level of the NAIRU in the US;
- progress in the other large EU Member States has been slower. Structural unemployment has been relatively stable since 1990 and remains at high levels; and

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3 It should be noted that an increase in the responsiveness of employment may be an indication of an improvement in employment flexibility but it can also be an indication of a deterioration in wage flexibility. In an equilibrium context, if wages were perfectly flexible, then employment should react only to labour supply shocks and nothing else, because the wage rate would absorb the labour demand shock.

4 Similar profiles are reported in Denis et al. (2002) and Turner et al. (2001).
there have been significant falls in the NAIRU in some of the smaller EU Member States such as Ireland and the Netherlands, where performance has matched if not bettered the US. Evidence suggests that the strongest increases in cyclically-adjusted employment have also come in these countries (European Commission, 2002c). However, their weights are relatively small such that their impact on the overall euro area NAIRU is small.\(^5\)

Although there are uncertainties in accurately quantifying the NAIRU, Chart 3.1 suggests that a significant proportion of unemployment in Europe is non-cyclical (see also IMF, 1999). Another way of examining the extent of structural improvement is to look at the Phillips curve (Phillips, 1958), which depicts the relationship between unemployment and inflation. If unemployment is primarily structural, then efforts to reduce the jobless rate below this point by boosting aggregate demand will quickly lead to rising inflation. If, however, unemployment falls because of structural improvements, this decline should occur without the accompaniment of rising inflation.

Charts 3.2a–3.2c depict the Phillips curve in the UK, the euro area and the US. In the UK specifically, two factors points towards a reduction in structural unemployment:

- **shifts in the curve**: the inward shift in the curve since 1985 suggests that unemployment has been able to fall further without generating inflationary pressures; and
- **movements along the curve**: a different interpretation is that expectations have adapted to inflation targeting since the early 1990s. If this were the case, the Phillips curve no longer describes policy trade-offs. Instead, changes in unemployment are independent of inflation and rather they trace changes in the NAIRU. In this case, the horizontal curve since the mid 1990s suggests a fall in the NAIRU.

\(^5\) See OECD (2002c) for a breakdown of the change in euro area structural unemployment.
3.21 Pissarides (2002) argues that the improved trade-off between unemployment and inflation in the UK during the 1990s reflects the change in the monetary policy regime and the way that it has reduced inflationary expectations. Similarly, Sargent (2002) notes that the horizontality of the Phillips curve since 1993 can be accounted for by the shift to inflation targeting and also because employees are now favouring falling unemployment as opposed to real wage increases.
3.22 In the US, the Phillips curve has been relatively flat since the early 1980s; unemployment has fallen without generating inflationary pressure. For the euro area as a whole, the Phillips curve has been reasonably flat since the 1990s, suggesting that the fall in unemployment has, at least partly, been structural in nature. Unlike the situation in the US and UK, however, in aggregate the euro area unemployment rate has not fallen to or below the level recorded in 1980 (HM Treasury, 2002a).

3.23 A related indicator is the sacrifice ratio, which measures the amount of unemployment created by reducing inflation. While sacrifice ratios are a useful concept, the estimates tend to be too volatile to provide a reliable measure of the flexibility of the labour market, as discussed further in Box 3.1.
Box 3.1: Sacrifice ratios

Section 2 discussed the concept of nominal and real wage flexibility as an adjustment mechanism to economic shocks. If downward nominal wage rigidities exist, meaning that employees are resistant to cuts in their nominal pay, real wage adjustment could be more difficult during periods of low inflation. Acting under the constraint of a downward floor to wages, firms may make recourse to laying off workers.

Following this line of reasoning, the sacrifice ratio measures the amount of unemployment created (or output lost) by reducing inflation by a certain amount, normally by one percentage point. Because nominal or real rigidities may increase its value, conceptually the sacrifice ratio is a meaningful measure of labour market flexibility. However, it has limitations, which create problems of interpretation.

The chart above shows a range of estimates (and the average) derived using eleven different methods by Andersen and Wascher (1999). It illustrates that estimates of the sacrifice ratio are sensitive to the chosen methodology and specification.

Estimates of the UK sacrifice ratio ranged from 0 per cent to 5 per cent and averaged 2 per cent. This means that for each 1 per cent change in inflation, unemployment (or output) changed by between 0 and 5 per cent.

The same study also found that country rankings vary dramatically according to the specification adopted. For example, the US has the fourth lowest sacrifice ratio on one estimate and the highest on another. Similarly, the UK ranks best on one measure but worst on another. Andersen and Wascher note in their conclusions that:

"Estimates of sacrifice ratios for individual countries are highly sensitive to the estimation methods used, which may, in part, explain the lack of consensus often found in the literature." (Andersen and Wascher, 1999, page 24.)

Overall, sacrifice ratios are useful as a concept, but the estimates tend to be too wide-ranging to provide a reliable measure of the flexibility of a country’s labour market over time or relative to other countries.
Wage pressures

3.24 Section 2 discussed the concept of real wage flexibility as an adjustment mechanism. Historically, the problem in the UK has been that real wages have been rigid in the face of high levels of unemployment, while sustained falls in unemployment have been followed by a strong acceleration in wage growth, i.e. inflexibility and an apparent asymmetry in the reaction of real wages to unemployment. The 1997 assessment noted that the UK economy was approaching a critical point in the economic cycle where, in the past, wage inflation would have accelerated as unemployment fell further.

3.25 Chart 3.3 shows the recent profile of average earnings and unemployment in the UK. It is consistent with there having been a recent supply side improvement in the UK – an improvement in wage flexibility and a decline in the NAIRU. During the current economic cycle, unemployment has fallen to rates last seen in the 1970s yet average earnings growth has remained relatively benign – at around 4\(\frac{1}{2}\) per cent. This appears consistent with the inflation target and trend productivity growth of 2 per cent.\(^6\)

\(^6\)The Bank of England’s Inflation report from August 1997 noted that annual nominal earnings growth, at 4.5 per cent, is consistent with the inflation target and trend productivity. (Bank of England, 1997).

The wage share

3.26 Chart 3.4 shows the wage share in the UK (the share of wages in GDP). If real wages rise above productivity, income is redistributed from profits to labour, resulting in an increase in the wage share. Increases in the wage share above 75 per cent of GDP have tended to signal labour market overheating, and have been followed by increases in unemployment. In recent years the wage share has remained moderate, despite a steady decline in unemployment, suggesting a greater degree of wage moderation than in the past. However, in the past three years, the wage share has risen close to levels associated with overheating in the past, suggesting that the unemployment rate may now be close to the NAIRU.
3.27 In the short-run, it is difficult to tell whether the moderation in average earnings growth will be a permanent effect or is simply due to (temporarily) favourable supply conditions. It is possible, for instance, that benign wage growth reflects the high exchange rate, the wage rate being kept low primarily because the price of imported goods is low. Indeed, Nickell (2001) defines equilibrium unemployment as that consistent with stable inflation and a zero balance of payments deficit. This definition is arguably restrictive and evidence does suggest that countries can run balance of payments imbalances for many years. Nevertheless, Nickell still estimates that the NAIRU has fallen in the UK in the late 1990s and his estimates of a NAIRU of around 5.7 per cent between 1997 and 2000 is similar to the estimates shown in Chart 3.1.

3.28 The moderation in average earnings growth may reflect the recent declines in long-term unemployment, a point recently noted in the Bank of England’s Inflation Report (Bank of England, 2002). When the duration of an individual’s unemployment spell increases, they may decide to stop searching for work or their skills may atrophy. This reduces the effective supply of labour such that supply bottlenecks can materialise. To this end, given that the long-term unemployed are able to exert less downward pressure in the wage bargaining process, wages may become less responsive to unemployment. If the long-term unemployed drift into economic inactivity, their chances of ever returning to work are sharply reduced, effectively reducing labour supply permanently.

3.29 The 1997 assessment therefore rightly emphasised the importance of ensuring that specific groups did not become permanently detached from the labour market. This would be important not only to smooth adjustment in EMU but also to increase social inclusion. Since 1997 there is evidence that such groups are being reintegrated into the UK labour market. In particular:

- long-term ILO unemployment (unemployment over 12 months) stood at around 316,000 in October 2002, compared to an annual average of 710,000 in 1997 and a peak of nearly 1.3 million in December 1993. It now constitutes around 21 per cent of total unemployment, compared to over 30 per cent in 1997 and over 40 per cent in the early 1990s (Chart 3.5);
the lone parent employment rate rose to 53.6 per cent in spring 2002, the highest for more than 20 years;

- the youth employment rate (workers aged 18–24) has increased from 66.7 per cent in October 1997 to 67.4 per cent in October 2002; and

- the employment rate of older workers (50 years and over) has risen from 64.6 per cent in October 1997 to 68.7 per cent in October 2002.

Challenges still remain to ensure employment opportunities for all. Increases in female employment have largely been limited to single women or those with working partners. Conversely, falls in male employment have largely occurred among single men or those with non-working partners. Typically, therefore, increases in employment have increased the number of households in which all of those of working age were in work, and concentrated worklessness in households where no one was in work. For families with children, especially lone parents, and people on disability benefits, a lack of help with job search was compounded by poor work incentives from the tax and benefit system.

Since the 1997 assessment, progress has been made. The proportion of households that are workless has fallen from 17.4 per cent in autumn 1997 to 16.1 per cent in autumn 2002. Worklessness among people with disabilities has been slower to fall. While annual flows on to incapacity-related benefits have fallen by nearly a quarter since 1996, the average duration of ongoing claims has increased by more than 10 per cent to 5 years and 8 months. As a consequence, more than 2.7 million people are now claiming incapacity-related benefits – more than the combined total of lone parents and unemployed people on benefit.

It is important to ensure that if a negative shock hits the economy, people do not simply drift back into persistent inactivity or repeated periods of worklessness. In order to help all the workless find employment, the Government has extended assistance to all workless benefit claimants, widening the focus of its Welfare to Work polices, as set out in HM Treasury (2002e).
Despite recent declines, long-term unemployment remains a major problem in parts of the EU and more prevalent among women than men. In 2001, some 43 per cent of the EU’s unemployed had been looking for work for over a year, although this was down from 47.0 per cent in 1990 and 47.6 per cent in 1998. Under this definition, long-term unemployment spells in many smaller EU Member States are comparable to the UK. However, the proportion of long-term unemployed is higher in some of the larger EU economies, where long-term unemployment makes up around 50 per cent or more of total unemployment (Chart 3.6).

Mismatch

Mismatch occurs where there is an imbalance between the demand for and supply of labour in market segments. Mismatch indicators can help illustrate how easily labour can move across sectors and regions and the degree to which relative wages can adjust.

The Beveridge Curve

The Beveridge Curve depicts the relationship between unemployment and vacancies. It indicates how well unemployed individuals are matched to the available job vacancies in an economy. To the extent that labour market institutions can affect the matching of the unemployed to vacancies, a shift in the curve can indicate a structural improvement in the labour market. An outward shift means that the matching process has deteriorated (that is a higher unemployment rate for a given vacancy rate). An inward shift indicates an improvement (a lower unemployment rate for a given vacancy rate). Movements along the curve reflect cyclical fluctuations; in an economic downturn, hiring declines and unemployment picks up.
An inward shift in the UK in the 1990s... 3.36 Chart 3.7a shows that the curve shifted outwards in the UK from the 1960s to the 1980s, and particularly in the latter decade. However, it appears that the curve has shifted inwards over the 1990s, indicating an improvement in the matching process between vacancies and unemployment. The same is true of the US.

...but not matched across Europe 3.37 This contrasts with an outward shift in both Germany and France. Nickell et al. (2001 and 2002) note that since the 1980s, countries fall into two groups: those for which the curve shifted right (Belgium, Finland, France, Germany, Japan, Norway, Spain, Sweden and Switzerland) and those for which it moved to the left (Canada, Denmark, the Netherlands, the UK and the US). Harder to place, but showing recent improvement, are Australia, Austria, New Zealand and Portugal. Broadly similar results were reported in a recent study of the euro area, for which the curve in aggregate appears to have shifted outwards (European Central Bank, 2002).
3.38 Wide and persistent differentials in regional unemployment are also problematic. In the Layard, Nickell and Jackman framework, an increase in regional dispersion translates into an increase in the NAIRU (if, for example, mobility is limited then high unemployment areas will not moderate wage pressures elsewhere). Disparities can also imply significant welfare costs for certain groups. The OECD (2000b) notes that regions with high unemployment also tend to have high female and youth unemployment.

3.39 Evidence suggests that the UK labour market has been better able to match the supply of and demand for labour in individual regions. While the recovery of the late 1980s was largely confined to the south of England, more recently every region in the UK has seen sharp falls in unemployment.

3.40 Chart 3.8 shows the variation in regional unemployment rates in the UK, as measured by the standard deviation. It broadly illustrates how regional differences tend to rise in downturns and fall during economic recoveries, i.e. regional inequality is higher when unemployment is higher. The UK regional standard deviation fell sharply in the early 1990s, and has been on a more shallow downward trend since then.

Chart 3.8: Regional unemployment dispersion

Source: ONS.

3.41 Table 3.1 suggests that the recent fall in the standard deviation perhaps cannot just be explained by cyclical factors. On a claimant count basis, the difference between the highest and lowest unemployment rate is currently around 3.0 percentage points. During previous troughs in unemployment in 1979 and 1990, these figures were 5.7 and 10.4 percentage points respectively. The average absolute deviation of regional unemployment rates is now 0.8 percentage points, compared to almost 3 percentage points in the mid 1980s.
Table 3.1: Regional unemployment in the UK

<table>
<thead>
<tr>
<th>Date</th>
<th>Regional claimant count unemployment</th>
<th>Average absolute deviation from UK rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 1979</td>
<td>3.7</td>
<td>7.8</td>
</tr>
<tr>
<td>April 1990</td>
<td>5.2</td>
<td>12.8</td>
</tr>
<tr>
<td>December 2002</td>
<td>3.1</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Source: ONS.
Note: Dates for 1979 & 1990 refer to trough in UK unemployment rate.

3.42 However, differences within regions are now as important as those between regions. Localised pockets of unemployment remain. Many local authority districts that have low employment rates can be found alongside districts with a large number of vacancies or jobs. The policies that the Government has introduced to tackle the barriers which prevent local people from taking local jobs are set out in HM Treasury (2002e).

3.43 A reduction in regional unemployment disparities is not as apparent across all parts of Europe. While unemployment in the EU has fallen during the 1990s, the gap between the overall EU unemployment rate and the unemployment rate of the peripheral regions in the larger Member States has increased (Kostoris Padoa-Schioppa and Basile, 2002).

3.44 Chart 3.9 shows the range of regional unemployment rates across the EU. It illustrates that unemployment rates in some EU regions are around ten times higher than the best performing regions. The differentials are particularly striking in the big four continental European economies. Moreover, the historic pattern of regional unemployment shows that the regional disparities within Member States have been relatively persistent over time (Soltwedel et al., 1999).

Chart 3.9: Regional dispersion of unemployment rates, 2001

Source: Eurostat
Note: NUTS level 2

*Chart 3.9 excludes data from the Departements D’outre-Mer region of France.*
The cyclical responsiveness of employment

3.45 Evidence suggests that the employment intensity of growth reflects the degree of labour market flexibility (Döpke, 2001) and the employment performance of the EU in the most recent cyclical upturn has been a key focus for attention. However, whether it is always beneficial for employment and unemployment to be more responsive to the cycle is not clear. In the context of a short-lived economic downturn it may make sense to retain labour in anticipation of the upturn – meaning the employment responsiveness to output is lower. In the context of a major restructuring, it is preferable for employment to exit rapidly from declining industries – that is, the employment responsiveness to output is higher.

3.46 In the UK, the pace at which employment increased in the 1990s recovery, compared to that of the 1980s suggests that employment has become more responsive to the cycle. Although the path of output in the 1990s was broadly similar to the previous recovery, employment rose much earlier in the cycle (Chart 3.10) and unemployment fell. Although evidence suggests that the pace of employment growth was still slower than in other countries, this differential had narrowed substantially in the 1990s compared to a decade earlier (Morgan, 1996).

![Chart 3.10: Employment growth in the UK over the cycle](source: ONS)

3.47 In the EU, the responsiveness of the jobless rate to the economic cycle appears to have risen strongly over the past decade. European Commission estimates of this cyclical component (known as Okun’s coefficient: µ) are shown in Chart 3.11 for the periods 1969–89 and 1989–2001.
In the 1970s and 1980s, a negative output gap of 1 per cent pushed the EU unemployment rate up by around 0.4 per cent, an effect of similar magnitude to the US. However, the cyclical responsiveness of the labour market appears to have increased significantly in most EU Member States over the 1990s. This may reflect more employment flexibility, for example a greater incidence of part-time or temporary contracts, or the easing on restrictions on the hiring and firing of workers.

Conclusion

Providing enhanced employment opportunities for all is a priority for the UK and Europe. Reflecting the reform process since 1997, there has been considerable progress in terms of creating jobs and extending employment opportunity to all both in the UK and euro area. However, job creation alone is not indicative of a flexible labour market and this section has considered a range of indicators to assess whether such improvements are sustainable.

The UK labour market has shown concrete signs of improvement since 1997. Unemployment has fallen to a historically low level, while wage pressures have remained moderate and consistent with the Government’s inflation target and trend productivity growth. This development is consistent with the observed reduction in the NAIRU over this period. Evidence also suggests that employment has become more responsive to the cycle.

Improvement in the overall performance of the labour market is reflected in an improved performance of its constituent parts. In particular, in the UK there has been an improvement in the matching of the unemployed to the available vacancies and there has been a reduction in the regional dispersion of unemployment rates, as the market has been better able to match the supply of and demand for labour in individual regions. However, challenges still remain to ensure employment opportunities for all. Inactivity rates remain high, particularly among people with disabilities, lone parents and those with the lowest skills, while employment rates remain low in the most deprived areas and for people from ethnic minorities.
3.52 Progress in Europe has been mixed, with differences in the level of structural unemployment and the pace with which it is being reduced. Substantive improvements have been observed in some of the smaller EU Member States, while structural unemployment has only been reduced moderately in the larger Member States and from a relatively high starting position.

3.53 The analysis is backward looking both for the UK and euro area. Successful membership of a currency union would require a flexible labour market not just at a point in time but also in the future. To assess this, Section 4 discusses the institutional environment in the labour market.
4 THE INSTITUTIONAL ENVIRONMENT

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

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

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.1 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.2

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.)

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1 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.

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, 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:

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Footnote: 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).

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, which means that recipients will not see their tax credits reduced as soon as their income rises.

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.

Chart 4.1: Tax wedge in the UK

Source: OECD.

4 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.
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).

![Chart 4.2: Tax wedges](source: OECD, 2002d. Note: Average of tax wedge estimates for eight different family types and wage levels.)

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.

![Chart 4.3: Gross replacement rates](source: OECD, 2002e. Note: Average of gross replacement rates for two earnings levels, three family types and over a three year period.)
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. 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.

![Chart 4.4: Benefit generosity (1999) and strictness of eligibility criteria (1997)](chart)

Source: OECD, 2002e (benefit generosity); Danish Ministry of Finance, 1998 (strictness of eligibility conditions).

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.

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1 See Danish Ministry of Finance (1998) for full details of the indicators. Also see Grubb (2000) for a discussion of this approach.

2 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.

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)**

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.

4.28 Since 1997, the Government has introduced a range of Welfare to Work polices 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.

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 OCED 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).

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).7

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 17,000.8

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: ALMPs

4.38 Long-term unemployment is associated with more unemployment persistence. 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 institutional environment.

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7 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).

8 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.

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.

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.
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).

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).

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).

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.

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, 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.

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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.
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: 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.
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.

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

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

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

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 Drifill 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.

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>

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.10

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.

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 5½ million over the past two decades (Chart 4.10).

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

**Chart 4.10: Trade union density and membership**

1 CO is the Certification Officer.

Source: ONS.

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10 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).

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

4.73 Building on the results of a recent econometric study 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.

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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.
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 ongoing 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.
REFERENCES


Coe, D.T (1985) 'Nominal Wages, the NAIRU and Wage Flexibility', OECD Economic Studies 6, pp. 87-126.


REFERENCES


REFERENCES


REFERENCES


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:

\[
(l - g) \ln\left(\frac{\text{PSAVEI}}{\text{PGVA}}\right) = \alpha_1 + \sum_{i=0}^{3} \beta_i g^i (l - g) \ln(\text{PROD}) + \alpha_2 (l - g) \ln(ILOUR) \\
+ \alpha_3 (l - g) \ln(\text{TE}) \\
+ \alpha_4 (l - g) \ln(\text{PRXMIP}/\text{PGVA}) \\
+ \alpha_5 g \ln((\text{PSAVEI} \times \text{TE})/(\text{PROD} \times \text{PGVA})) + \alpha_6 g \ln(ILOUR) \\
+ \text{dummies} \tag{1}
\]

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:

\[
\ln(\text{PSAVEI}/\text{PGVA}) = \bar{\partial}_1 + \bar{\partial}_2 \ln(ILOUR) + \ln(\text{PROD}) - \ln(\text{TE}) \tag{2}
\]

A3 \(\bar{\partial}_2\) 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 \(\bar{\partial}_2\) should have got larger; in this equation more negative.

A4 Denoting \(\bar{\partial}_2\) 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 \(\bar{\partial}_2\) from recursive estimates of the structural unemployment and error correction parameters in equation [1] since:

\[
\bar{\partial}_2 = \frac{\alpha_6}{\alpha_5} \tag{3}
\]

A5 This is the approach taken in the new work and is the parameter plotted in Chart 2.3.
ANNEX B: AN INDICATOR OF LABOUR MARKET FLEXIBILITY

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

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Range of independent variable</th>
<th>Implied range of effect of shock (mean = 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>Replacement rate</td>
<td>0.017</td>
<td>-46.3</td>
</tr>
<tr>
<td>Benefit duration</td>
<td>0.206</td>
<td>-2.0</td>
</tr>
<tr>
<td>ALMPs</td>
<td>0.017</td>
<td>-47.2</td>
</tr>
<tr>
<td>EPL</td>
<td>0.045</td>
<td>-9.5</td>
</tr>
<tr>
<td>Tax wedge</td>
<td>0.018</td>
<td>-17.8</td>
</tr>
<tr>
<td>Union coverage</td>
<td>0.098</td>
<td>-1.7</td>
</tr>
<tr>
<td>Union density</td>
<td>0.009</td>
<td>-30.4</td>
</tr>
<tr>
<td>Union coordination</td>
<td>0.304</td>
<td>-2.0</td>
</tr>
</tbody>
</table>

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). 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; 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

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

2 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.