

EMU and labour market flexibility

EMU study



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*This study has been prepared by HM Treasury to
inform the assessment of the five economic tests*

This study has benefited from review by Professor Christopher Pissarides, working in a personal capacity as an academic consultant to HM Treasury. All content, conclusions, errors and omissions in this study are, however, the responsibility of HM Treasury alone.

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:

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EXECUTIVE SUMMARY

1 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.

2 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).

3 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.)

4 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.

Concepts of labour market flexibility

5 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.

6 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.

7 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.

**Characteristics
of flexible labour
markets**

8 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.

9 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.

10 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.

11 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.

12 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.

13 **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 2½ per cent a year and average earnings have increased by around 4½ 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.

14 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.

15 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.

16 **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.

17 **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.

18 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.

19 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.

**Outcomes in
flexible labour
markets**

20 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.)

21 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.

22 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.

23 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.

24 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.

25 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 institutional environment and labour market flexibility

26 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.

27 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.

28 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.

29 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.

30 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.

31 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.

Conclusions 32 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.

33 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.

34 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.

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

THE CONCEPT OF LABOUR MARKET FLEXIBILITY

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.

The importance of the labour market...

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:

...domestically...

- is key to the economy's sustainable rate of growth and contributes to overall competitiveness and productivity;¹
- 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.

...and in a single currency area

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.

The purpose of the study

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.

The 1997 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.)

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 shock² 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 held (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.³ 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.

² 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.

³ The links between employment and the product market are discussed briefly in Section 4 on the institutional environment.

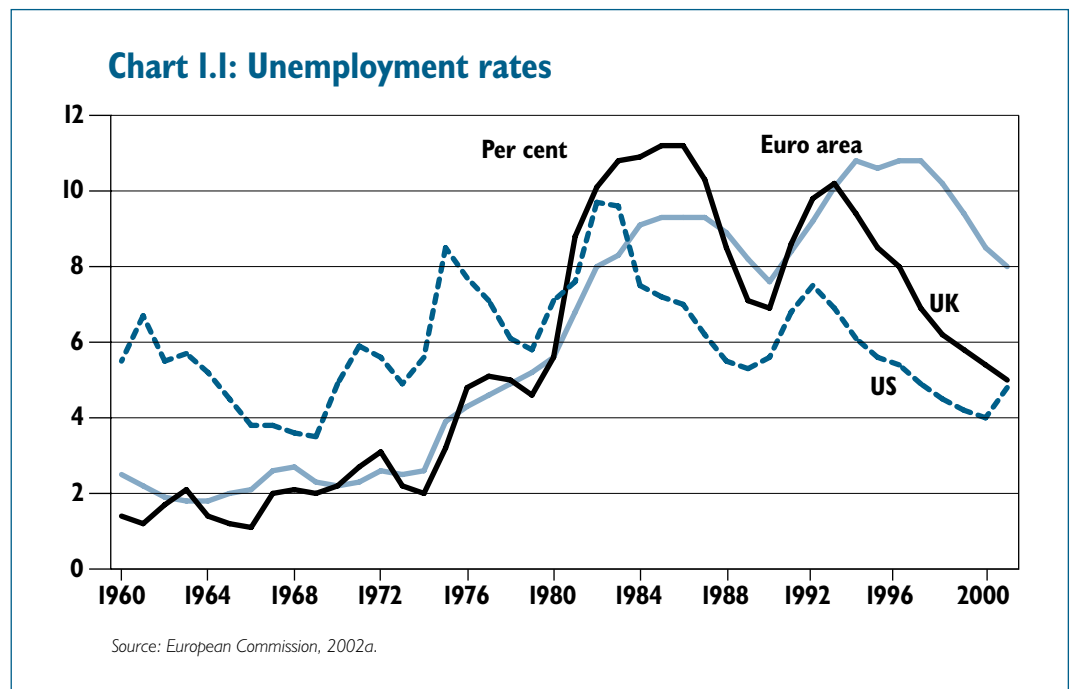
What does labour market flexibility mean?

Definitions of labour market flexibility

I.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.

I.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.

I.13 During the past 30 years the global economy has been hit by a number of shocks.⁴ 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.



⁴ 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.

The interaction of economic shocks and labour market institutions I.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

I.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.

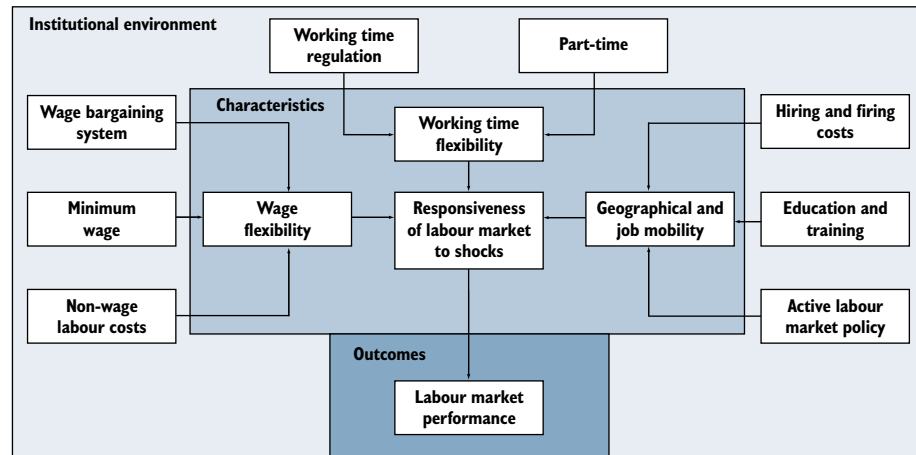
STRUCTURE OF THE STUDY

What is flexibility? I.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.

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.

⁶ See IMF (1999).

Figure I.1: Determinants of labour market flexibility



Source: Based on Saltwedel et al., 1999.

I.17 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.⁷ 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.

⁷ 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.

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 Viegli, 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.

Structural and cyclical unemployment **2.5** 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.¹

How does the labour market adjust? **2.6** 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.

Characteristics of flexible labour markets **2.7** 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.

2.8 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.

2.9 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.

¹ In practice, however, the dividing line between structural and cyclical unemployment is indistinct, with one tending to shade into the other.

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.² 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.

What is relative wage flexibility?

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.

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

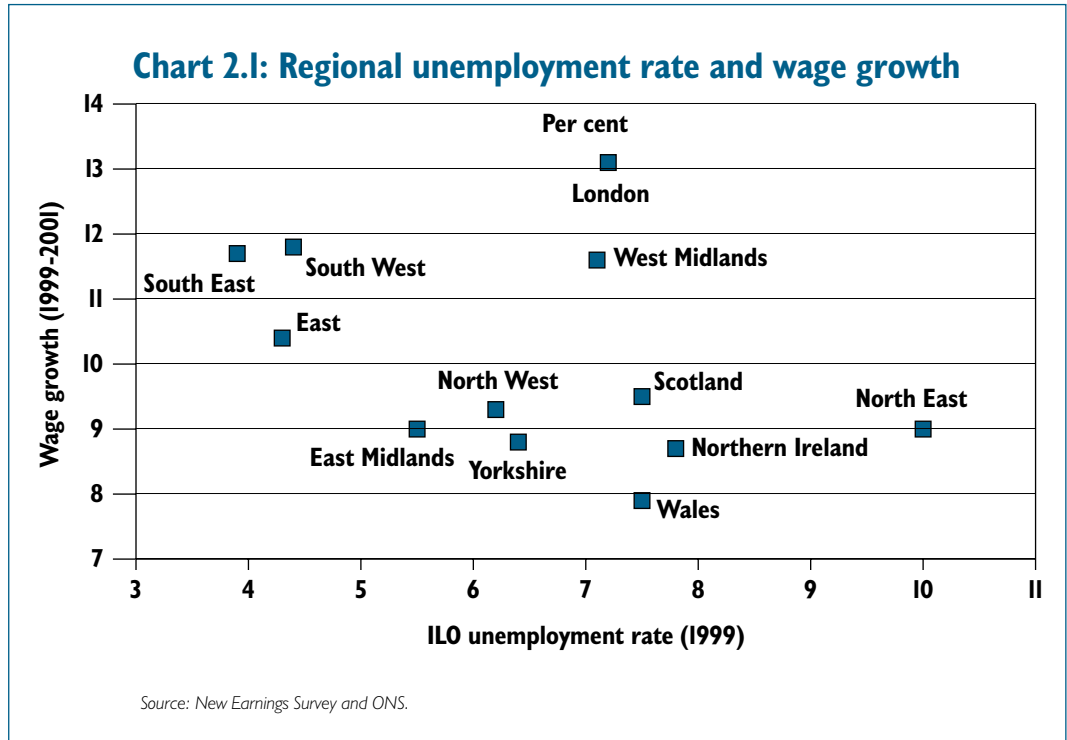
2.13 If wages are relatively flexible across regions then wage growth should be lower in high unemployment regions than in low unemployment regions such that firms are able to sustain competitiveness, thereby encouraging investment and the creation of more jobs. A lack of relative wage adjustment has 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.

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

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.

²It is also possible that firms become more mobile, responding to smaller wage differentials than before.

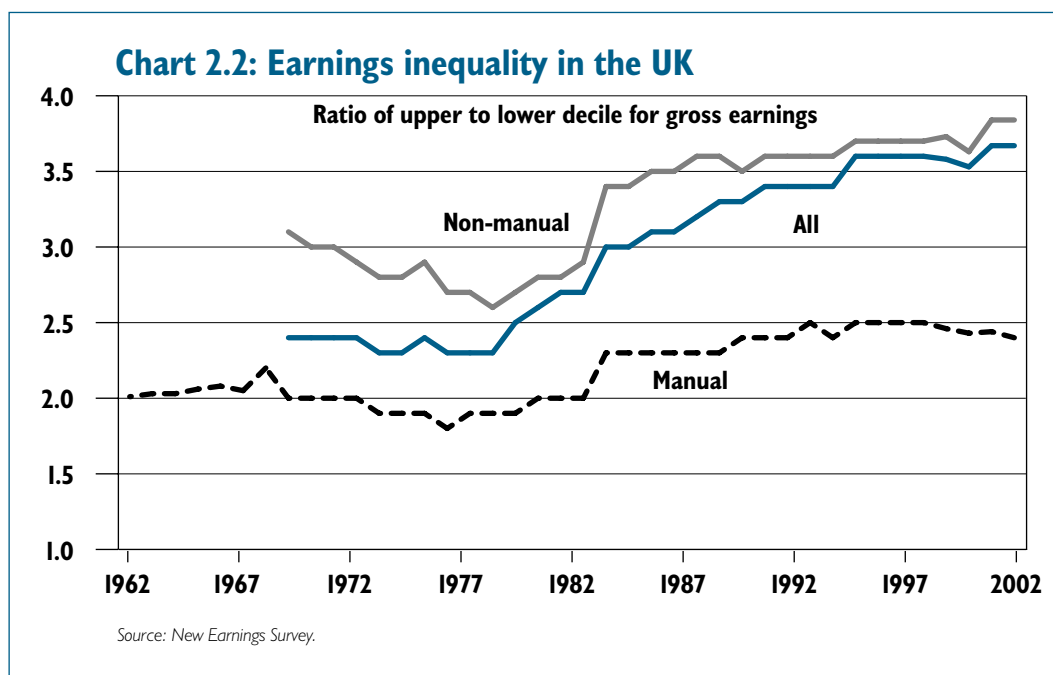


2.16 Research suggests that between 1974 and 1997, regional wage growth had a responsiveness of around 0.3 to regional unemployment (Jackman and Savouri, 1999). This implies that if a region's unemployment rate exceeds the national average by 1 percentage point then its wages tend to grow by 0.3 percentage 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.

Relative wage flexibility across skills

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.



Inter-industry wage differentials

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.)

How real wages adjust **2.22** 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.³ 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 role of nominal rigidities **2.23** 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.

2.24 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

Real wage flexibility in the 1997 assessment **2.25** 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.)

2.26 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.⁴ 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.⁵ 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.

³Layard, Nickell and Jackman (1991) contains a full exposition of the wage bargaining model.

⁴If 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).

⁵Beatson (1995) contains a similar approach.

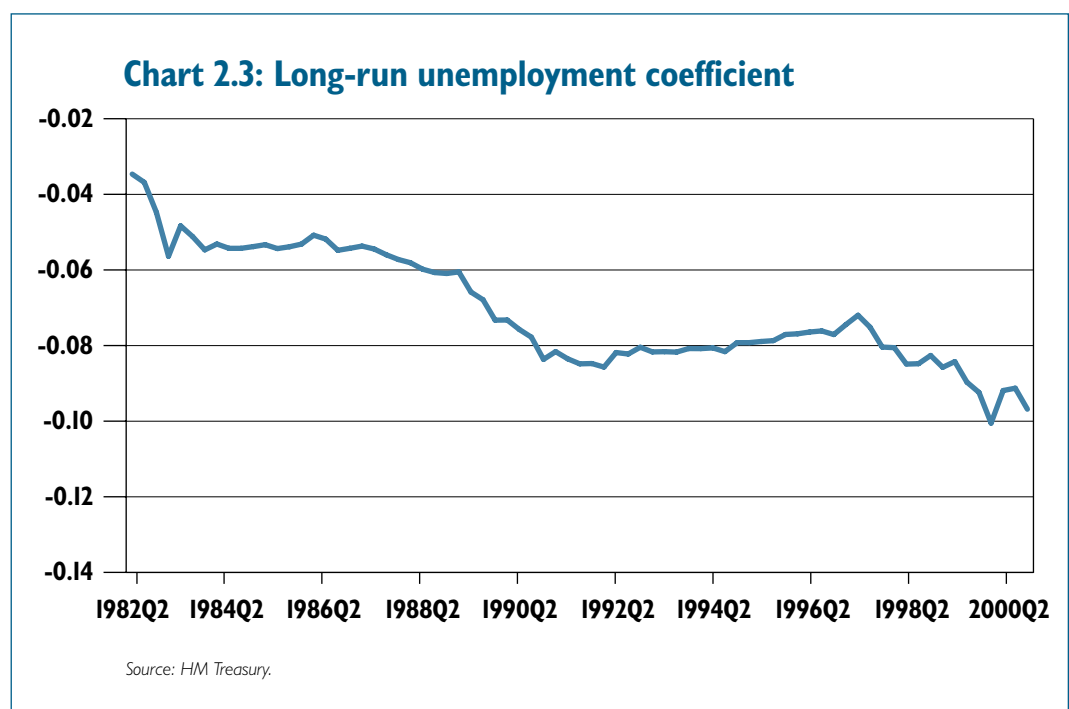
A relative improvement in the UK **2.27** Research since the mid 1990s suggests that there has been an improvement in the UK relative to other countries, with estimates of the responsiveness of real wages to unemployment ranking among the top half of the sample of countries considered. This could be 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.)

2.28 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.

2.29 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).

A new econometric exercise by HM Treasury... **2.30** New HM Treasury work points to an improvement in real wage flexibility in the UK, and is shown in Chart 2.3.⁶ 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.



⁶ More detail on this approach is contained in Annex A.

...finds signs of more UK real wage flexibility

2.31 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.

2.32 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

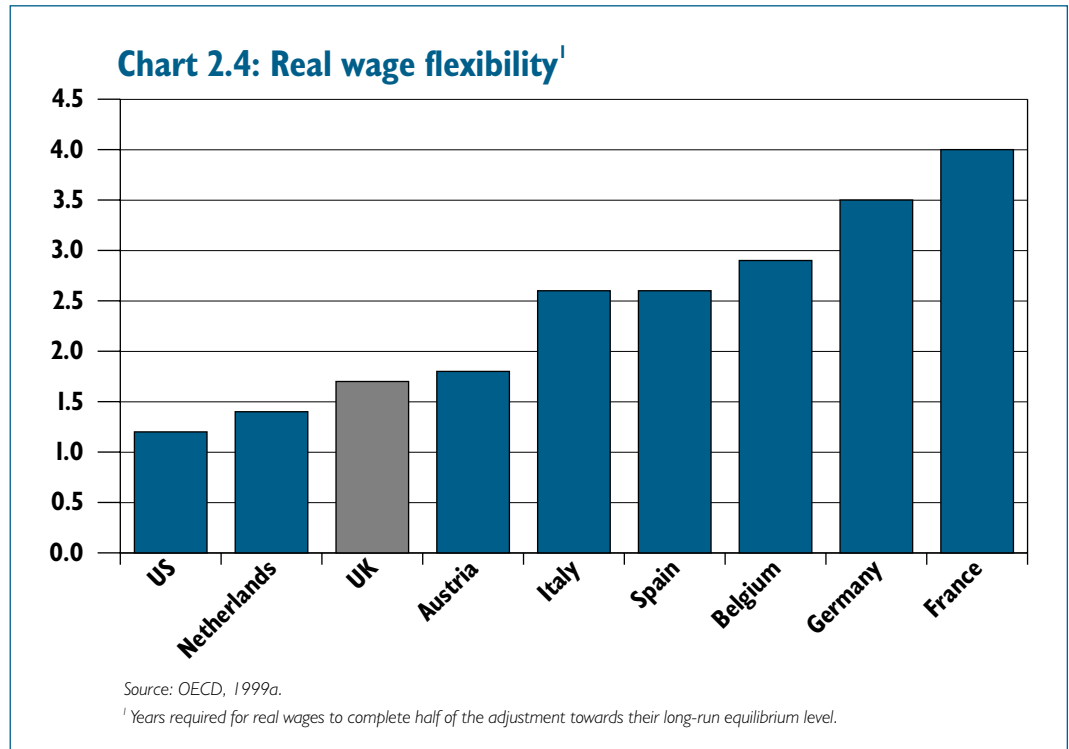
Table 2.2: Split sample estimates of the coefficient on unemployment

	Sample period					
	1974Q1- 1982Q4	1983Q1- 2000Q4	1974Q1- 1985Q1	1985Q2- 2000Q4	1974Q1- 1989Q4	1990Q1- 2000Q4
Unemployment rate coefficient	-0.020	-0.023	-0.020	-0.027	-0.011	-0.036
t-ratio	2.8	2.9	3.0	3.3	2.1	3.8
ECM coefficient	-0.441	-0.172	-0.359	-0.244	-0.155	-0.294
t-ratio	2.5	3.2	2.8	3.6	2.3	3.2
LR unemployment coefficient	-0.04	-0.13	-0.05	-0.11	-0.07	-0.12
Wald test CHSQ(1) ¹		13.82		9.94		5.00

¹ 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.

⁷ 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.

Real wage adjustment in the short run 2.33 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).



2.34 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

Nominal and real wage rigidities 2.35 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).

Wage settlements in the UK **2.36** 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	12 months	More than 12 months	Less than 12 months	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.

The importance of downward nominal wage rigidities **2.37** 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).⁸

2.38 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).

2.39 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).

2.40 The LFS shows that annual pay 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).

2.41 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.

⁸Smith (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.

2.42 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.

Chart 2.5a: Survey evidence of nominal wage rigidity in the UK – basic pay

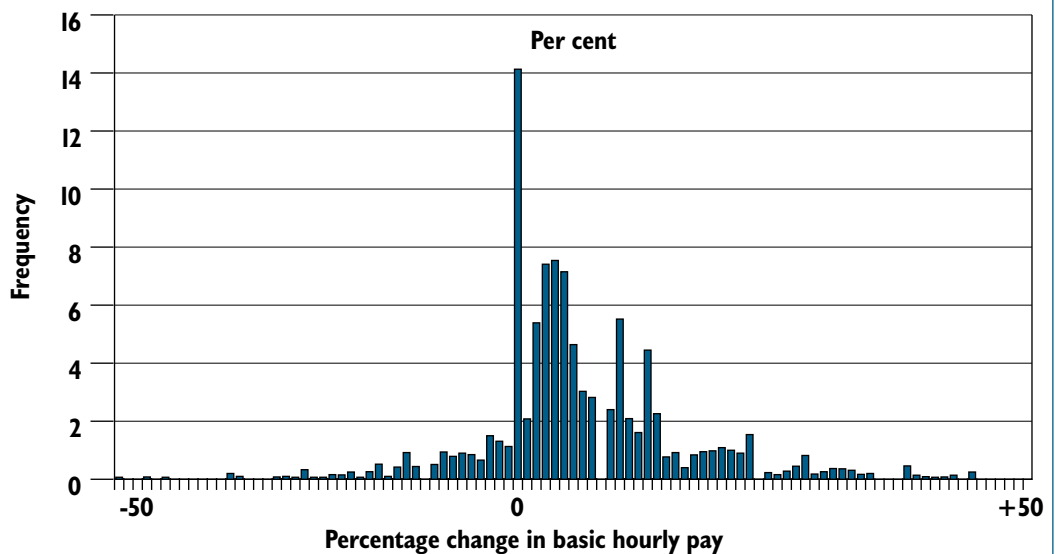
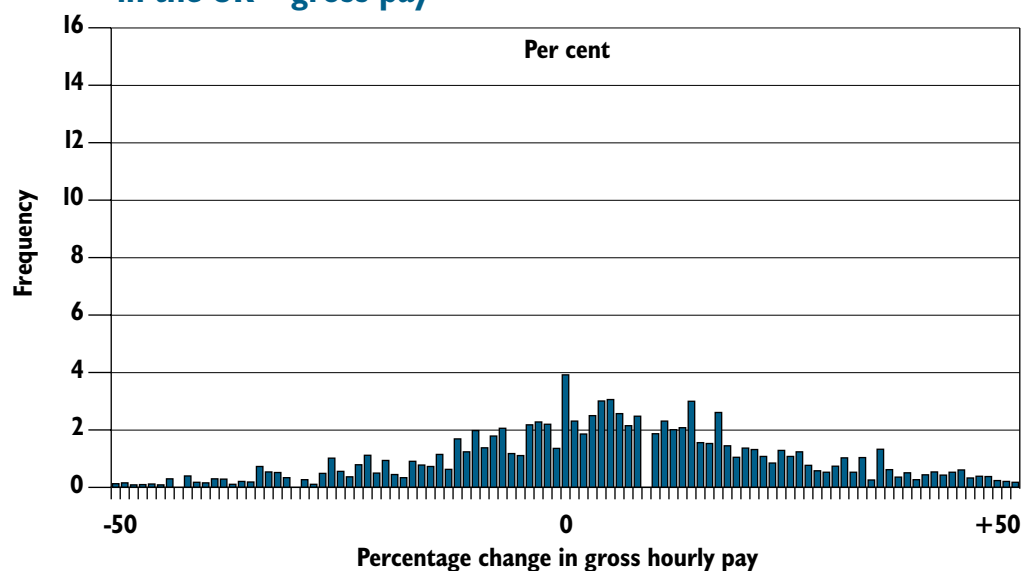


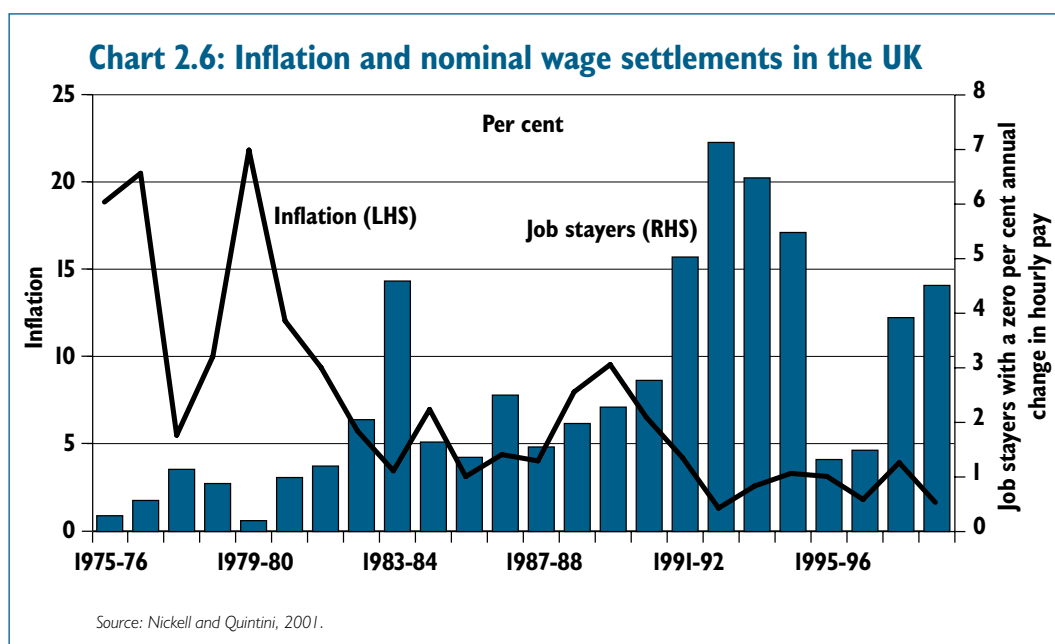
Chart 2.5b: Survey evidence of nominal wage rigidity in the UK – gross pay



Downward nominal rigidities – not a constraint so far... **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 2½ per cent a year and average earnings have increased by around 4½ per cent a year, providing considerable scope for movements in real and relative wages even where there is resistance to nominal wage cuts.

...but could be tested more in EMU **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.

Nominal rigidities in Germany **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.

The impact of EMU on wage pressures **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 (Borghijis, 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).⁹ 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.)

⁹Spain is an example of where these clauses operate and in 2002 the inflation outturn 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”.

2.50 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.

2.51 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.

2.52 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.

2.53 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.

Conclusion:
wage flexibility

2.54 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.)

2.55 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.

2.56 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.

2.57 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.

2.58 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.)

Geographic mobility and OCA theory **2.64** 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.

Box 2.2: Geographic labour mobility and OCA theory

Because geographic mobility has been found to be high in existing monetary unions such as the US, it is often claimed that, in order for monetary unions to be successful, labour must be mobile within the currency area. In contrast, low rates of mobility in the euro area have raised some concerns about its viability as a single currency area.

Optimal Currency Area (OCA) theory, first developed by Mundell (1961), is the starting point for analysing these issues.

In his original work, Mundell analysed how economies respond to disturbances under fixed and floating exchange rate regimes. His analysis assumed that nominal wages and prices were slow to adjust and hence relative wage flexibility was limited. Under a fixed exchange rate regime, factor mobility, including the geographic mobility of labour, provided a critical adjustment mechanism following a regional asymmetric shock. In particular, geographic mobility implied that unemployed workers would move from depressed to booming regions to restore equilibrium.

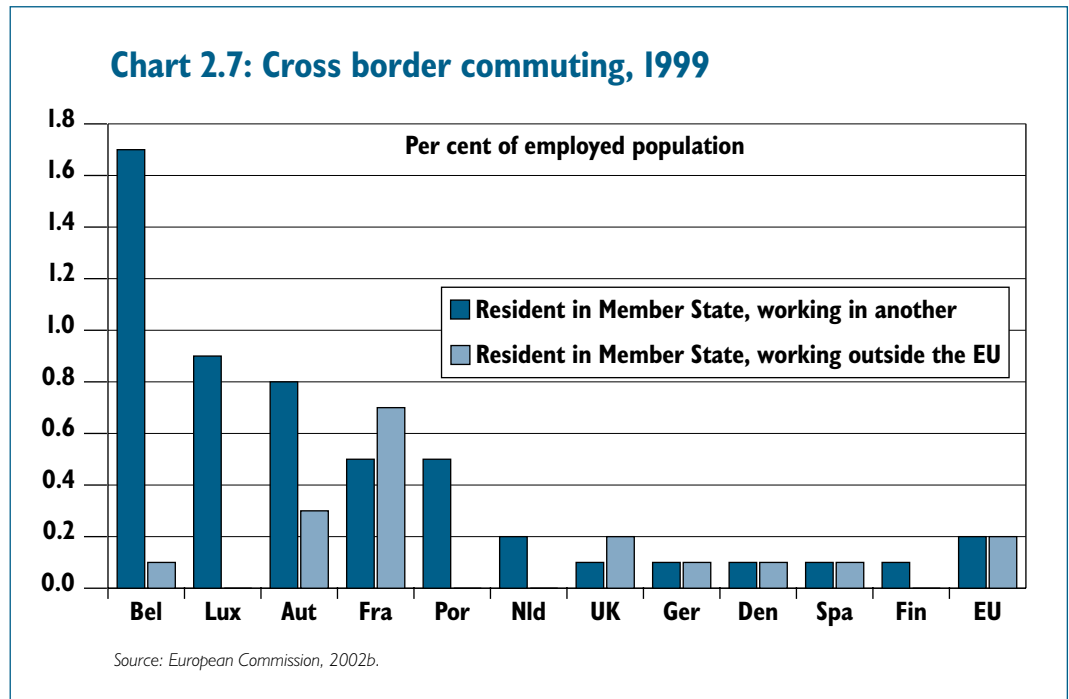
The subsequent development of OCA theory has emphasised that relative wage flexibility and capital mobility provide alternative ways for economies to adjust to shocks.³ Crucially, if these mechanisms are sufficiently strong, then a currency area may be able to respond efficiently to asymmetric shocks even if the geographic mobility of labour is low. The combination of high capital mobility and flexible wages encourages capital to flow towards regions of high unemployment rather than requiring labour to move to regions of high employment.

Low geographic mobility in the EU may therefore not be as large a constraint as is sometimes perceived. However, it remains the case that greater geographic labour mobility will tend to enhance overall labour market flexibility, for example by opening up new opportunities for training, and will be particularly important if other mechanisms allowing adjustment to regional imbalances are weak.

³ Further details are provided in Peter Kenen's contribution to the EMU study *Submissions on EMU from leading academics*, and also in Bean (1992).

Mobility across EU borders **2.65** 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.¹⁰ 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.

¹⁰ Indeed, Krueger (2000) notes that there was no tendency for mobility to increase after the remaining restrictions on mobility were removed in 1993.



2.66 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.

2.67 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.

Mobility within countries

2.68 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.¹¹ 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.

2.69 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).

¹¹ 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.¹² 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 2.4: Rates of labour mobility

	Number of regions	Ratio of gross flows to population		Ratio of net flows to population	Ratio of gross flows to net flows
		1995	1998		
Belgium	11	1.27	-	0.09	7.4
Finland	5	0.92	-	0.09	10.3
France	22	1.49	1.58	-	
Germany	16	1.24 ¹		0.10	7.8
Italy	20	0.50	0.53 ²	0.10	19.3
Netherlands	12	1.61	-	0.07	4.3
Portugal	7	0.54 ³	-	0.12	21.8
Spain	17	0.60 ⁴	-	0.07	11.7
Sweden	8	1.61	-	0.16	9.8
UK	12	-	2.30	0.13	5.5
US	51	2.22	2.40	0.37	15.4

Source: OECD (2000b).

¹ Data for 1993 not 1995.

² Data for 1997 not 1998.

³ Data for 1990 not 1995.

⁴ Data for 1994 not 1995.

Empirical evidence on mobility

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.

¹² 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.

2.74 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.

2.75 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.

Why is mobility low in Europe?

2.76 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 in the UK

2.77 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.

2.78 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).

2.79 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.

2.80 Housing market issues are discussed in detail in the EMU study by HM Treasury *Housing, consumption and EMU*.

Mobility unlikely to increase rapidly... **2.81** 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.

...so will low mobility be a barrier to EMU's success? **2.82** 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.

Conclusion: geographic labour mobility **2.83** 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.

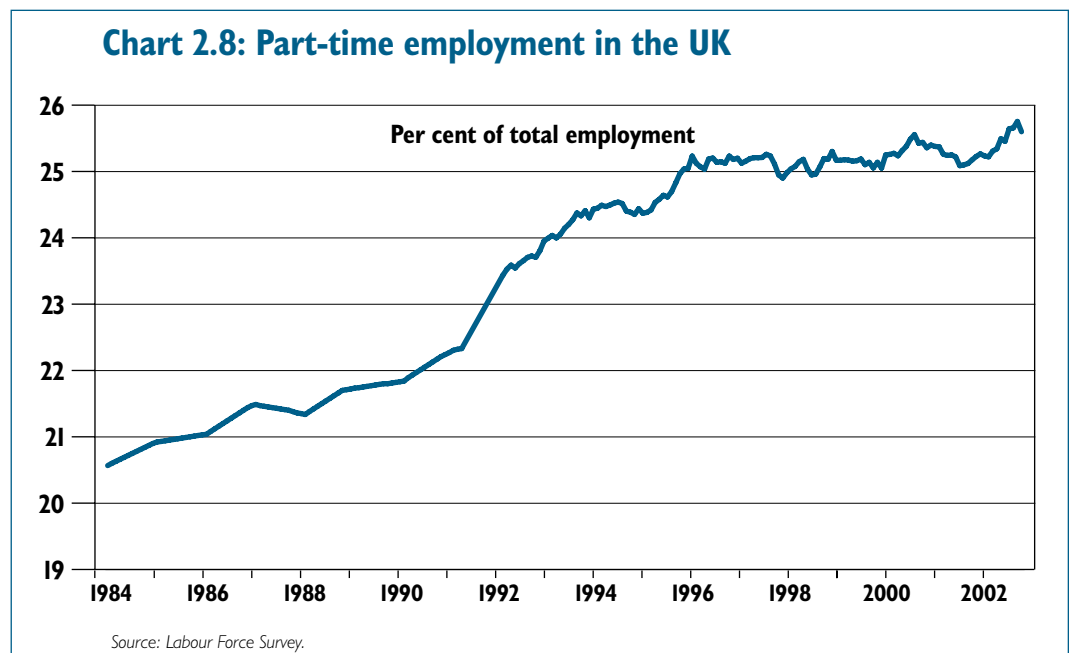
2.84 Low geographic labour mobility need not necessarily undermine the flexibility of the labour market as a whole. However, this requires that other characteristics can compensate. That said, more geographic mobility would help adjustment where other labour market adjustment mechanisms are slow, supporting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

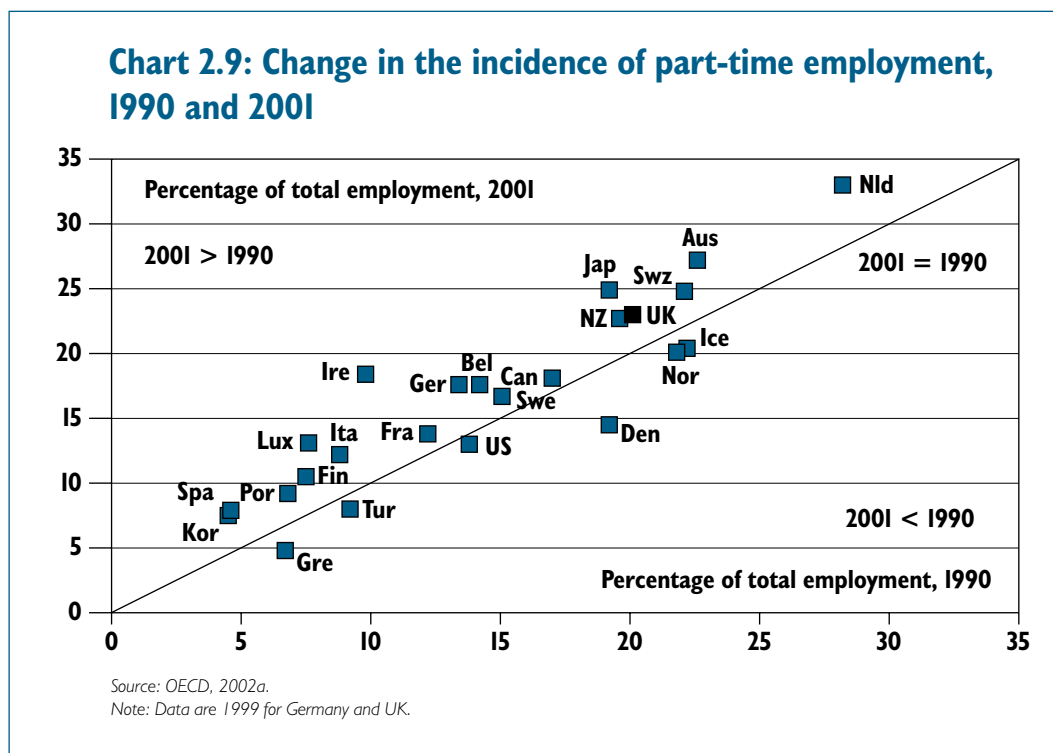
Employment flexibility

2.85 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.

2.86 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.

Part-time employment **2.87** 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.





2.88 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).

2.89 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.

2.90 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.

2.91 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.

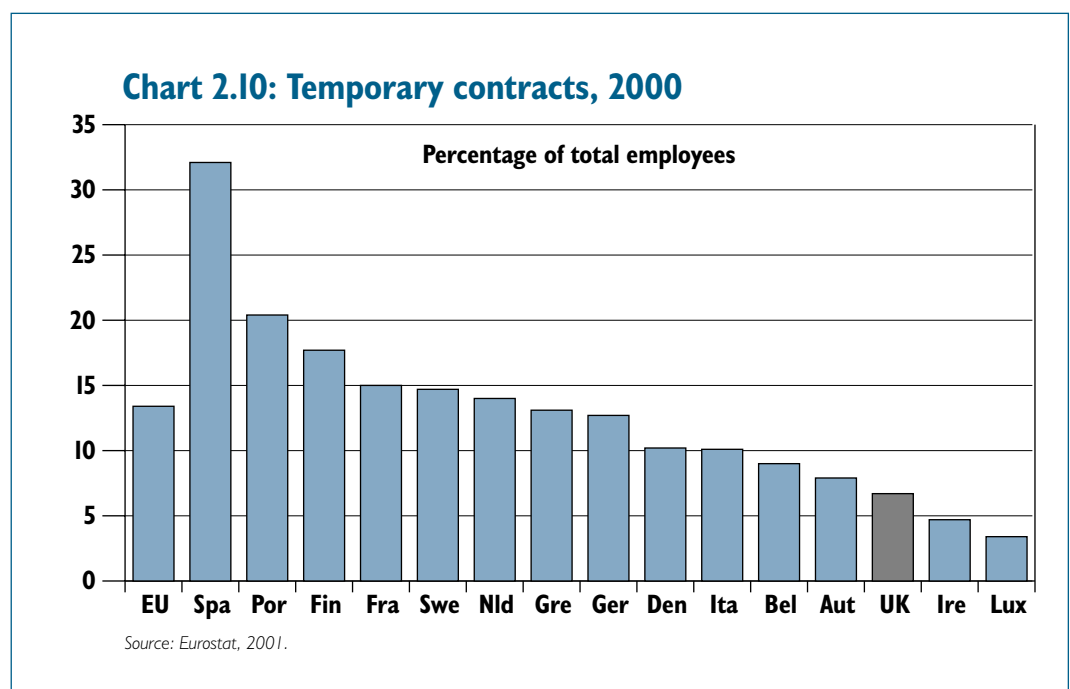
Fixed-term contracts

2.92 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.

2.93 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.

2.94 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.

2.95 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.



Choice or necessity? **2.96** 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 **2.97** 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 2.5: Incidence of diverse working patterns (2000)

Percentage of employees who usually work:					
	Shift work	Evening	Night	Saturday	Sunday
UK	10.9	31.4	12.6	25.9	13.3
EU average	12.7	18.0	7.6	27.9	11.4
EU (Maximum)	24.4	31.4	12.6	41.3	19.5
EU (Minimum)	6.0	5.2	2.3	10.0	4.3

Source: Eurostat, 2001

Job turnover **2.98** 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.

2.99 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.

Diversity in hours worked in the UK **2.100** 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).

Conclusion: employment flexibility **2.101** 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

The importance of skills **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.

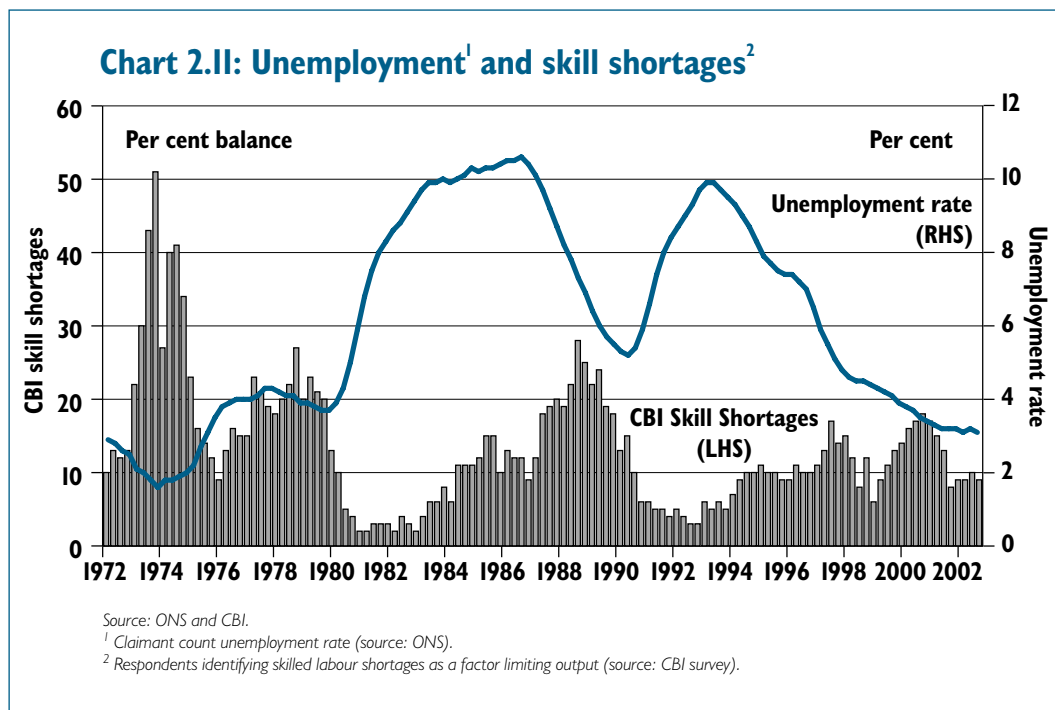
Skills shortages for firms have not significantly increased... **2.104** Since the 1997 assessment, there is evidence that the incidence of firms citing skilled labour shortages and skills gaps has been falling in the UK. This has come at a time when, given the continued falls in unemployment, these 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

¹³ 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.

¹⁴ 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.



...but imbalances remain

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):¹⁵

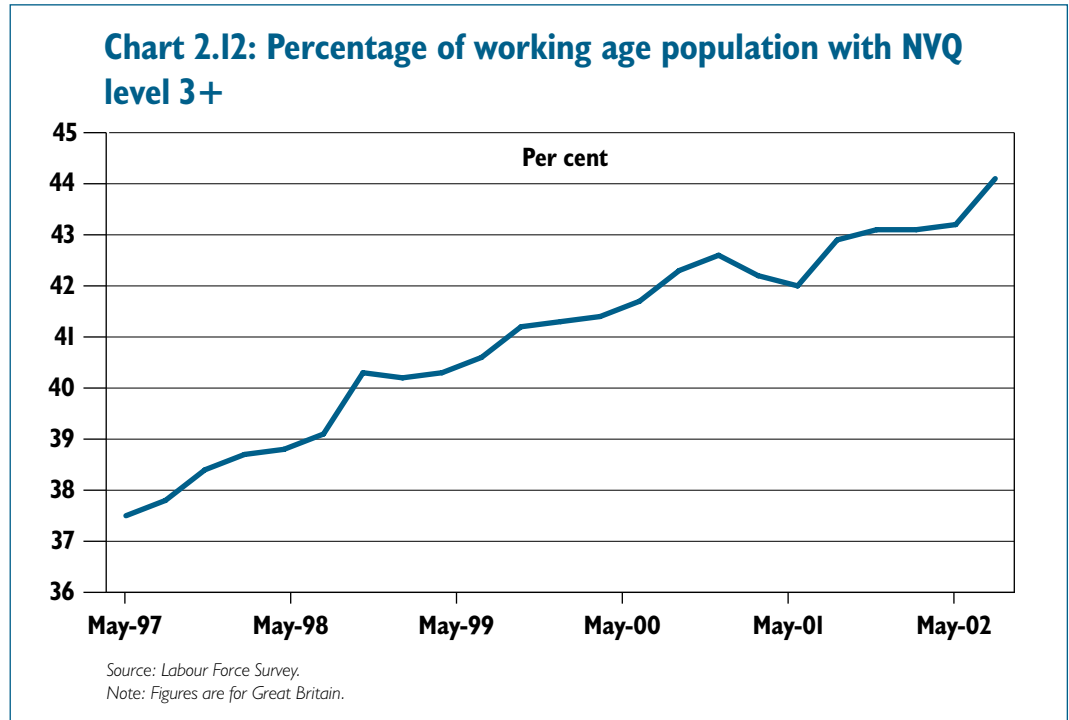
- the number of people in the UK with high skills compares well with international levels (although the UK still trails the world leader – the US);¹⁶
- the level of intermediate skills in the UK is low, especially compared with Germany, other European countries and, under some interpretations, the US; 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.

Signs of progress since 1997...

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).

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).



2.107 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.

...but more progress can be made

2.108 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.

2.109 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).

Improving workforce skills

2.110 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 policies to improve the volume, quality and distribution of initial and continuing training.

2.111 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: **2.II2** 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:¹⁷ 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.

¹⁷Haskel 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.

The Treasury's 1997 assessment stressed that Europe needed to be able to create jobs and respond to structural change in order to ensure the success of EMU. Creating employment opportunities for all has formed an integral part of reform efforts in the UK and in Europe. Progress on reform has delivered notable improvements. **Employment and participation** rates have increased in the UK and euro area, and between 1997 and 2001 over 10 million jobs were created in Europe, at a time of stronger growth in the EU.

However, historically, in the face of a shock, employment growth has been slow to return to a sustainable path. This section considers a range of outcomes to assess whether the recent improvements, with respect to greater job creation, are sustainable and reflect an underlying improvement. It considers:

- **the structural unemployment rate:** recent estimates suggest that the equilibrium unemployment rate has declined in the UK over the 1990s, and at around 5½ per cent is approaching the current US rate. This performance has been matched in some smaller euro area economies such as Ireland and the Netherlands. But in the three largest continental European economies improvements have only come through recently, and from relatively high starting points;
- **wage pressures:** the recent profile of average earnings growth in the UK is suggestive of some improvement on the supply side. During the current economic cycle unemployment has fallen to historic lows yet average earnings growth has remained consistent with the inflation target and trend productivity growth;
- **mismatch:** there has been an improvement in the UK between the matching of vacancies and unemployment in the 1990s. Moreover, there has been a reduction in the regional dispersion of unemployment rates, as the market has been better able to match the supply and demand for labour in individual regions. However, regional unemployment differentials are more prevalent in other parts of Europe; and
- **cyclical responsiveness of employment:** the pace at which employment increased in the UK in the 1990s recovery, compared to that of the 1980s, suggests that employment has become more responsive to the cycle.

Together, these indicators are consistent with an improvement in the underlying performance of the UK labour market and point towards a more flexible labour market than in the past. However, progress in the rest of Europe has been mixed, with significant differences remaining in the level of structural unemployment and the pace with which it is being reduced.

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

Increasing employment opportunity for all

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.

Employment has increased in the UK...

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.

...but inactivity has fallen by less

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 15½ 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.

The Lisbon targets

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 7½ 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.²

Employment has increased in Europe

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.

Are the improvements sustainable?

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

The key outcomes in a flexible labour market

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;

²The 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.

The NAIRU has fallen in the UK, but remains high in some Member States

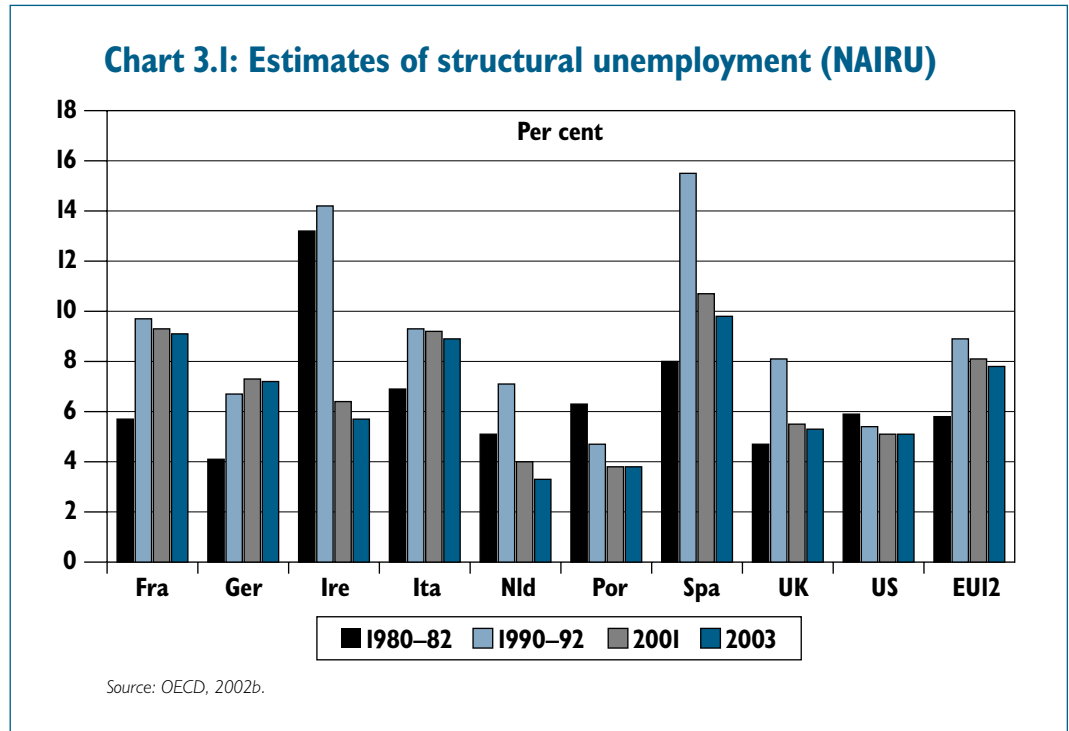
3.18 Chart 3.1 shows OECD estimates of the NAIRU since the early 1980s.⁴ Structural unemployment increased almost uniformly in Europe between 1980 and 1990. The discussion in Section 1 set out how this reflects the interaction of economic shocks and labour market institutions, leading to temporary increases 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 5½ per cent, (close to the Treasury's own estimate of around 5¼ 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

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



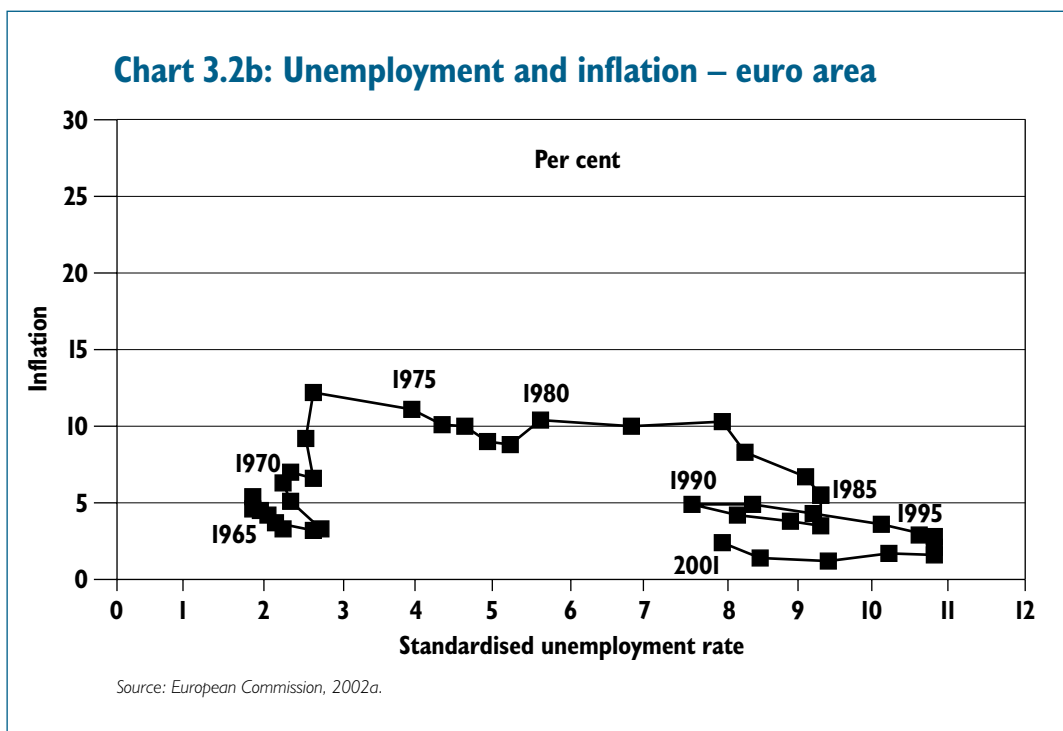
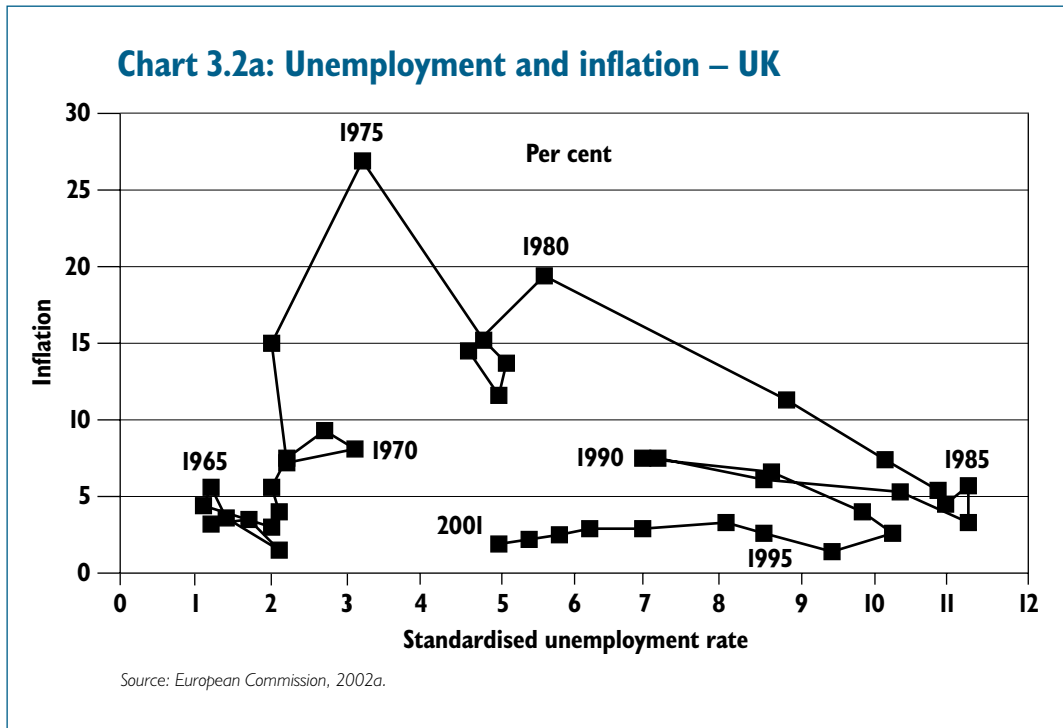
The Phillips curve 3.19 Although there are uncertainties in accurately quantifying the NAIRU, Chart 3.1 suggests that a significant proportion of unemployment in Europe is non-cyclical (see also IMF, 1999). Another way of examining the extent of structural improvement is to look at the Phillips curve (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.

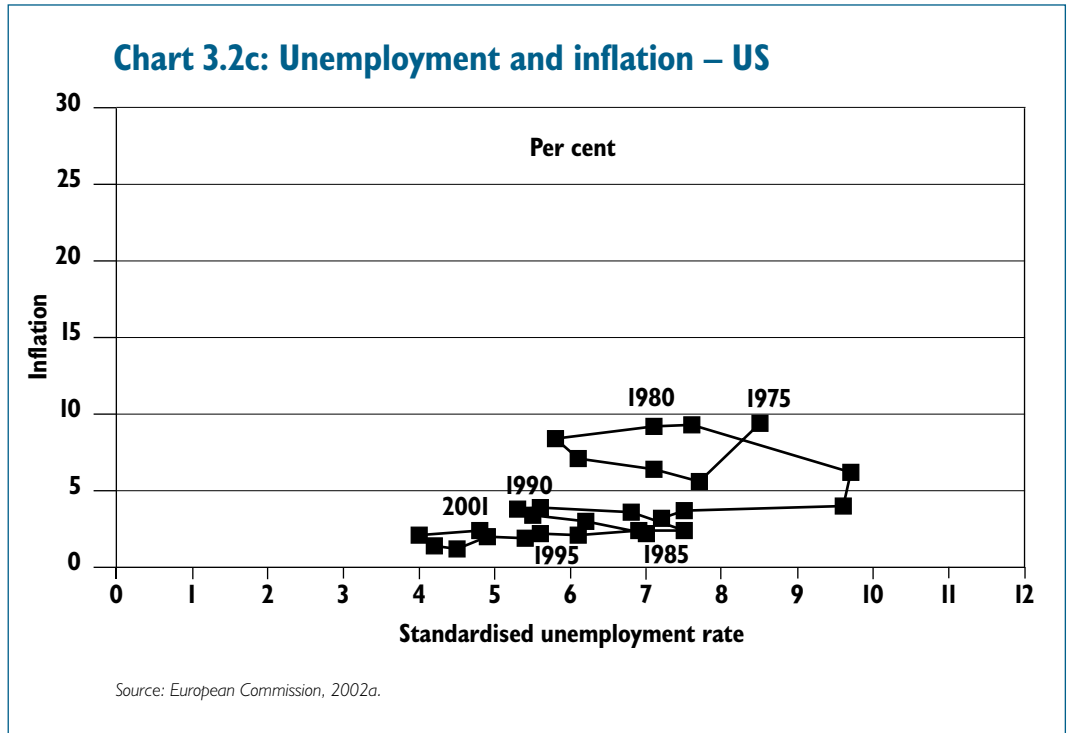
3.20 Charts 3.2a–3.2c depict the Phillips curve in the UK, the euro area and the US. In the UK specifically, two factors point towards a reduction in structural unemployment:

- *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.

⁵See OECD (2002c) for a breakdown of the change in euro area structural unemployment.

3.2I 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.





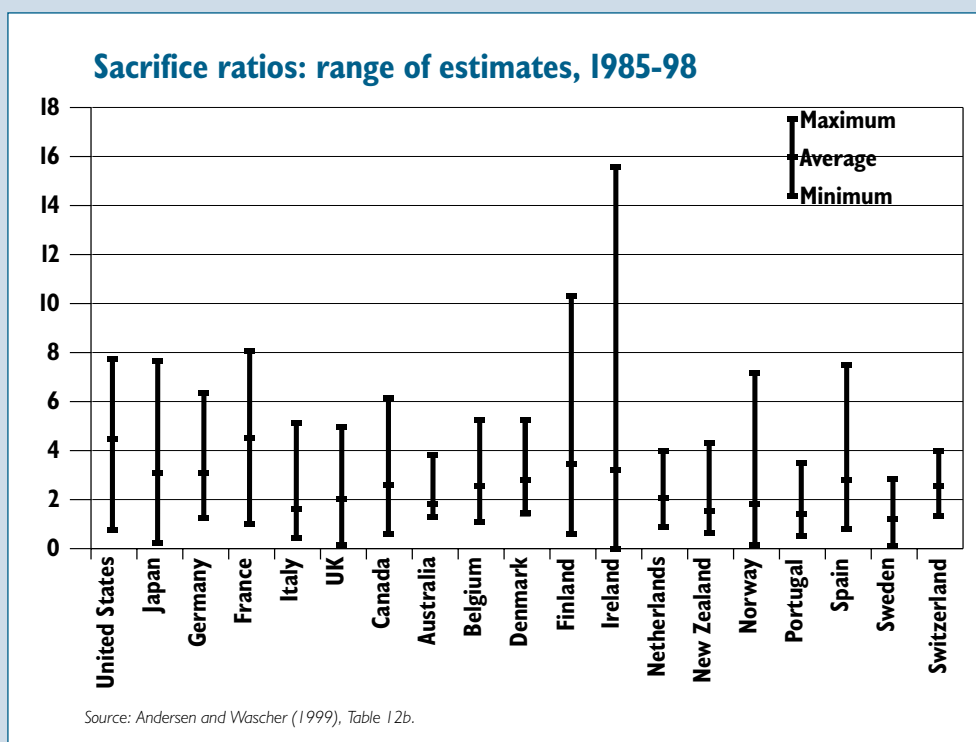
3.22 In the US, the Phillips curve has been relatively flat since the early 1980s; unemployment has fallen without generating inflationary pressure. For the euro area as a whole, the Phillips curve has been reasonably flat since the 1990s, suggesting that the fall in unemployment has, at least partly, 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.)

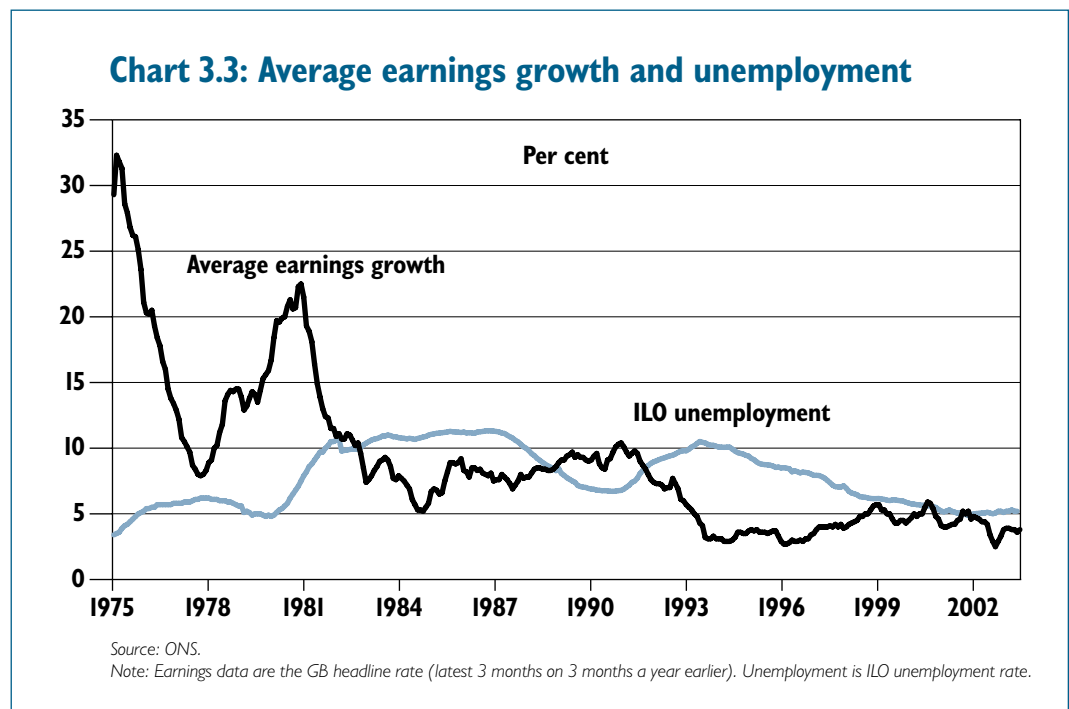
Overall, sacrifice ratios are useful as a concept, but the estimates tend to be too wide-ranging to provide a reliable measure of the flexibility of a country’s labour market over time or relative to other countries.

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.

Average earnings growth has been benign

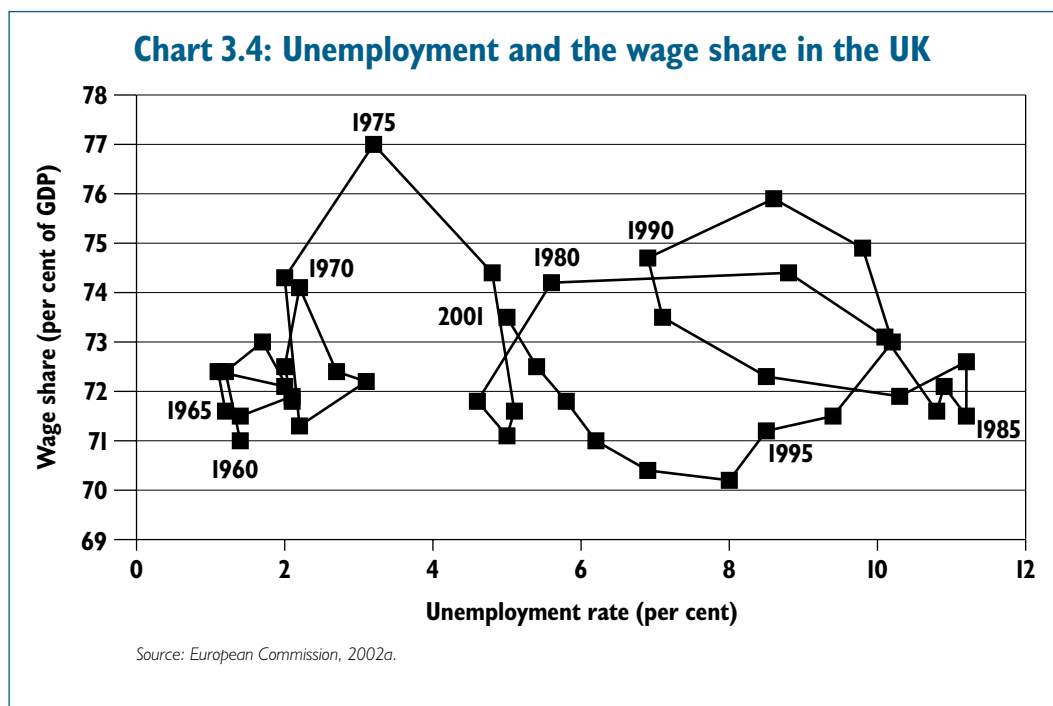
3.25 Chart 3.3 shows the recent profile of average earnings and unemployment in the UK. It is consistent with there having been a recent supply side improvement in the UK – an improvement in wage flexibility and a decline in the NAIRU. During the current economic cycle, unemployment has fallen to rates last seen in the 1970s yet average earnings growth has remained relatively benign – at around 4½ per cent. This appears consistent with the inflation target and trend productivity growth of 2 per cent.⁶



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.

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).



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 NAIUR has fallen in the UK in the late 1990s and his estimates of a NAIUR of around 5.7 per cent between 1997 and 2000 is similar to the estimates shown in Chart 3.1.

The role of the long-term unemployed

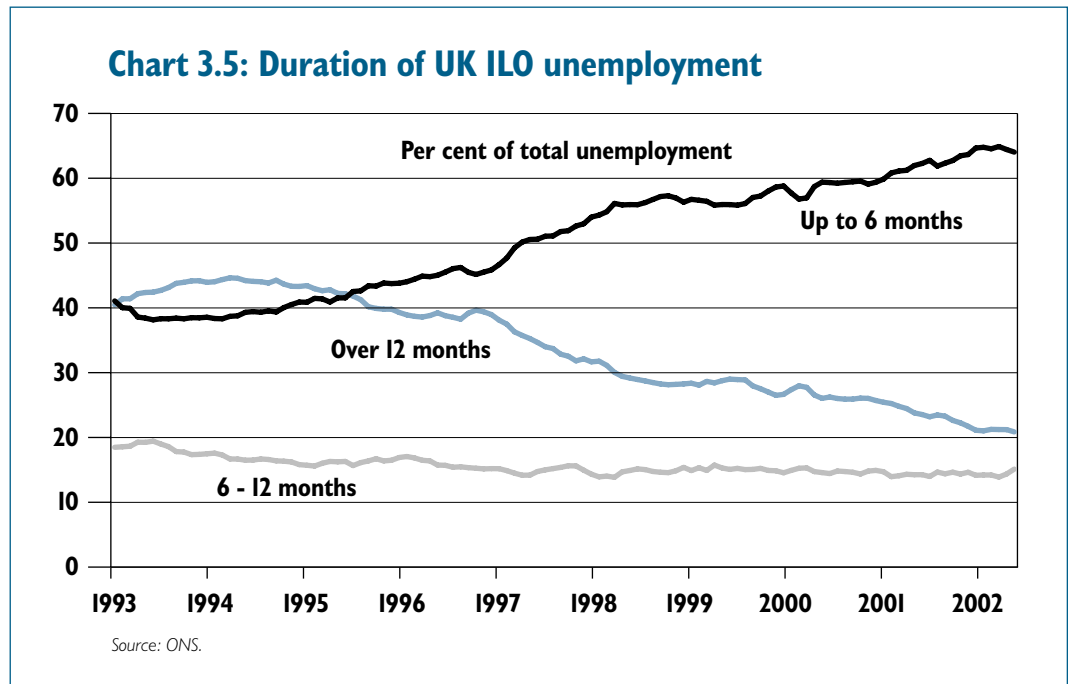
3.28 The moderation in average earnings growth may reflect the recent declines in long-term unemployment, a point recently noted in the Bank of England's Inflation Report (Bank of England, 2002). When the duration of an individual's unemployment spell increases, they may decide to stop searching for 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.

Labour market attachment has increased since 1997...

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.



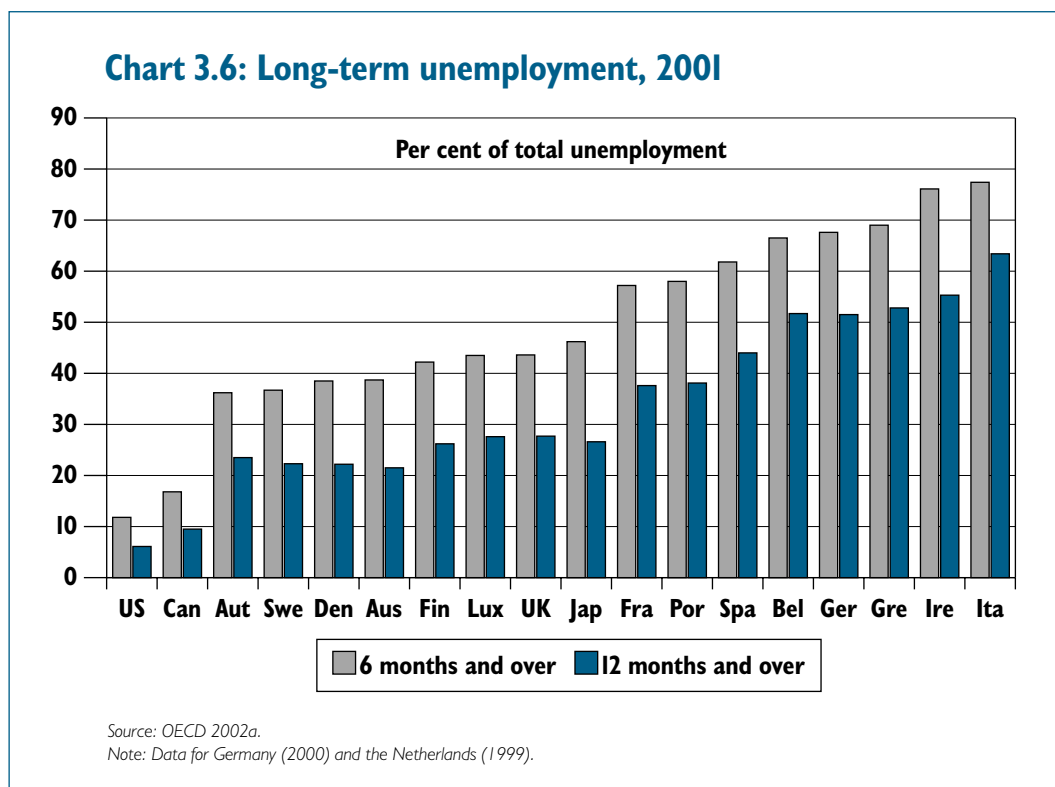
...but challenges remain

3.30 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.

3.31 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.

3.32 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).

3.33 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).



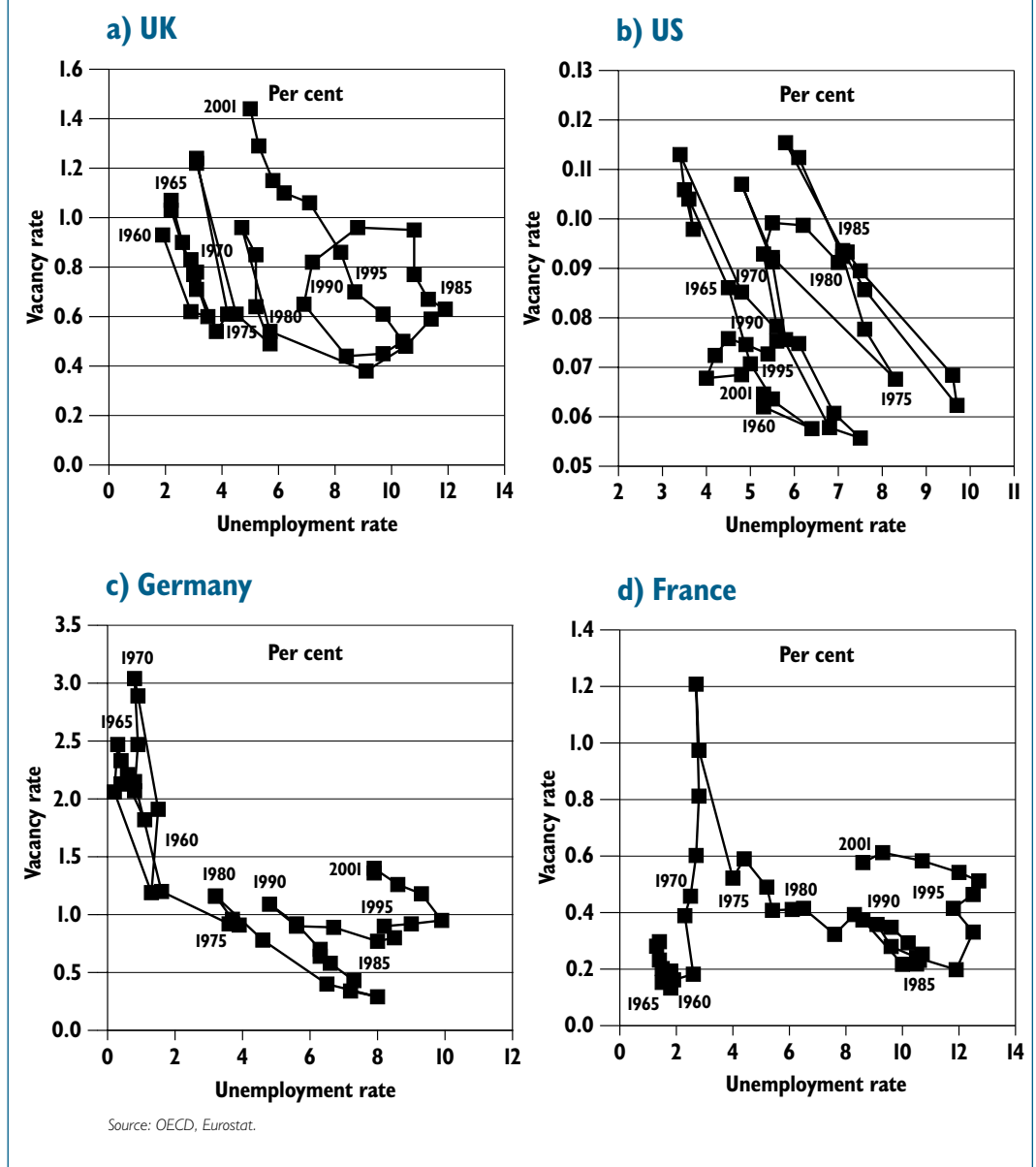
Mismatch

3.34 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

3.35 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.

Chart 3.7: Beveridge curves for the UK, US, Germany and France



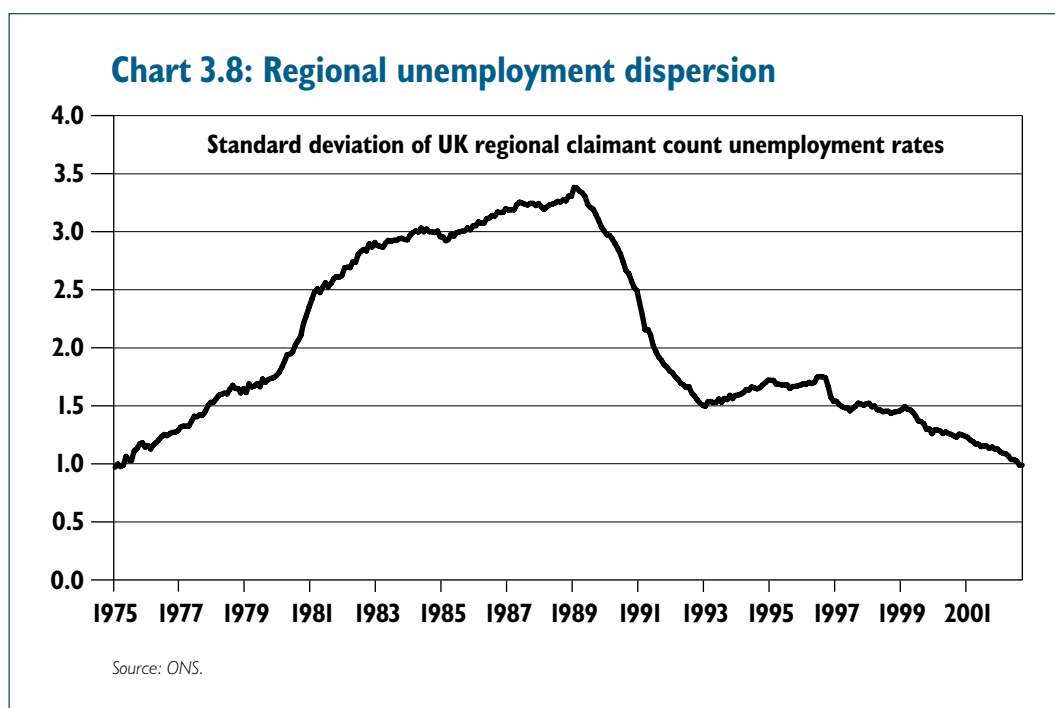
An inward shift in the UK in the 1990s... **3.36** Chart 3.7a shows that the curve shifted outwards in the UK from the 1960s to the 1980s, and particularly in the latter decade. However, it appears that the curve has shifted inwards over the 1990s, indicating an improvement in the matching process between 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).

Regional unemployment differentials... **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.

...have fallen in the UK... **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.



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

	UK claimant count unemployment rate	Regional claimant count unemployment		
		Min	Max	Average absolute deviation from UK rate (percentage points)
November 1979	3.7	2.1	7.8	1.3
April 1990	5.2	2.4	12.8	2.1
December 2002	3.1	1.7	4.7	0.8

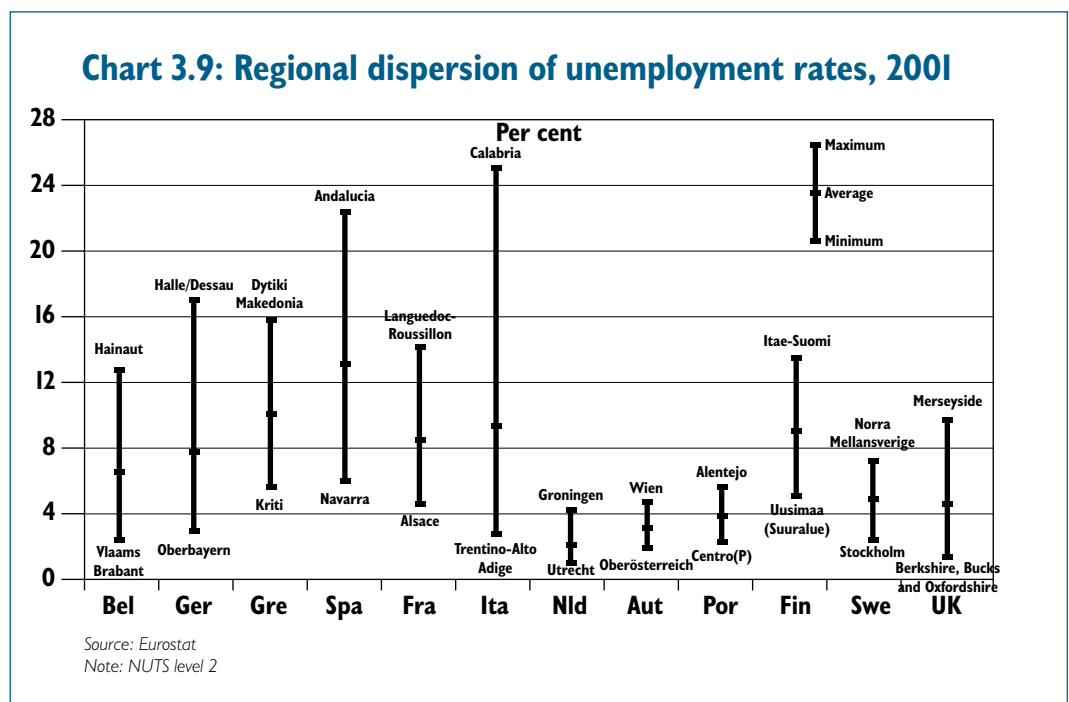
Source: ONS.
Note: Dates for 1979 & 1990 refer to trough in UK unemployment rate.

...but pockets of unemployment remain

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.⁷ 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).



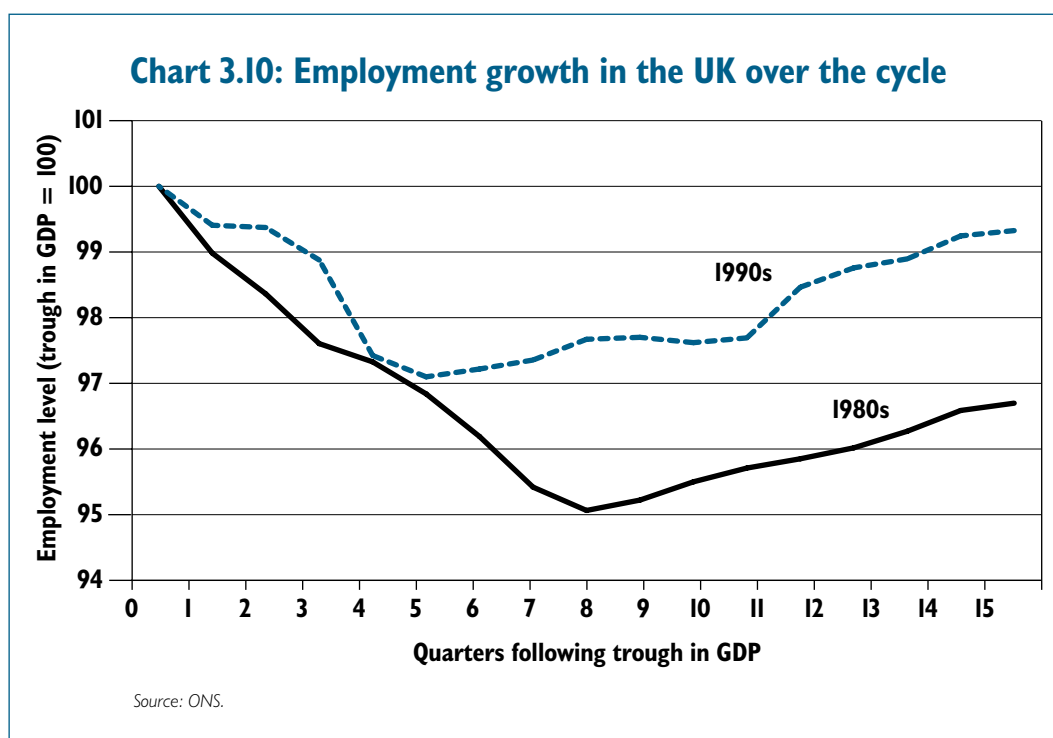
⁷ Chart 3.9 excludes data from the Departements D'outre-Mer region of France.

The cyclical responsiveness of employment

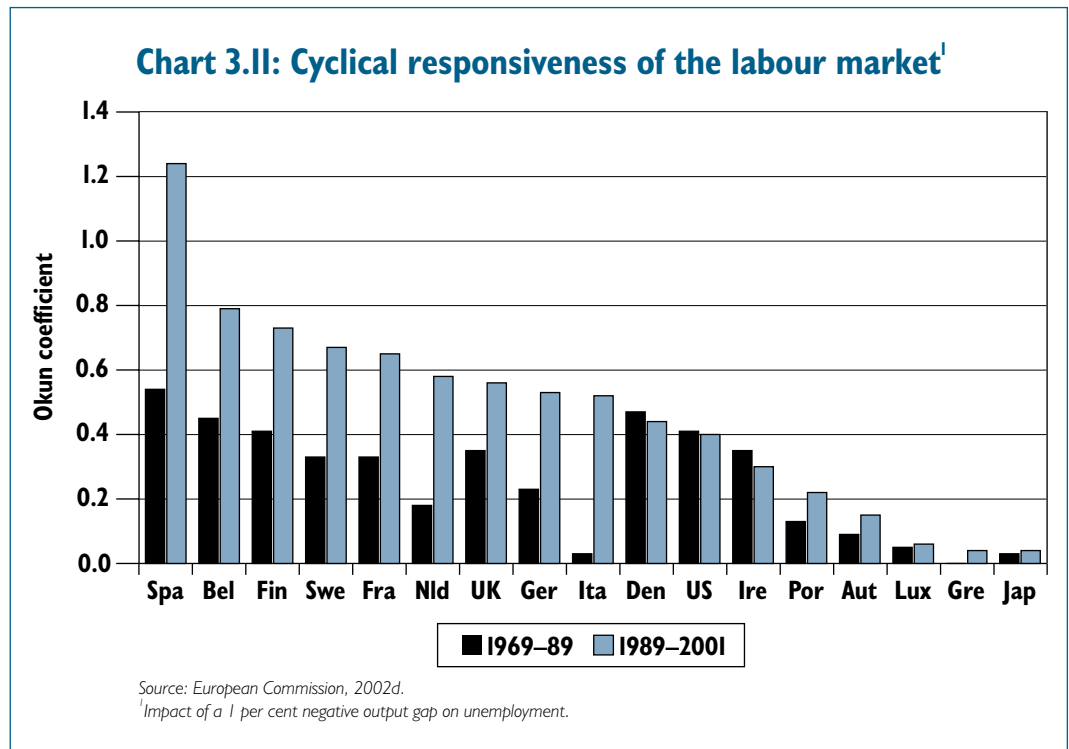
3.45 Evidence suggests that the employment intensity of growth reflects the degree of labour market flexibility (Döpke, 2001) and the employment performance of the EU in the most recent cyclical upturn has been a key focus for attention. However, whether it is always beneficial for employment and unemployment 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.

Employment appears more responsive to the cycle

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).



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.



3.48 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

3.49 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.

3.50 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.

3.51 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.