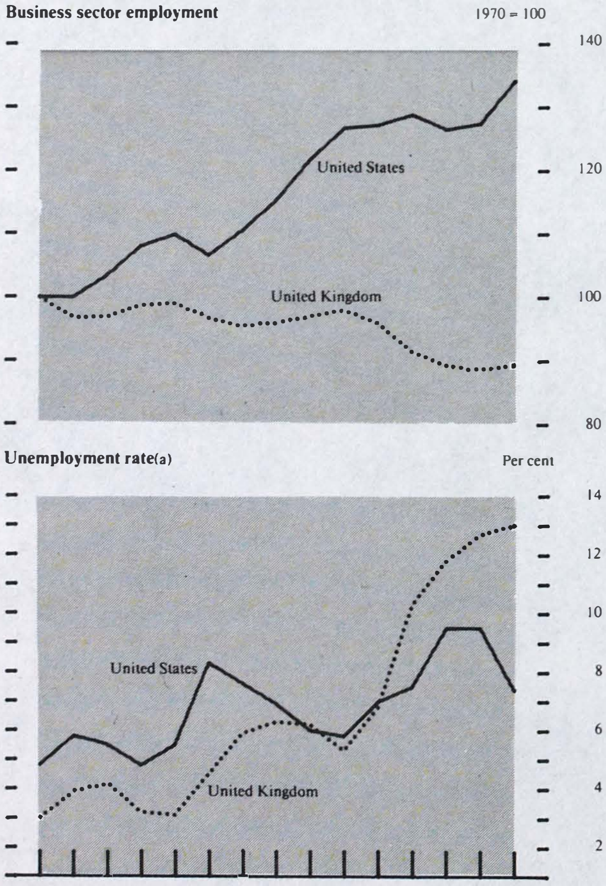
Employment creation in the United States and the United Kingdom

This article summarises the results of research carried out in the Bank[1] *which assesses the contributions of a range of factors, including the real wage and its determinants, that may account for the greater buoyancy of employment in the United States than in the United Kingdom during the period between 1974 and 1984. The results suggest that in both countries, other things being equal, an increase in the real wage has a depressive effect on employment. The research also suggests that the most important means by which the sizable increase in US labour supply over this period was largely drawn into employment was through reducing real wage growth.*

Introduction

Many economic commentators have drawn attention to the difference in growth rates of employment in the United States and European countries, including the United Kingdom (see, for instance, the December 1985 *Bulletin*, pages 501–2). For example, between 1974 and 1984, business sector employment[2] rose by over 20% in the United States, while in the United Kingdom it fell by 10%. The unemployment rate in the United States did increase over the same period, but the rise was much less than in this country (see Chart 1). Explanations for this divergence in performances have ranged from the allegedly greater strength of aggregate demand in the United States to the adverse influence of 'supply-side' factors in Europe. The latter can include features such as labour mobility and training, the ease of starting new businesses and the effects on incentives of high marginal tax rates. In this context, it has also been suggested that different growth rates of real wages in relation to the determinants of labour productivity in each country have been a highly important factor behind the difference in employment growth in the United States and the United Kingdom. Chart 2 shows that over the period between 1974 and 1984 as a whole real wages grew more slowly in the United States than in the United Kingdom. This was despite a more rapid increase in the capital stock in the United States, which through its effect on labour productivity would in itself have validated faster real wage growth in the United States than in the United Kingdom. In turn, the causes of the disparity in real wage behaviour may be an appreciable part of the explanation for the greater buoyancy of US employment.

Chart 1
Employment and unemployment in the United States and the United Kingdom



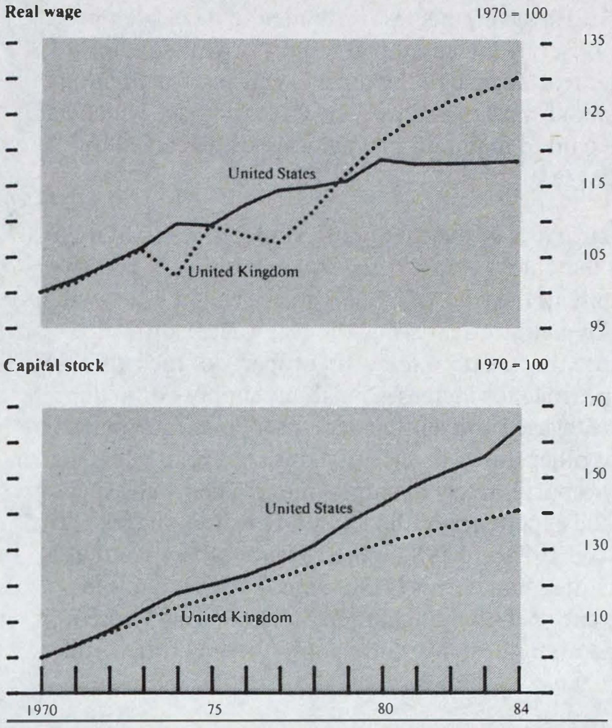
(a) OECD standardised definition.

The choice of the period between 1974 and 1984 as the one over which to attempt to explain the difference in the growth rates of US and UK employment is to some extent arbitrary, but it is of special interest because it contains the two oil price shocks which had major implications for the determinants of employment. The method used to obtain the results involved two distinct steps. First, equations to explain the determination of employment and the real wage were estimated econometrically for each country, using annual data for the period from the early-1950s to the mid-1980s. Second, these equations were used to estimate the contributions of each of the explanatory factors identified to the changes

(1) This work is reported more fully in 'Employment creation in the US and UK: an econometric comparison', by I M Michael and R A Urwin, Bank of England *Discussion paper* No 27, to be published shortly.

(2) Business sector employment is defined here as total employees less those in general government and, in the United States, in agriculture. It excludes self-employment. Full definitions of the data used in the research are given in *Discussion paper* No 27.

Chart 2
The real wage and the capital stock in the United States and the United Kingdom



in employment in the United States and the United Kingdom between 1974 and 1984. Both stages of the work are discussed in turn below.

Econometric estimation

For each country a demand for labour function was estimated which contained those factors thought to affect the level of output that firms find it most profitable to supply. These include the real wage,(1) the determinants of labour productivity (in particular the capital stock), the real price of imported inputs and also a set of variables that may influence the strength of aggregate demand autonomously, notably activity in the rest of the world and domestic economic policy. The estimated responsiveness of employment to changes in real wages is one aspect of the employment equations that is of particular interest. The equations suggest that a 1% rise in the real wage would, other things being equal, eventually reduce employment by just above 1% in the United States and just below 1% in the United Kingdom.

The determinants of the real wage were also modelled. For each country, the preferred form of this equation included terms affecting the demand for, and supply of, labour, as well as the tax 'wedge' between the cost of labour to the employer and the net income received by the employee. (This wedge comprises effective rates of direct, indirect and payroll tax.) In addition, for the United States the equation included a measure of the pressure on real wages exerted by trade unions (no effect of variations in trade union activity on real wages in the United Kingdom could be identified). A notable feature of the estimated US and UK real wage equations is that in the United States an increase in aggregate demand appears to permit an increase in output prices relative to labour costs, thereby reducing the real wage. On the other hand, an increase in demand in the United Kingdom was found to exert upward pressure on the real wage, suggesting that nominal earnings are probably quite sensitive to a tightening of the labour market.

There are, of course, a number of qualifications relating to the estimated equations, which should be borne in mind when considering results derived from them. For example, each of the explanatory variables can be measured using a variety of detailed conceptual and practical data definitions, and the results obtained may be sensitive to the definitions selected. In addition, the sample size used was not large relative to the number of coefficients estimated in each equation. This may have impaired the quality of the statistical results.

Contributions to the changes in US and UK employment between 1974 and 1984

The second stage of the research was to use the estimated employment and real wage equations for each country to compute the numbers shown in the table. This involved first using the econometric results to calculate the contributions of each of the explanatory factors, including the real wage, to the changes in employment in each country. The contribution of changes in the real wage to the change in employment was then replaced by contributions to the changes in the real wage itself, in order to provide in a single table a more complete explanation of employment trends.

The most important cause of faster US employment growth was estimated to have been the more rapid increase in labour supply in that country. The greater part of the large rise in the US labour force appears to have been drawn into employment through exerting a substantial

Contributions to changes in US and UK business sector employment between 1974 and 1984
Percentage points

	United States	United Kingdom
Change in employment	21.9	− 9.9
Change in labour supply	25.2	3.6
Difference	− 3.3	−13.5
Explained by:		
Tax 'wedge'	− 3.5	− 4.3
Autonomous demand	− 1.3	− 3.0
Trade union wage pressure	6.9	—
Real price of imports	− 5.0	0.3
Other identified effects	− 2.8	− 5.5
Total explained	− 5.7	−12.5
Residual	2.4	− 1.0
Total	− 3.3	−13.5
Memorandum item:		
Change in unemployment rate (OECD standardised definition)	*1.9*	*7.7*

(1) The term 'real wage' is defined here as the real product wage, ie the real cost of labour to the employer. This is measured by deflating the nominal cost of labour to the employer by the price of domestic output at factor cost. The same deflator was used to calculate 'real' import prices.

depressive effect on real wage growth, which boosted the demand for labour. Nevertheless, not all of the rise in US labour supply was drawn into employment over the period considered, while UK employment actually fell despite some increase in the labour force. The table presents the results so as to highlight the possible factors behind these developments.

The results reveal some similarity between the factors determining employment in each country. Most notably, the tax 'wedge' was calculated to have reduced employment growth in each country by some 4 percentage points between 1974 and 1984. This was due to increases in the economy-wide effective tax rate leading to higher growth in nominal labour costs (as employees sought to maintain their post-tax earnings) which employers did not pass on fully when setting prices. The resulting increase in the real wage was estimated to have depressed the demand for labour. In addition, in both countries shifts in autonomous influences on aggregate demand were estimated to have reduced employment over the period as a whole. For the United Kingdom, the direct impact that these shifts had on employment was to a considerable extent counteracted by the depressive influence they also had on real wages.

There were also some important differences in the factors that influenced employment in the two countries. A major stimulus to US employment was estimated to have arisen from a decline in trade union wage pressure, as measured by the proportion of employees in trade unions, which appears to have depressed US real wage growth. Among the most commonly cited factors underlying this are changes in the occupational, regional and demographic composition of the labour force and deregulation of certain industries. No systematic influence of variations in UK trade union activity on real wages and employment during the estimation period of the equations could be detected. It is because of this result that trade union wage pressure is shown in the table as making no contribution to the gap between UK employment and labour supply growth. However, this finding should be treated with caution given the limitations of the measures of UK trade union wage pressure used.

In the United States, unlike the United Kingdom, increases in the real price of imports (especially in the wake of the two 1970s oil price shocks) were calculated to have had a detrimental effect on employment. The direct impact in the United States was to raise employment, in particular through the substitution of labour for imported inputs. However, this was estimated to have been more than offset by increased real import prices inducing a higher real wage, both by directly causing a tightening of the labour market and by increasing the wage which has to be paid to maintain the real wage as perceived by employees.

The structure of the equations estimated was specified such that, other things being equal, in the long run an increase in the level of labour supply would be drawn into employment by depressing the real wage. However, because this is only a long-run property of the equations, it is possible for increases in labour supply not to depress the real wage sufficiently over a particular time period to allow, other things being equal, the change to be reflected equiproportionately in employment. The results suggest that the experience of the United Kingdom in this regard between 1974 and 1984 was less favourable than that of the United States; this is the main factor behind the difference between the United States and the United Kingdom in the contribution of 'Other identified effects' in the table.

Conclusions

A number of conclusions emerged from this study. Evidence was found that provides some support for the view that, other things being equal, an increase in the real wage has a significant depressive effect on employment. In particular, the most important means by which the sizable increase in US labour supply was largely drawn into employment over the period studied appears to have been through reducing real wage growth. A variety of other differences in the contributions of the various explanatory factors to the changes in employment in the two countries were identified. For example, declining trade union coverage in the United States, induced by a variety of economic and social developments, and the associated downward pressure on real wage growth were not mirrored in this country over the period examined. But, at the same time, there were some similarities in the employment determination experience of the two countries. For instance, in both the United States and the United Kingdom increases in the tax 'wedge' led to upward pressure on the real wage which had a detrimental effect on the growth of employment.