

Deregulation and Unemployment – The UK Experience

Patrick Minford*

Summary

■ The UK's natural rate of employment is estimated, using the Liverpool Model of the UK. The conclusion is that micro rigidities in the labour market have been substantially diminished by the supply-side reforms of the 1980s but that macro policy has been particularly savage during 1989–92, as a by-product of the ERM experiment. It is argued that there is therefore promising scope for bringing unemployment down sharply without re-igniting inflation. Recent trends appear consistent with this view. The implications for Sweden are that “supply-side” reforms (which must operate through lowering wages costs) can have beneficial effects on the natural rate but that they take a long time to work, particularly if demand policy is working against them as in the recent ERM episode. ■

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In early 1993, UK unemployment again all but reached the notorious 3 million mark, or 10.6 percent. A number of economists suggested at the time that it would not fall much below that rate in the foreseeable future. The implication of such a view was that the UK “equilibrium” or natural rate was of this order. Though unemployment had begun to fall fairly decisively in late 1993 and had reached 9.4 percent in May 1994, a number of economists (for example, Metcalf, 1994, and Barrell *et al.*, 1994) continue to take a pessimistic view of the natural rate.

In this paper I set out an alternative view based on the work of my research group in Liverpool and Cardiff, which is embodied in the Liverpool model of the UK. We have used this model for regular forecasts, policy analysis and other exercises since 1980: a full account of it in its early annual form is given in Minford *et al.* (1984) or Minford (1983) for the natural rate model only, and in its latest quarterly version in Minford *et al.* (1990).

In brief we would argue that the economic reforms of the 1980s created a new flexibility in the labour market which has pushed the natural rate down sharply from the peak of nearly 12 percent it reached early in that decade. By contrast, our opponents argue that these reforms, besides being unattractive in other dimensions, did not even succeed in their central purpose of bringing down the natural rate. The controversy is of particular relevance for Sweden where similar policies are now under discussion. It is also relevant in Europe generally in the context of the “Social Charter” proposals and the already high level of wage costs inclusive of social charges that prevails through most of mainland Europe.

**This paper draws heavily on material in Minford and Riley (1994). I am grateful for most helpful comments to Lars Calmfors; I also thank other conference participants, and in particular my discussant Bertil Holmlund, for their comments.*

There is a substantial amount of evidence that policies raising, directly or indirectly, the level of wage costs have contributed in a major way to rising European unemployment (*e.g.* Davis and Minford, 1986; Bean, Layard and Nickell, 1987; Layard, Nickell and Jackman, 1991). In particular the duration of benefits has been found to contribute to explaining cross-country variation in unemployment (Layard *et al.*, 1991). But our work stresses that once a benefit system is in place, which acts as a floor below which wages cannot fall, many other factors can then contribute to raising the wage costs of employers, so reducing employment and raising the natural rate.

In this paper I focus on the UK. The Liverpool model is new classical in approach, though it includes a unionised sector which strikes collective wage bargains. These bargains generate a fairly slow rate of real wage adjustment, which underlies the model's slow rate of adjustment of real variables. By contrast there is little nominal rigidity in the model (notably in its current quarterly version) so that inflation rapidly reaches its equilibrium (apart from some modest adjustment element contributed by real variables such as real balances). Nominal disturbances have their effect through interest rates and wealth effects. Real disturbances come from changes in "supply-side" variables such as tax rates, benefits and union power.

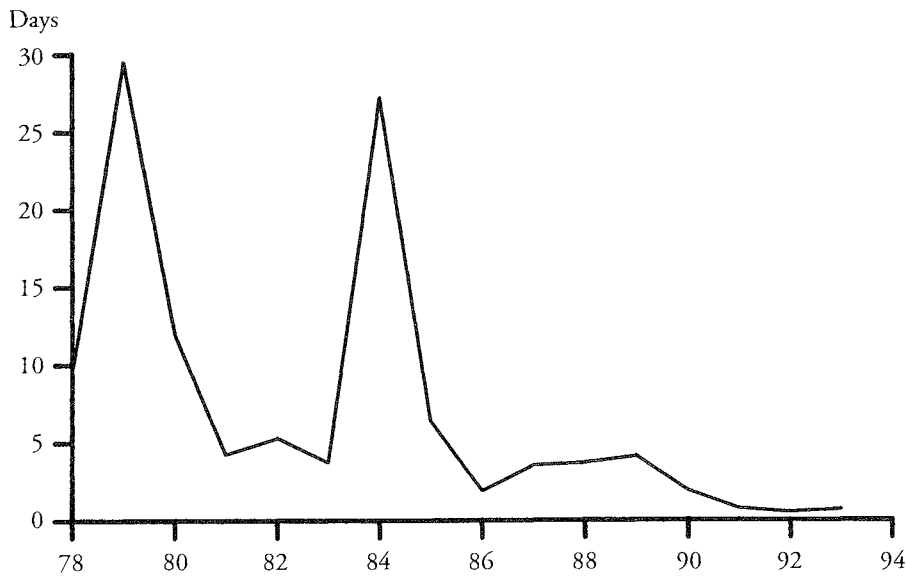
In what follows I give a brief description of the economic reforms of the 1980s (the "deregulation" of our title). Then I discuss first the model estimate of the natural rate and the contribution to it of different exogenous variables. Secondly I look at the deviation of the actual from the natural unemployment rate and the factors explaining this. Finally I discuss the contrast between this set of findings and the more pessimistic claims referred to at the start.

1. The reform policies of the 1980s

In 1979 Margaret Thatcher's first government was elected. It was committed to a wholesale change in British economic policy and institutions. Re-elected in 1983 and 1987, and again in 1992 under John Major, it has by now had fourteen and a half years to carry out its programmes. They have been extensive, covering privatisation and related changes in public organisation, marginal tax rates, benefits, union powers and regional support.

Of the parts which have particularly affected the labour market, the

Figure 1. Working days lost in strikes
Thousands

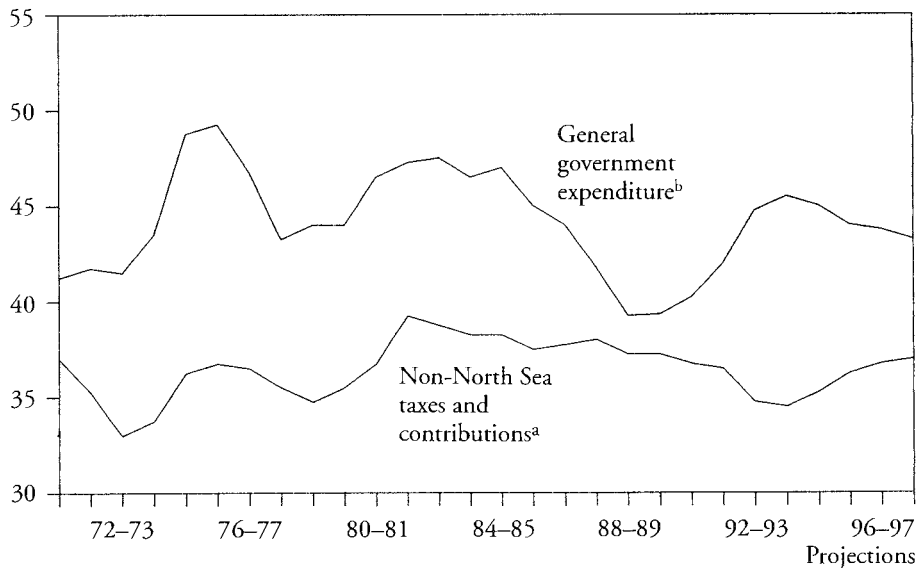


most important was the curbing of union powers through a series of union laws. The right to strike is now heavily qualified: a strike cannot be for "secondary" action, it must be strictly about wages and work conditions, and it must be backed by a ballot. Action beyond the law carries on conviction serious financial penalties and these are massively compounded if the courts are defied, by sequestration provisions. Picketing is strictly limited so that other workers hired to strike-break can gain easy access to the place of work.

Combined with the fall in traditional manufacturing employment, which has greatly reduced union membership, these reduced rights have eliminated union power as it was known in Britain during the turbulent 1970s. During that period a coal strike brought down a government and the car industry was frequently paralysed by strike action. By contrast strike action in the UK is now virtually non-existent (Figure 1).

Changes in taxation have not succeeded in bringing down the average tax rate (revenue as percent of GDP). Indeed, if one adjusts for the business cycle, this has risen since 1979, approximately from 35 percent to 38 percent, in order to help eliminate the 5 percent of GDP public borrowing of 1978–79, while public spending (again adjusted for the cycle) has fallen by some 2 percent of GDP, from 44 percent to 42 percent approxi-

Figure 2. Public expenditure and revenue
Percent of money GDP



^a Non-North Sea taxes and social security contributions are expressed as a percent of Non-North Sea money GDP.

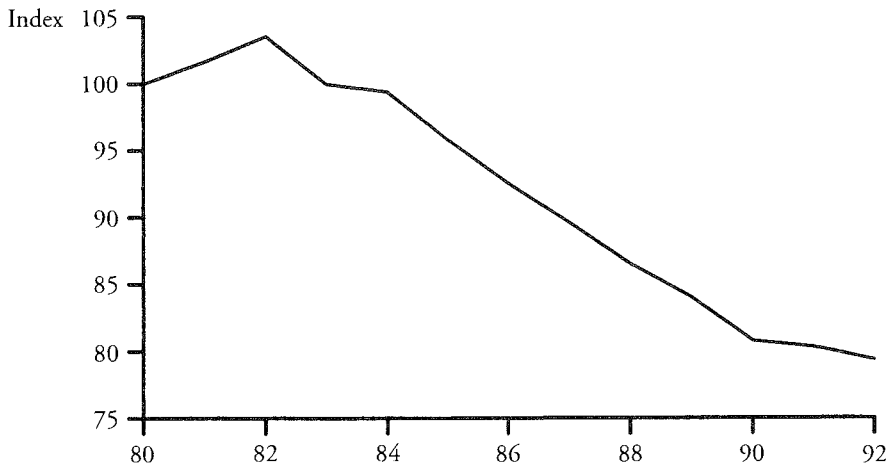
^b Excluding privatisation proceeds.

Source: HM Treasury, November 1993

mately (Figure 2). However, marginal income tax rates have been reduced at certain important points in the income distribution. The top rate of income tax has come down from 83 percent to 40 percent and the "standard" rate from 33 percent to 25 percent (this rate is the marginal rate for the majority of taxpayers; otherwise there is now only the single top rate and a lower rate band of 20 percent). When all tax rates, direct (including National Insurance) and indirect are taken into account, the marginal tax rate on the average worker has in approximate terms come down from 49 percent to 47 percent and on the top earner from 86 percent to 51 percent (Matthews and Minford, 1987, my updating). The paradox that this has been achieved while the average tax rate has risen is explained by rising incomes: people are paying tax on more of their income.

The unemployment benefit system has been changed in several ways. The wage-related benefit element was abolished in December 1981 and benefits were left as a subsistence amount only: for example, for a man on average earnings, replacement ratios in April 1993 ranged from 22 percent (if he was single and over 25) to 54 percent (if married, with his wife not

**Figure 3. Benefits (excluding earnings-related supplement)
relative to real wages
1980=100**



working and two small children). The benefit in turn was indexed to prices and not to wages. Though the interaction of indexation with reductions in rent subsidies caused the benefit package to rise in the mid-1980s, the overall effect was to lower replacement ratios (Figure 3). Finally the conditionality of benefits on serious search which had effectively disappeared by 1979 was eventually tightened up in the "Restart" programme of 1986 (a counselling service for the unemployed, particularly the long term, who risked loss of benefits in the case of refusal to cooperate).

It was also recognised that the housing market obstructed mobility and so contributed to unemployment black spots: this inequality of unemployment would in an economy with real wage rigidity also increase aggregate unemployment (see Minford, Ashton and Peel, 1988: the mover loses subsidised housing which he cannot easily or quickly regain elsewhere). Liberalisation of the private rented sector was brought in in 1988, while sales of publicly-rented housing ("council house" sales) proceeded steadily throughout the period.

In addition to these formal measures, the privatisation programme and general policy thrust (towards both subsidy reduction and macro tightening) hardened budget constraints across industry and government, causing workers to be dismissed on a large scale if their marginal product did not cover their cost. One can think of this change as removing a large

implicit and some explicit subsidy from employment, especially within the nationalised sector.

This brief account must suffice (for more details see Matthews and Minford, 1987; Lawson, 1991; and the *locus classicus*, Thatcher, 1993). In general one can say that the intention was to move the UK as close as possible to the US labour market environment. It seems clear that considerable progress was made in quite a short period. Though one could argue (Calmfors and Driffill, 1988) that a movement from a heavily centralised union-dominated environment, such as Austria and Sweden, to a US-style environment might not reduce unemployment, such an argument would not apply to the UK which started from a decentralised but union-dominated environment, the worst case situation. Instead one might expect an unambiguous improvement in unemployment performance from such a determined movement towards the liberal end of the spectrum; a movement consisting not merely in the wholesale reduction of union power throughout the economy but also in further decentralisation towards firm-level bargaining. These changes should have resulted in both higher productivity and greater wage flexibility (Calmfors, 1993).

I now turn to formal econometric analysis of the issue. But before doing so, I should make a point about the data: we use UK unemployment as measured by the benefit count (i.e., the raw national count, seasonally adjusted, of people to whom benefits are paid because they are unemployed). It is often suggested in popular debate that frequent changes to the benefit eligibility rules have distorted this series. However, it turns out that the resulting series tracks very closely the one generated by the UK Labour Force Survey (large sample): this series conforms to the ILO definition of those actively seeking work according to survey questions. The advantage of the claimant count series is that it is timely, totally accurate in its own terms, and extends back to 1950.

2. The natural rate

The natural rate of unemployment is calculated in the Liverpool model from the equilibrium version of four behavioural equations, listed as A.1–A.4 in the Appendix:

- (1) An equation for wages (A.1), which are treated as the supply price of labour. Real wages are a function of unemployment, real unemployment

benefits grossed up for direct taxes, the unionisation rate, productivity-shift dummies and (with only a small impact) surprise movements in prices. Because there is assumed to be a non-negligible non-union sector, this is not a “bargaining” equation as e.g. in Layard and Nickell (1985) and their many followers. The wage equation is identified by the exclusion of current influences on labour demand, as noted by Manning (1993). The non-union wage depends on benefits and unemployment (the proxy for labour supply), but the average wage also includes the union wage whose mark-up depends on unionisation subject to lagged adjustment. The labour supply curve is argued to be asymptotic to a benefit floor below wages at the one extreme and at the other to some physical maximum on labour supply: these extremes generate a curved shape which is neatly captured by the relationship here between the log of wages and the log of unemployment. Because benefits are available indefinitely with limited effective checks on the determinedness of search activity, benefits produce a reservation wage which for low-skilled workers may exceed their marginal productivity, creating an “unemployment trap”.

(2) A price-cost equation (A.2), which is derived from the implicit (constant returns) production function. Under constant returns to scale, an industry’s equilibrium price is with free entry driven to equality with average costs: we found no econometric evidence of variation of the mark-up over the cycle, which suggests that the threat of entry, or other sources of stickiness, are sufficient to enforce this condition continuously on average across the economy. Because capital is mobile and capital costs exogenous (set at the world level), this equation produces a relationship between home prices, foreign prices (in domestic currency terms) and nominal wages which can be converted into one between the real exchange rate and the real wage cost. The other arguments are tax rates, time and productivity – shift dummies. The cost of capital was not included because we did not have an adequate proxy for the true cost involved which is both very long term and composed of a varying mixture of equity and bond finance.

(3) A relation for (un)employment (A.3): unemployment is used as the labour quantity for simplicity since it is this that enters the wage equation. Equation A.3 is derived from the equality between the wage and labour’s marginal revenue product: the latter is conditioned on output, by substitution from the production function. Hence this equation can be thought of as the production function between labour and output once

labour hiring has been optimised in response to costs. Other arguments in this equation are, apart from wage costs, tax rates and productivity as in A.2.

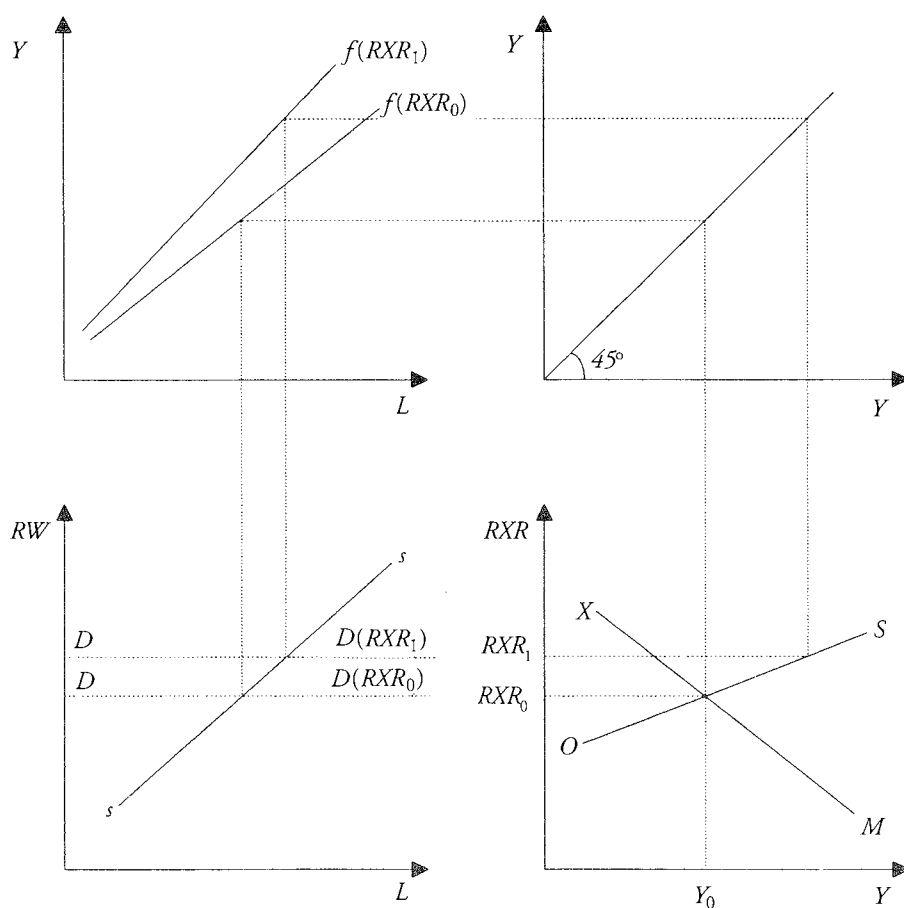
Capital is not an argument, but there is a lagged adjustment term. This follows from our assumption of capital mobility: we assume that the capital stock is varied, some time in advance of full utilisation, to accommodate equilibrium output (i.e., the natural output rate corresponding to the natural unemployment rate): the lags arise because this variation takes time. Given that prices are set mainly in relation to long-run average costs, this set-up implies that output and labour demand respond in the short run to aggregate demand, with capital utilisation variable.

The previous three equations give rise to an “open economy supply curve” of output, with the real exchange rate as its principal argument: an increase, i.e., a decline in competitiveness, causes more supply because this lowers relative import prices, enabling home suppliers to pay higher real consumer wages while still maintaining their producer price to cost margin.

(4) The fourth equation, (A.4), is for the current account balance in real terms, treated here as a function of home and foreign output, and the real exchange rate. The effect of net interest, profits and dividends related to accumulated net foreign assets is neglected as second order (inclusion of it would produce a small hysteretic influence on the equilibrium). We assume that, in equilibrium, stocks of net foreign assets cannot be changing: this is an approximation to the stock-flow equilibrium condition that all asset holdings be increasing at the steady state growth rate – effectively assuming net foreign assets to be close to zero. Imposing the assumption of a zero current account we can turn this equation into a long-run demand relation, where output is negatively related to the real exchange rate and positively to world output (trade).

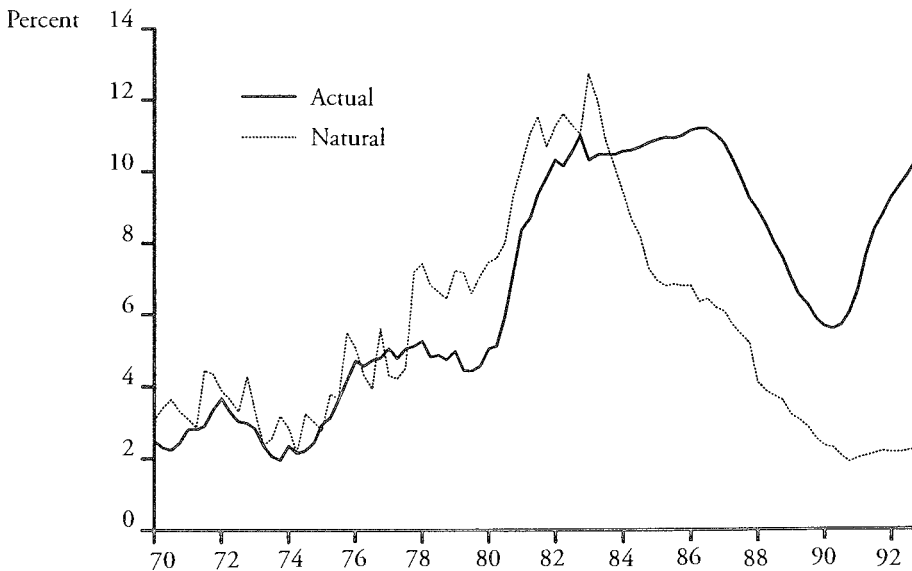
We can illustrate the system in the long run by a four-quadrant diagram (Figure 4) adapted from Parkin and Bade (1990) (for a detailed derivation see Minford, 1992, chapter 8, appendix). Notice that capital has completely adjusted in this long run solution: capital flows in from abroad or from domestic savings at the world cost until normal profit is restored and there is full capital utilisation.

Quadrant (i) shows labour’s supply price and the real wage that firms will pay (equations A.1 and A.2, respectively). Quadrant (ii) shows the la-

Figure 4. The open economy under imperfect competition in the long run

bour-output production relation (equation A.3); in both quadrants (i) and (ii) the real exchange rate is shown as an argument of firms' behaviour: a rise in the real exchange rate implies that for a given producer real wage (i.e., wages deflated by producer prices) there is a higher consumer real wage (wages deflated by consumer prices) to which labour supply responds. Quadrant (iii) transfers the resulting output to quadrant (iv); the result in this quadrant is the positively sloped open economy supply curve (OS) between the real exchange rate and output, to be set beside

Figure 5. Actual and natural rate of unemployment
Percent of workforce



the negatively sloped current-account equilibrium condition (the demand schedule) between these two variables.

The four equations, A.1–A.4, illustrated in this diagram, are solved for the long-run values (i.e., with lags suppressed) of the four endogenous variables: output, the real exchange rate, real wages and unemployment. The long-run solutions, the natural rates, are conditioned on the values of the exogenous variables (tax and benefit rates, etc.). In the diagram the equilibrium values of the endogenous variables are the ones that correspond to the intersection between the output and demand curves. In the appendix, equation A.5 shows the solution equation for the natural rate of unemployment.

Figure 5 shows the overall natural rate of unemployment we obtain over the last two decades from this equation. It rose to a peak of over 10 percent in 1981–83 and since then has fallen to around 2 percent today.

I now proceed to decompose this rather striking pattern of change in the natural rate into its constituent determinants. Figure 6 shows the results. Figure 6a shows the effect variable by variable. Figure 6b shows the total effect together with its constituents at three different points in the

Figure 6a. Decomposition of the natural rate
 Effect on log natural rate by variable, as compared with 1970 Q1

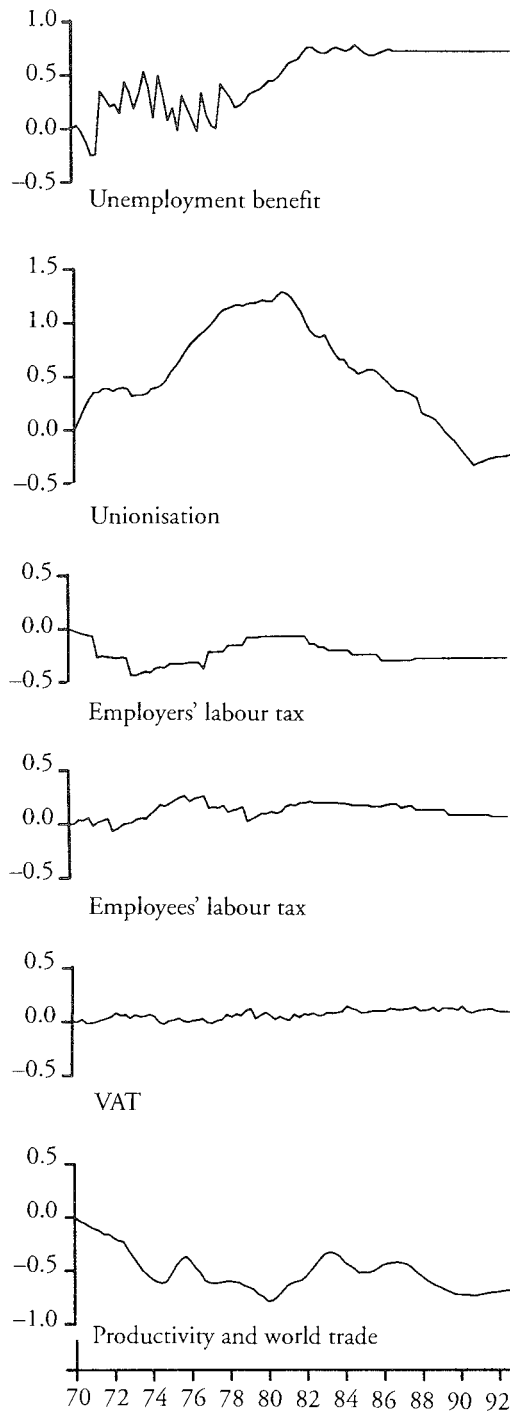
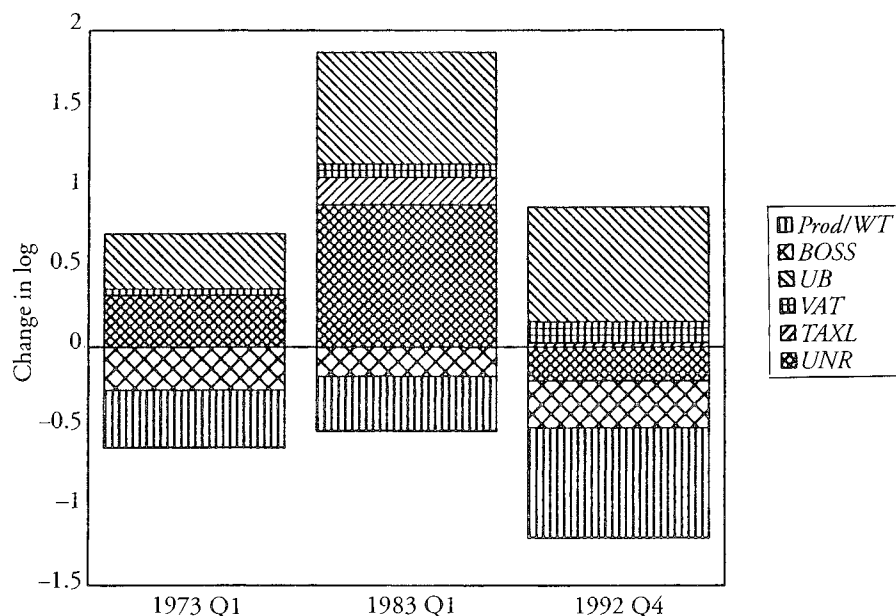


Figure 6b. Sources of change in the log of the natural rate of unemployment

Natural logs, change from 1970/71



Note: *Prod/WT* is productivity and world trade; *BOSS* is employers' labour tax; *UB* is unemployment benefit; *VAT* is value added tax; *TAXL* is employee's labour tax; and *UNR* is unionisation rate.

period. The base of the comparison is the first quarter of 1970.

Interestingly the flat profile of benefits during the 1970s rules them out as having contributed to changes of the natural rate in that decade. However, in the 1980s the sharp rises in council house rents, fully compensated in unemployment benefits, but only partially in in-work benefits, substantially raised the benefit package. Besides this contributory role, the key role of benefits is in giving the labour supply schedule a fairly high elasticity as real wages fall. This real wage rigidity arises, as discussed above, from benefits creating a reservation wage or "benefit floor" for low-wage workers.

The main elements producing change are unionisation, followed by taxes of various sorts. The former rises steadily to 1980 before steadily falling back. The tax rates move in largely offsetting ways until 1983 when their net effect is to lower unemployment, led by falling employer taxes on labour. Besides these we can see that the trend elements (productivity and world trade trends) produce a tendency to improvement which

is reversed by the serious world recession of the early 1980s. Thereafter the ground is gradually recaptured over the 1980s.

One way to summarise this story is to say that after the world recession of 1982, trends in productivity and world markets managed to dominate (just) the effect of rising benefits, while 1980s supply-side influences reducing union power and lowering taxes had further reduced equilibrium unemployment by 1991 to below the level of 1970, restoring it (at around 2 percent) well towards the natural rate of the 1950s (put by the annual model at about 1 percent).

3. The deviation of actual unemployment from the natural rate

There are two sources of deviation of the actual from the natural rate of unemployment, or the "unemployment gap". First as the natural rate changes it takes time – about three years – before actual unemployment is fully affected. This lag can be thought of as the delay in investment taking advantage of new profit opportunities or the capital stock being run down as losses are realised. It follows that changes in the natural rate affect the unemployment gap in a manner illustrated in Figure 7: a falling natural rate raises the gap while a rising one lowers it. The net effect on the gap of the estimated changes in the natural rate is shown in Figure 8. In the early 1970s this factor generated a fluctuating but on average small gap. But by the late 1970s and early 1980s, as the natural rate grew steadily, this had become substantially negative, peaking in 1981 at minus 2.6 percent. From 1981, as the natural rate levelled off, the gap dropped to zero and then from 1983 as the natural rate fell, the unemployment gap rose to a peak of 2.6 percent in 1984. It then fluctuated before falling away as the natural rate levelled off in the late 1980s.

The rest of the gap is the effect of shocks to demand, the "demand element" (estimated here by subtraction of the first element, just discussed, from the total gap). We do not attempt to decompose this element here. In Matthews and Minford (1987) we did attempt it (using the earlier annual Liverpool model) for a purely floating period from 1980–86. On this occasion we are faced with a much longer period and a regime change – the shadow ERM 1987–88 and the ERM proper 1990–92 – which upset this floating transmission in a manner that is not easy to model. Instead of formal decomposition we make some informal

Figure 7. Effect of natural rate (U^*) on the deviation of the actual from the natural rate ($U-U^*$)

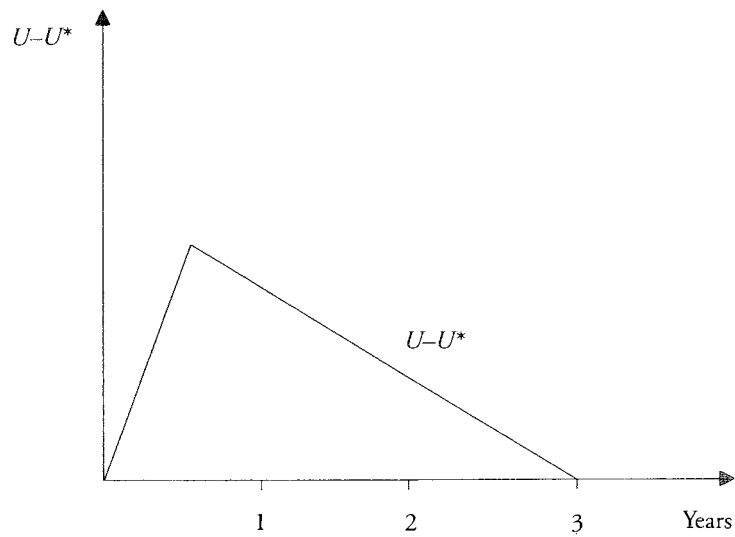
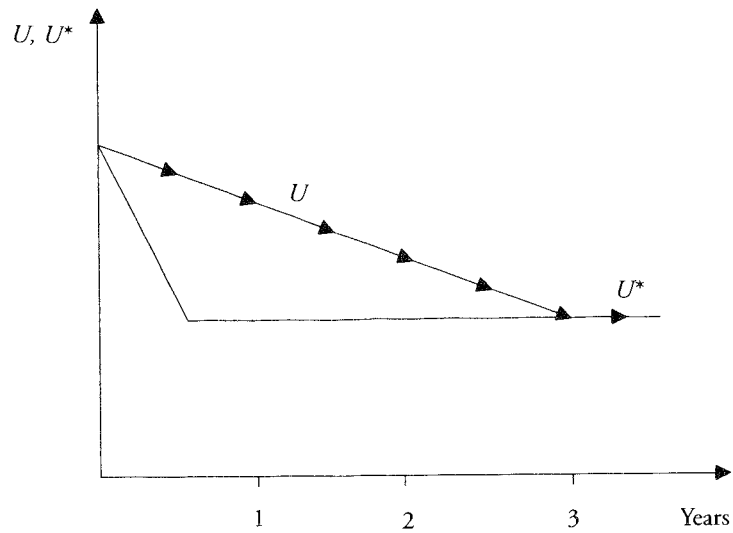
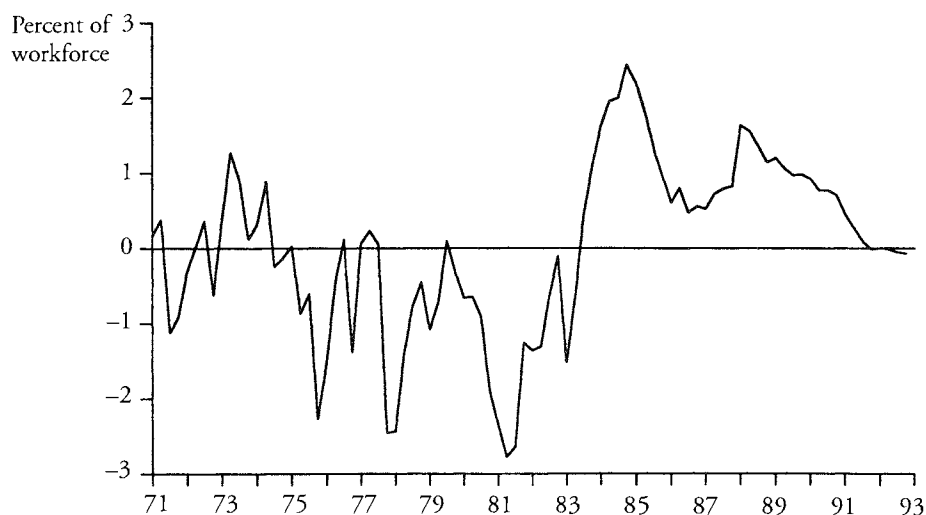


Figure 8. Effect of the natural rate on the deviation of the actual from the natural rate

U^* = Natural rate of unemployment, U = Actual rate



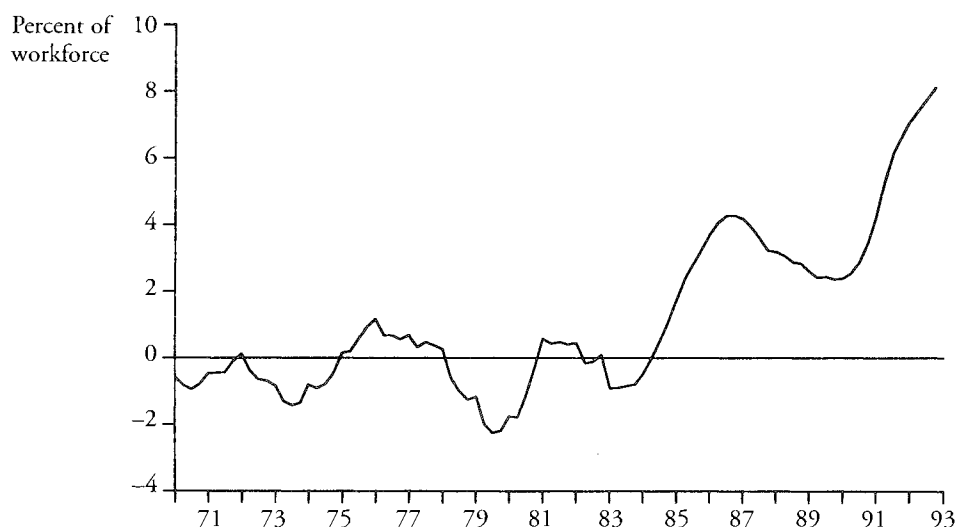
comments about the demand pressures revealed by this demand element.

Figure 9 shows this element. During most of the 1970s fluctuations in it were fairly modest. There was a peak of demand-induced unemployment of 1.1 percent in 1976, against a trough of -1.6 percent in 1973, a not-improbable net swing of 2.7 percent from the Barber boom to the recession after the first oil price rise. Thereafter the swings become larger. In the 1979 expansion it falls to -2.3 percent in 1979 before emerging into the trauma of the 1980s.

During the early 1980s demand-led unemployment fluctuates between 0.7 percent and -0.7 percent before the lagged effects of persistent deflation (see Matthews and Minford, 1987) come through from 1984 onwards. The peak of demand-induced unemployment is 4.3 percent in 1986 (much in line with Matthews and Minford, 1987). From then the recovery begins to reduce the total, bringing it down to 2.5 percent in 1990.

At this point we run into the phase of deflation associated with the aftermath of the 1988 boom and the entry into the ERM. According to these figures, demand-led unemployment had reached no less than 8 percent by the end of 1992. They clearly indicate that this deflation has been of an extraordinary magnitude.

Figure 9. The demand element in the deviation of the actual from the natural rate



Clearly these numbers must be treated with more than the usual caution. There are inevitably high standard errors around natural rate estimates; as equation A.5 for the natural rate illustrates, the process of extracting the long-run implications of estimated short-run equations, some of whose arguments are poorly determined, reduces average t-statistics. Nevertheless the natural rate is an important concept for policy-makers, crucial to gauging the pay-offs to supply- and demand-side policies. The direction and size of movements in the natural rate and the decomposition of unemployment change into supply- and demand-driven components do, in my view, indicate four main things. First, that there was a large rise in the natural rate between the 1960s and the early 1980s. Second, that this rise was probably more than reversed by the somewhat draconian labour market reforms of the 1980s. Third, that there have been two major deflationary episodes with sharp effects on unemployment in the 1980s. Fourth, that of these the second, associated with ERM entry, was the more deflationary and had the sharper unemployment effect, on a scale comparable with that of the 1930s.

4. Interpretation and contrast

The picture drawn on these pages could not be in greater contrast with the generality of comment one read about the UK economy during much of 1993, though this is now changing somewhat in the light of the steady fall in unemployment from its 10.6 percent peak in January 1993 to its most recent rate of 9.4 percent in May 1994. Nevertheless a pessimistic view of the natural rate remains widespread, whether among forecasting houses or economic commentators, business (e.g. Martin, 1994) and academic (e.g. Metcalf, 1994, and Barrell *et al.*, 1994). This view seems to be that the UK has little excess capacity and that in the labour market, wage pressures will restart at unemployment rates not much below 10 percent, most of these unemployed being considered to exert little if any market pressure on wages because of the power of "insiders".

There is of course a natural human tendency to extrapolate current experience. This tendency is all the greater in a world of rapid change, today's par excellence; it is indeed hard to rely on past regularities when these are being upset with equally alarming regularity.

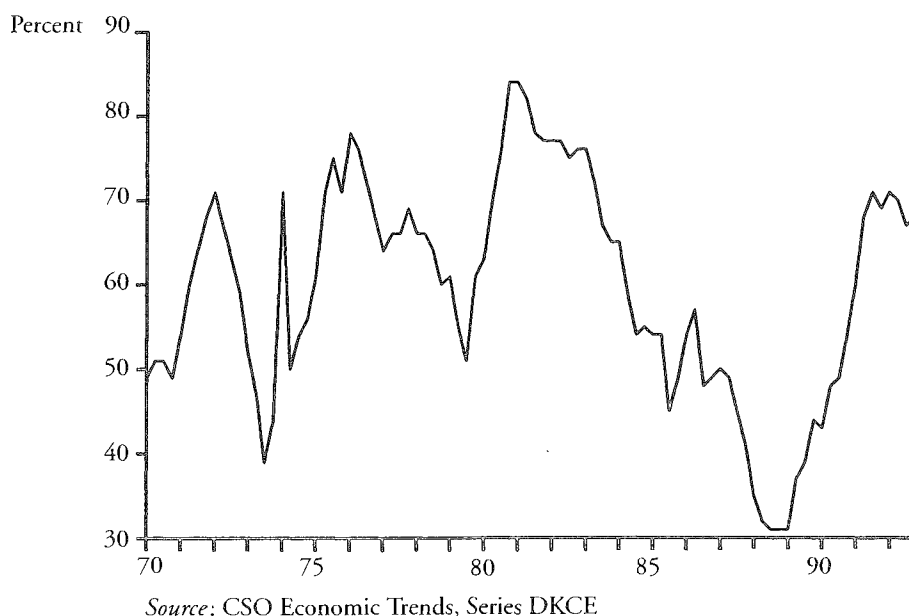
But this tendency can be overdone. This chronic Lucas critique condition does not imply that we should jettison all modelling relationships in favour of a know-nothing random walk model whose implication is that one should extrapolate the present endlessly into the future. We must try to separate out the shifting from the stable relations, adjust our models rather than throw them away. Some adjustments have in this spirit been made to our estimated model in recent years, notably for the ERM and the productivity shifts induced by the major tax reforms of Nigel Lawson. But we can see no reason to chuck the whole thing away: indeed though I have not dwelt on this aspect here, our forecasting experience and what formal exercises we have done on the model's forecasting capacity have been reasonably encouraging (e.g. Matthews and Minford, 1987; Matthews, Minford and Riley, 1986; and Andrews *et al.*, 1990).

What sort of evidence is adduced for the agnostic random walk position against our own? There are three main pieces of which I am aware.

First, it is often argued that wage behaviour became aggressive again as unemployment fell towards the end of the 1980s (Metcalf, 1994). Wages grew by 10 percent by 1990, after averaging 8 percent through the mid-1980s.

Second, unemployment itself is argued to be on a rising ratchet-like trend. In the latest boom it fell only to 5.6 percent (in mid-1990), against 4.9 percent in the last cyclical upturn of 1979. According to most forecasts

Figure 10. CBI survey – firms reporting below capacity working
Percent



it is not expected to fall much below 9 percent for many years to come (H.M. Treasury, 1994).

Third, on capacity it is said that there is limited excess capacity because of accelerated write-offs of plant during this recession. As evidence we are pointed to CBI survey data showing that in the current upturn an unusually low proportion of firms is working below capacity (Figure 10).

Let us take each of these three arguments in turn.

Why did the rate of increase in average earnings rise from 8 percent to 10 percent between the mid-1980s and 1989? According to my story this reflected rising inflationary expectations in context of the excessive monetary expansion of 1987–88, which caused GDP to grow by over 9 percent in those two years, after five years of expansion, and produced bottlenecks in goods markets. It is actually remarkable (Figure 11) how little wage settlements reacted to the sharp rise in inflation over the same period (from 5 percent to 10 percent on the retail price index and around 8 percent on “underlying” measures); we explain this by our view that unemployment was above, not below, the natural rate. For the second half

Figure 11. Nominal wage growth and inflation
Percent

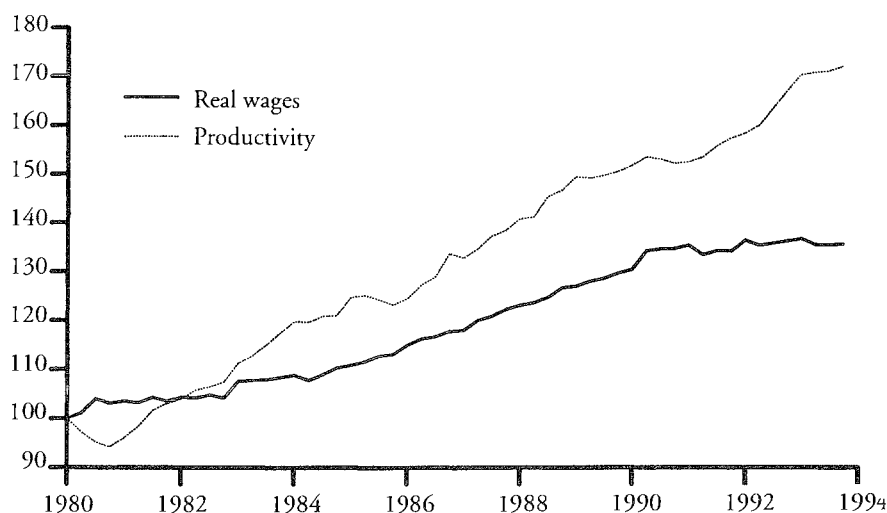


of the 1980s (Figure 12) real wages were growing by substantially less than the productivity growth rate in manufacturing and even below the (probably understated) rate in the whole economy.

Then we must query the lack of pressure from “outsiders”, in the form of long-term unemployed. Those unemployed more than a year had dropped by end-1990 to 1.8 percent of the workforce from 4.6 percent in 1987. Furthermore the turnover rate in the labour market has risen to around 14 percent of the labour force per year against 9 percent in 1988. Hence some 50 percent of the labour force may have “quit” jobs and experienced a spell of unemployment in the last four years; even allowing for double and even more frequent spells among these, this high rate of activity suggests a wide experience of unemployment in the labour force. This is not a picture of supine labour market behaviour by the unemployed, not even those with the misfortune to become “long-term” unemployed.

Nor would supineness be consistent with other evidence we have on benefits (now exceedingly low relative to the wages of all but the lowest paid), on the greater vigour with which worktesting (plus job and re-start programmes) is being applied, and finally the weakness of the traditional-

Figure 12. Real wages and manufacturing productivity
1980Q1=100



ly militant unions. A particularly relevant fact on benefits is that some 50 percent of the unemployed in 1992 were non-manual (25 percent are in the highest occupational groups: professional, managerial and administrative), against around 25 percent in the last recession (12.5 percent in the highest occupational groups). For these workers replacement ratios are nugatory under the UK's flat rate (basic subsistence) benefit system. One can assume desperate efforts to regain employment among this large group.

Why did unemployment drop only to 5.6 percent in 1990 and why did it rise to 10.6 percent by January 1993? Our answer is that owing to our tragic errors in monetary policy we had to hit on the head an economy which otherwise could have remained on a sustained growth path of some 3 percent. After we had so hit it on the head we joined the ERM proper and continued raining blows on its prostrate body. The resulting deep recession produced an unemployment gap of around 8 percent. In short it was recession, not the trends of a poorly-performing labour market, that delivered us this apparent ratchet.

Finally, why the apparent lack of capacity? There is little doubt that the sheer speed of the 1987–88 expansion overtook available capacity at

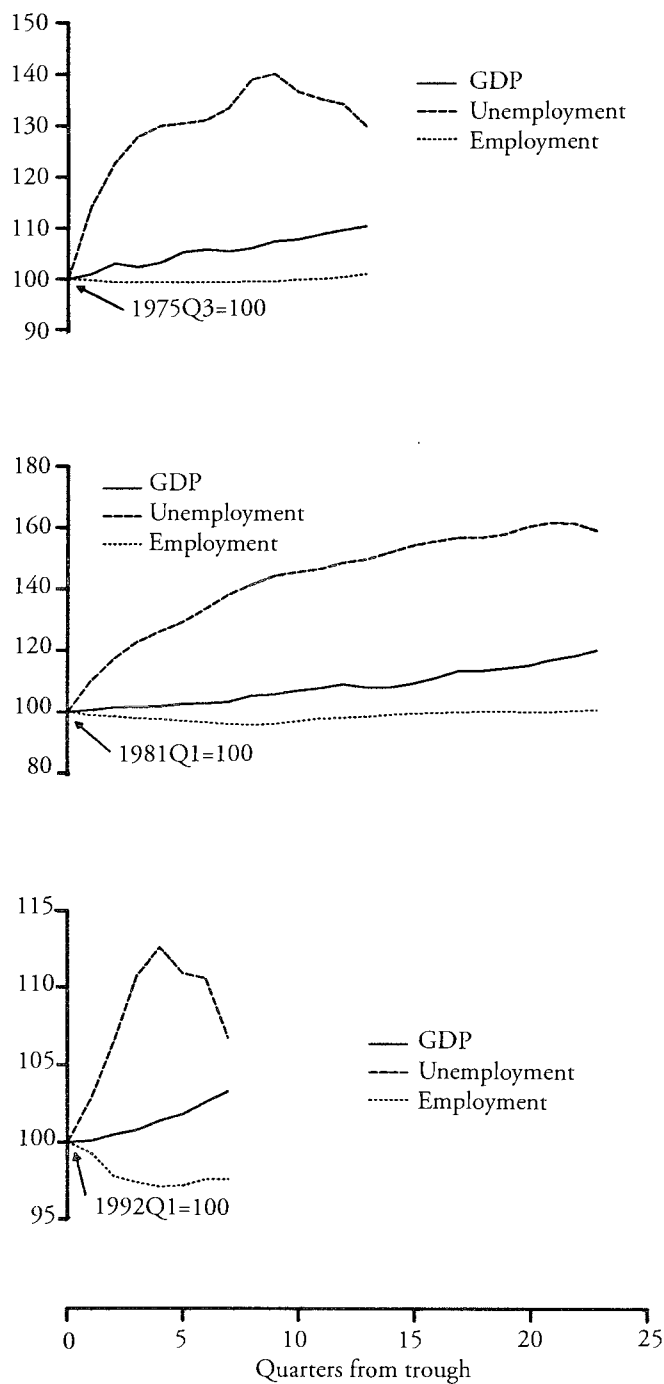
that time. Nevertheless a distinction must be made between actual capacity and the potential output (or natural output rate) associated with the natural rate of unemployment. It takes time for the necessary capital to be installed, to exploit the profit opportunities linked with potential output: had growth been steady and controlled in 1988, goods market overheating could have been avoided and unemployment would have fallen without the interruption caused by the temporary inflationary pressure and the subsequent squeeze.

As for capacity, the CBI question is qualitative and must be treated with caution: it has been informally suggested by the CBI that survey answers take account of workers as well as plant, in which case under the UK's permissive hire-fire regulations it is an elastic concept. Furthermore capacity, even when "written off", does not thereby cease to exist. It is merely discounted by managers or even sold off; interestingly total private gross fixed investment fell only 20 percent from its peak during the recent long and severe recession suggesting that there is likely to be large-scale spare (physical) capacity. This is confirmed by the extreme inertia of investment so far in the upturn.

A supposed lack of excess capacity is also difficult to reconcile with the answers to the CBI's pricing question (virtually no respondents plan price rises), especially given the large rise in imported material costs since exit from ERM. There has been clear unwillingness to raise prices and margins, which can only be explained by an extreme desire to raise sales and use of capacity.

But ultimately the test of these views is the emerging evidence of the UK economy's behaviour. This has not chimed well with such general pessimism about the natural rate. Wage settlements have continued to fall, and are currently (spring 1994) at around 2 percent; earnings in January were 3.5 percent up on a year ago, having fallen from 7.5 percent at the beginning of 1992. Meanwhile unemployment has fallen unusually early in the business cycle recovery, suggesting greater flexibility in the labour market (Figure 13). The economy's growth has been partly driven by a modest recovery of private consumption (in early 1994 up about 2.5 percent on a year earlier) and not at all by government whose expenditure is flat. However, a major contribution to GDP growth (about 1 percent in the past year) has been net exports (at a time when half the UK's export markets, viz. the EC, have been in sharp decline). This also suggests a supply-side origin of growth.

Figure 13. Growth and the labour market from the trough of recession



5. Conclusions

This paper brings together the implications of our work at Liverpool for the issue of micro rigidities and macro obstructions in the UK labour market. Our view is that the micro problems have been substantially diminished by the supply-side reforms of the 1980s but that macro policy has been particularly savage during 1989–92, as a by-product of the ERM experiment. Looking ahead, I see promising scope therefore for bringing unemployment down sharply without risks of reigniting inflation. Recent trends appear consistent with this view. Ironically, we have a government which has needed and still needs to be persuaded towards greater monetary ease – not a typical democratic experience!

The implications for Sweden are that “supply-side” reforms can have beneficial effects on the natural rate but that they take a long time to work. It is obviously helpful if demand policy is not working against them, as unfortunately has frequently been the case in the UK. In practice some conflict is usually unavoidable since supply-side problems and inflation tend to coincide. But the UK experience also shows that the “ERM discipline” is a hit-and-miss affair: the ERM creates a high potential for macro instability.

It is worth stressing a final point about “active” labour market policy, for which Sweden is famous: the policy whereby people are denied benefits after 14 months and instead, if they cannot find jobs, are given training or a government job. The model in this paper works through the level of wage costs and so to employment and unemployment: if the training or government jobs are provided at wages either higher or no lower than benefits, then they will act as a wage floor just as benefits do in countries where benefits are indefinite (this has been suggested and substantiated for Sweden’s active labour market programmes by Calmfors and Forslund, 1991). If the government is willing to absorb the unemployed and the people willing to pay higher taxes to fund them, then low unemployment can be contrived at high wage costs by so forcing an increase in the labour-intensity of GDP. But its price is a reduction in GDP productivity (properly measured to reflect the nil contribution of surplus government employees – contrary to usual national accounting procedures) and living standards (low Soviet unemployment was produced in this manner). As a “cure” for unemployment it may be worse than the disease.

Ultimately a low natural rate depends on policies that permit wages to find a level equal to productivity especially at the bottom of the pay scale where benefits and ideas of social justice put an artificial floor below

them. These policies are politically hard to implement in Europe because of its tradition of Christian and Social Democracy; in the United States with its tradition of decentralised liberalism there has never, except during the Great Depression, been much pressure to pursue such policies. One might add that the “productivity” referred to above could be interpreted in trade-theoretic terms as the “equalised wage for equivalent labour” of Heckscher–Ohlin–Samuelson. Without going into detail (but see Drèze and Sneessens, 1994) it is clear that the downward pressure of low wage costs in “emerging markets” makes the policy dilemma of European governments the more acute. However, there seems to be no escape through the horns of this dilemma. EC governments will have to acquire toughness on these matters if they are to bring down high natural rates of unemployment.

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Appendix

The natural rate equations

The equations for the quarterly model were estimated by FIML, with expectations exogenised but iterated between FIML estimates. Standard errors are shown in parentheses. The equations that define the natural rate are as follows:

Wage (labour supply) equation (A.1)

$$\begin{aligned} D\text{Log}(RW) = & 0.13 + 0.37 UNR + 0.20 \text{Log}(BEN[1 + TAXL]) \\ & (0.12) \quad (0.31) \quad (0.07) \\ & - 0.014 \text{Log}(U) - 0.20 \text{Log}(RW[-2]) - 0.06 PUE + 0.19 PUE[-1] \\ & (0.027) \quad (0.07) \quad (0.22) \quad (0.22) \\ & + \text{productivity-shift dummies} \end{aligned}$$

Price equation (A.2)

$$\begin{aligned} RXR - \text{Log}(1 + VAT) = & -0.3 + 1.53 \text{Log}(RW[1 + BOSS + VAT]) \\ & (0.1) \quad (0.55) \\ & - 0.0034 TIME + \text{productivity-shift dummies} \\ & (0.0017) \end{aligned}$$

Unemployment (labour demand) equation (A.3)

$$\begin{aligned} \text{Log}(U) = & 22.7 - 2.15 \text{Log}(Y) + 0.79 \text{Log}(RW[1 + BOSS + VAT]) \\ & (7.8) \quad (0.72) \quad (0.55) \\ & + 0.011 TIME + 0.79 \text{Log}(U[-1]) + 0.31 ERROR[-1] \\ & (0.0052) \quad (0.10) \quad (0.09) \end{aligned}$$

Current balance equation (A.4)

$$\begin{aligned} XVOL/0.32 Y^* = & 10.4 + 0.54 \text{Log}(WT) - 1.2 \text{Log}(Y) \\ & (5.7) \quad (0.23) \quad (0.62) \\ & - 0.44(0.6 RXR + 0.4 RXR^*) \\ & (0.24) \end{aligned}$$

The resulting reduced form coefficients for the natural rate of unemployment within the current model version are as follows:

Reduced form equation for natural rate (derived from A.1–A.4)

$$\begin{aligned}
\text{Log}(U^*) = & 11.2 \text{UNR} + 5.3 \text{Log}(1 + \text{BOSS}) + 5.0 \text{Log}(\text{BEN}[1 + \text{TAXL}]) \\
& (7.0) \quad (4.0) \quad (3.9) \\
& + 0.023 \text{TIME} + 7.4 \text{Log}(1 + \text{VAT}) - 2.72 \text{Log}(\text{WT}) \quad (A.5) \\
& (0.03) \quad (4.7) \quad (2.13) \\
& + \text{constant} + \text{productivity-shift dummies}
\end{aligned}$$

The symbols used are:

D	= difference operator
$*$	= equilibrium ("natural")
U	= unemployment
Y	= output
RXR	= real exchange rate (log of domestic consumer price index relative to foreign one in domestic currency)
RW	= real wage (money wage deflated by consumer price index)
PUE	= unanticipated inflation (the inflation rate over a year earlier as compared with the average rational expectation of inflation of four previous quarters: in each quarter an equal number of overlapping 1-year wage contracts are assumed)
BOSS	= employer tax rate on wages
VAT	= indirect tax rate
UNR	= unionisation rate (union members as fraction of employment)
BEN	= real value of unemployment package
TAXL	= employee tax rate on wages (incl. national insurance, net of in-work benefit rate)
WT	= world trade
XVOL	= current account balance (in constant prices)
ERROR	= equation prediction error, actual minus predicted

Productivity-Shift Dummies

- (1) One from 1983 picks up the effect of the rise in union sector productivity and associated wage rises (as poor practices were bought out) – this raises the log of U^* (as union workers are shaken out) by 0.12 in 1983, falling slowly with UNR to 0.10 in 1992.
- (2) A second from 1988 picks up a further trend in productivity growth, related to the cut in the top marginal rate of income tax from 60 percent to 40 percent, which raised labour's marginal product generally and also wages – this on balance reduces unemployment, cumulating to a reduction of 0.02 in the log of the natural rate of unemployment.