



BANK OF ENGLAND

Speech

British Unemployment and Monetary Policy

Speech given by

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INTRODUCTION

Many economists use a notion like the so-called ‘natural’ rate of unemployment (or the allied concept of the non-accelerating inflation rate of unemployment – the NAIRU, hereafter) in thinking about the labour market. Of course, the NAIRU is extremely difficult to measure, and, often, there is significant disagreement about where it is at a given moment in time.

As I discuss below (in Section 2), since 1992, British economic forecasters have displayed a tendency to over-predict the level of unemployment, while simultaneously also over-predicting inflation. It is likely that these forecast errors have come from having been too gloomy about the NAIRU. In Section 3, I discuss econometric evidence suggesting that, in the 1990s, the traditional relationship between inflation and unemployment broke down.

It is likely that a whole host of structural changes in the labour market (Sections 4 and 6) and the product market (Section 5) have contributed to a significant fall in the NAIRU in the 1990s. However, it is unlikely that the level of equilibrium unemployment has, as yet, fallen to the ‘Golden Age’ levels of the 1960s. (Section 7)

Looking ahead, although there are some factors that might increase the NAIRU (Section 9.1), there are several other labour and product market factors which should allow the equilibrium unemployment rate to continue to fall in coming years (Sections 9.2 and 9.3), with the magnitude of the fall depending importantly on how quickly the internet has an impact on margins and costs, and, perhaps, also, on the degree to which the Government extends its New Deal. Hence, in summary, the NAIRU today is probably lower than in the 1980s, but higher than in the 1960s. However, it is probably heading lower.

Of course, a belief that the NAIRU has fallen, and is likely to fall further is “good news”, but it does not, of itself, imply that one might become complacent about inflation. In that regard, the Monetary Policy Committee (MPC, hereafter) shall continue to look at a wide variety of indicators in order to assess inflation prospects.

SECTION 2 CONSENSUS FORECASTS OF THE NAIRU HAVE BEEN TOO GLOOMY

In analysing the UK labour market, most economists rely on the concept of the NAIRU. For example, as Budd (1999) notes in their responses to the House of Commons Treasury Committee in 1998, all members of the MPC said that the ‘natural’ rate was a useful concept.¹

Table 1, which is drawn from Robinson (1997), shows how the consensus estimates of the NAIRU in the UK have evolved over time. It is clear that the average estimate of the NAIRU has moved significantly over the period, having ranged between 2.9% and 7%. Moreover, at any given moment in time, there is significant disagreement about what the NAIRU is – the range of estimates is, typically, rather wide. Also, there seems to be a tendency for estimates of the NAIRU to go up and down with actual unemployment. This property of NAIRU estimates appears to be more general – Palley (1999) reports a regression of the OECD’s estimates of structural against actual unemployment rates in 1986, 1990 and 1996, and finds that every percentage point increase in the actual unemployment rate is associated with a rise in the structural rate of 0.915 percentage points!

Another interesting feature of Table 1 is that the average estimate of the NAIRU barely changed between 1981-7 and 1995-6, and this was despite a whole host of structural changes in the labour and product markets. It is, perhaps, therefore hardly surprising that

¹ It is standard practice to draw a distinction between the long-run NAIRU and a shorter-run NAIRU. On the latter concept, as its name, implies, some factors (eg lagged unemployment, import prices) can, temporarily, affect the equilibrium level of unemployment, without having an effect on the long-run NAIRU. Some authors (eg King (1998)) prefer to describe the long-run NAIRU as the ‘natural’ rate. In what follows, we primarily focus on the determinants of the long-run NAIRU, though, inevitably we will also discuss some factors that only affect the short-run NAIRU.

when attempting to forecast the year-ahead unemployment rate, UK economists (have tended to over-predict unemployment (see Table 2) – ie in every year since 1993 unemployment has fallen by more than the consensus projections.

TABLE 1

NAIRU ESTIMATES IN BRITAIN¹

	AVERAGE ESTIMATE OF NAIRU	RANGE OF ESTIMATES	ACTUAL RATE
1969-73	2.9	1.6-5.6	2.5
1974-80	5.7	4.5-7.3	3.8
1981-87	7.0	5.2-9.9	10.1
1988-90	6.1	3.5-8.1	6.8
1995-96	6.7	3.5-8.9	8.2

Source: Robinson (1997)

Note: 1. Claimant count (as percentage of the labour force).

TABLE 2

UNEMPLOYMENT (Q4, Mns) – ACTUAL VS CONSENSUS FORECAST, 1993-99

YEAR	YEAR-AHEAD¹ FORECAST	ACTUAL OUT- TURN	FORECAST ERROR
1993	3.15	2.79	-0.36
1994	2.73	2.46	-0.27
1995	2.24	2.21	-0.03
1996	2.16	1.98	-0.18
1997	1.81	1.43	-0.38
1998	1.30	1.29	-0.01
1999 ²	1.57	1.26	-0.31
AVERAGE FORECAST ERROR			-0.22

Source: HM Treasury Panel of Independent Forecasts

1 1 year ahead forecast made in December of the preceding year (eg '1994' refers to the forecast made in December 1993).

2 Actual out-turn for 1999 is for Q3.

On average, the consensus has over-predicted the number of unemployed by as much as 220,000 per year -this is a strikingly large error given that the number of unemployed has fallen by an average of about 219,000 a year over this period.

A notable feature of the last few years is that the tendency to over-predict the number of unemployed has gone hand-in-hand with a tendency to over-predict inflation (see Table 3) – eg, the Panel of Independent Forecasts has over-estimated RPI inflation in five of the last seven years, with an average forecast error of -0.4 percentage points. A similar picture emerges in terms of forecasts for RPIX inflation (on average forecast error of -0.4 percentage points, which is high in relation to a target of 2½%), and for average earnings growth (average error of -0.5 percentage points).

In order to illustrate the improvement in the trade-off, Table 3A displays the forecast errors that were made vis-à-vis unemployment and average earnings growth together. Specifically, in 1993 and 1994, although unemployment fell by 360,000 and 270,000 more than expected, average earnings growth came in 1.9% and 0.3% lower than expected – a clear case of the inflation-unemployment trade-off being rather better than had been expected. In 1995, unemployment fell by 250,000 rather than the expected 220,000 which would imply that earnings growth should have come in modestly lower than expected, but, in fact, earnings growth was a full 1.3% below what had been expected (3.1% rather than 4.4%). In 1996, unemployment fell by more than expected (230,000 rather than the expected 50,000), but earnings growth continued to surprise on the downside (3.6% rather than 4.2%), thereby continuing to point to an improvement in the inflation-unemployment tradeoff. In 1997, although unemployment fell by 380,000 more than expected, the improved trade-off manifested itself in earnings growth coming in 0.4% lower than had been expected. It is only in 1998 and 1999 that earnings growth has come in (modestly) higher than expected though, in 1999, that is probably attributable to the level of unemployment being 310,000 lower than had been expected.

TABLE 3

INFLATION – FORECAST¹ VS ACTUAL

	RPI (Q4) (Annual Growth)			RPIX (Q4) (Annual Growth)			AVERAGE EARNINGS (Annual Growth)		
	Forecast ¹	Actual outturn	Forecast error (Actual minus forecast)	Forecast	Actual outturn	Forecast error (Actual minus forecast)	Forecast	Actual outturn	Forecast error (Actual minus forecast)
1993	3.3	1.6	-1.7	4.4	2.7	-1.7	5.0	3.1	-1.9
1994	3.4	2.6	-0.8	3.5	2.3	-1.2	3.9	3.6	-0.3
1995	3.5	3.2	-0.3	2.9	2.9	0.0	4.4	3.1	-1.3
1996	2.6	2.6	0.0	2.8	3.2	0.4	4.2	3.6	-0.6
1997	3.5	3.7	0.2	3.0	2.8	-0.2	4.6	4.2	-0.4
1998	3.2	3.0	-0.2	2.8	2.5	-0.3	4.8	5.1	0.3
1999 ²	1.5	1.2	-0.3	2.2	2.2	0.0	4.3	4.6	0.3
Average forecast error 1993-1999			-0.4	-0.4			-0.5		

1 1 year ahead forecast made in December of preceding year

2 Actual outturn is Q3 for RPI, RPIX inflation, and average in Jan-Sep for earnings growth

TABLE 3A**UNEMPLOYMENT AND AVERAGE EARNINGS FORECAST ERRORS, 1993-99**

YEAR	UNEMPLOYMENT FORECAST ERROR (Q4, Millions)	AVERAGE EARNINGS FORECAST ERROR (% change on year earlier)
1993	-0.36	-1.9
1994	-0.27	-0.3
1995	-0.03	-1.3
1996	-0.18	-0.6
1997	-0.38	-0.4
1998	-0.01	0.3
1999	-0.31	0.3
Average Forecast Error	-0.22	-0.5

Source: see Tables 2 and 3

With both inflation and unemployment coming in better than expected, there would appear to be prima facie evidence of the Panel having systematically over-estimated the NAIRU and/or some change in the historical relationships that these economists were (implicitly or otherwise) relying on.

SECTION 3 A BREAKDOWN OF TRADITIONAL ECONOMIC RELATIONSHIPS

In the US, economists have increasingly questioned the stability of the standard Phillips curve in which price inflation depends on the unemployment rate, past price inflation and standard measures of price supply shocks. For example, a recent paper by researchers at the Federal Reserve Board (see Brayton, Roberts and Williams (1999)) argues

“..... the tendency of our baseline equations to significantly over-predict inflation since the mid-1990s, however, is an indication of structural change – perhaps a decline of the NAIRU” (page 9)

Using different specifications, Stock (1998) and Katz and Krueger (1999) have also concluded that the relationship between inflation and unemployment in the US has changed during the 1990s.

In the UK too, there is some evidence that the relationship between inflation and unemployment might have shifted during the 1990s. Specifically, Table 4 reports two different pieces of evidence on this issue. The first run contains the results of estimating a standard, ‘expectations-augmented Phillips curve’ – type specification for wages – we find that, from 1993 onwards, such an equation over-predicts wage growth by about 0.65 percentage points. The second run reports qualitatively similar results from a corresponding exercise carried out for the wage equation that is to be found in the Bank of England’s core macro-econometric model (see Bank of England (1999)). What is particularly striking about this result is that it occurs despite the core model already implicitly building in a fall in the NAIRU over the nineties. Of course, one way to

interpret these results is that there has been a fall in the NAIRU. Such a fall in the NAIRU would also provide a coherent explanation for why the average economic forecaster has been too gloomy about both, unemployment and inflation during the post-1992 period.

TABLE 4

EVIDENCE ON THE STABILITY OF WAGE EQUATIONS

ALTERNATIVE MODELS	COEFFICIENT ¹ OF DUMMY VARIABLE	t-RATIO
I – Expectations – augmented Phillips curve ²	-0.65	-1.97
II – Core model wage ³ equation	-0.27	-2.5

Notes

- 1 Dummy variable that takes value one from 1993 Q1.
- 2 Regression of 4-quarter change in earnings growth on five lags of the dependent variable, 4-quarter change in RPI inflation, log of the unemployment rate lagged four periods and seasonal dummies.
- 3 Wage equation as described in Bank of England (1999).

SECTION 4 WHY MIGHT THE NAIRU HAVE FALLEN SINCE 1992?

In attempting to explain why the NAIRU might have fallen since 1992, I initially draw on the standard reference works on attempting to explain UK unemployment, that are represented by Layard, Nickell and Jackman (1991), Minford (1992) and Nickell (1998).

If we first begin with proxies for union power, notice that membership (as a fraction of total employment) has fallen further (from about 36% in 1992 to 30% in 1998). Strike activity has also diminished from the already low levels of 1992. Another factor that has historically played an important role in unemployment fluctuations is the oil price – in real terms during 1998, it was much lower than in 1992, although it has clawed back some part of its losses during 1999.² It is commonplace to hear that the NAIRU in the UK might have risen because of increased imbalances between the pattern of labour demand and supply – in other words, because of greater mismatch. Table 5 contains indices of regional and skill mismatch based in the definitions of these in Layard, Nickell

² Of course, in some accounts of the NAIRU (see, eg Layard, Nickell and Jackman (1991)), oil price changes only have a temporary effect on the NAIRU.

TABLE 5**SOME CONVENTIONAL FACTORS AFFECTING THE NAIRU: 1998 VS 1992 AND 1980**

FACTORS	1992	1998	1980
UNION DENSITY	0.36	0.30	0.49
NUMBER OF WORKING DAYS LOST (000s)	48	30	957
REAL OIL PRICE	13.2	7.8 ¹	40.4
<u>MISMATCH</u>			
(a) REGIONAL	1.01	0.24	1.54
(b) SKILLS	6.15	5.22	5.00
LONG-TERM UNEMPLOYMENT (Ratio of Total Unemployment)	37.7	31.4	34.8
REPLACEMENT RATIO	0.18	0.18	0.24
TAX WEDGE	0.34	0.36	0.35

1 1999 Q3 value is 9.8.

and Jackman (1991). Note that, along both dimensions, there appears to be less mismatch in 1998 than in 1992 (especially along the regional dimension).

It is also plausible that the fraction of the unemployed who have been in their current state for a long time might affect the NAIRU, either because they lose skills and become demotivated, or because they face employer discrimination. Hence, the fall in the fraction of the unemployed who have been so for over 12 months (the LTU ratio) since 1992 is another factor that might have reduced the NAIRU.

Turning to the unemployment benefits regime, the conventional replacement ratio (ie the ratio of out-of-work benefit to estimated in-work income) has remained constant. However, the New Deal, and other measures which have tightened the availability of benefits have probably worked towards reducing the NAIRU.

Amongst the variety of conventional factors listed in Table 5, the only variable that has moved in a NAIRU-increasing direction is the total “tax wedge” between product and consumption wages, namely the sum of payroll, income and consumption tax rates. This appears to have edged up between 1992 and 1998 (from 0.34 to 0.36), though it is worth emphasising that the empirical evidence linking the tax wedge to unemployment is somewhat fragile (see Nickell and Layard (1998)).

Our discussion of the factors that might have plausibly lowered the NAIRU between 1992 and 1998 has focussed, in a rather mechanical fashion, on how these variables actually evolved between those dates. However, if one adopts a longer time-frame, some of these variables have changed by rather more. For example, Table 5 shows that union membership was as high as 49% in 1980 (it was 30% in 1998 and 36% in 1992). Strike activity was much higher in 1980, 957,000 working days lost to strikes, as compared to just 30,000 in 1998. The real oil price in 1980 was nearly three times as high as in 1992, and around five times as high as 1998. Similarly, an index of regional mismatch in 1980 was around 50% higher than in 1992, which, in turn, was around four times as high as 1998. Further, the replacement ratio in 1980 was higher than in 1972 or 1998. Also, the benefits system was progressively tightened from 1986 with the Restart

programme, under which unemployed people on benefit were interviewed every six months in order to ensure that they were looking for work, and to provide them with a menu of help. Notwithstanding the significant improvement in the underlying variables that are supposed to lower the NAIRU between 1980-1992, much of the evidence on improved wage performance for a given level of unemployment appears to post-date 1992.

Industrial relations experts like Professor William Brown of Cambridge argue that the structural improvements in the labour market during the 1980-92 period did not translate into improved wage performance until other catalytic events induced firms to undertake radical industrial relations change in the early 1990s. Possible candidates as catalysts are the 1990-92 recession, and the re-election of the government in 1992, which implied that many of the structural changes in the labour market were not going to be reversed. There is case-study evidence in favour of both these factors having played some role (see eg Brown et al (1998)). Other possible catalytic events include the adoption of an explicit inflation target after 1992.

Personally, I have no problem with the notion that structural changes can take time before they manifest themselves in improved macroeconomic performance. Any changes to the way labour is used (eg reforming pay systems, improving selection, etc) requires managerial effort, and takes time to get in place and be effective. Given how much some of the factors that are held to affect the NAIRU have changed between 1980-98, I find it rather surprising that the average estimate of the NAIRU had changed hardly at all between 1981-87 and 1995-6 (Table 1). With the claimant count rate of unemployment having now fallen to 4.2%, one suspects that the consensus estimate of the NAIRU has, in time-honoured fashion, now followed the actual unemployment rate down to some extent.

SECTION 5 PRODUCT MARKET COMPETITION AND THE NRU

In our discussion above, we have largely concentrated on a variety of labour market factors which have probably contributed to a reduction in the NAIRU since 1980. However, one would expect an increase in product market competition to lead to lower

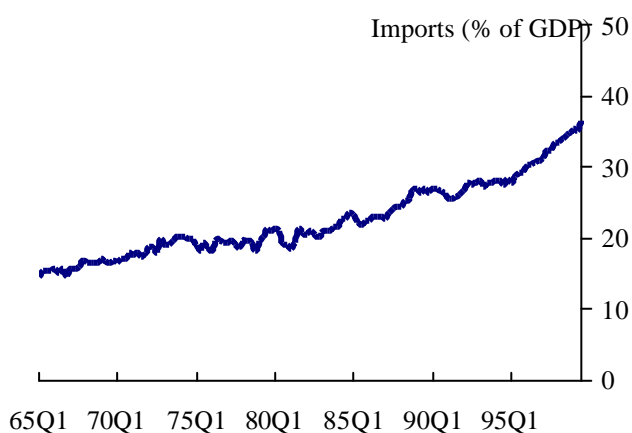
wages, as the relevant firms will tend to partially offset the effect on their profit margins – eg after the trucking regulatory reforms of the late 1970s in the US, Rose (1987) found that, between 1979 and 1985, there was a decline of approximately 40 per cent in the size of the union wage differential in trucking.³

Nickell, Vainiomaki and Wadhvani (1994) present evidence based on observing some 800 British manufacturing firms over time that product market power has a positive effect on wages, and that product market power also reduces the size of the negative effect of unemployment on wages, thereby making the labour market less “flexible”.

One reason that there has probably been an increase in product market competition is globalisation, ie the increasing integration of global product markets. Figure 1 suggests a striking increase in the degree of import penetration.

Figure 1

Import penetration



My colleague, DeAnne Julius (1999), has recently reminded us that foreign direct investment (FDI) has also played an important role in this context, with the UK now one of the most important outward investors worldwide. Increased globalisation implies that the world output gap can be more important than domestic supply capacity for many

³ Most union bargaining models and efficiency wage models would yield the result that intensified product market competition would reduce wages and the NAIRU.

prices. In a UK context, anecdotal evidence suggests that, in many industries, a combination of low cost imports and the threat of relocating a plant abroad has had a substantial effect in terms of keeping a lid on wages, and preliminary econometric work (see Clark and Wadhvani (1999)) is also supportive of this notion.

Evidence of increased product market competition has not just been confined to globalisation. Government action has also played a role here. Privatisation and/or regulatory changes in a whole host of industries including gas, water, telecom, electricity, airports, rail, the docks and broadcasting have led to rather more competitive product market conditions. Note that many of these regulatory changes occurred in the eighties or early nineties, and are another reason as to why the NAIRU might plausibly have fallen over this period.

Of course, the intensification of competition does not appear to have been confined just to the internationally traded or deregulated sectors – in a conjunctural context we do hear much about the ‘price wars’ in retailing as well. In a September 1999 survey carried out at the MPC’s request by the Bank’s regional agents, about half of all respondents reported more discounting over the past 12 months compared to a year ago (Figure 2). Moreover, over half of the respondents cited structural rather than cyclical reasons for increased discounting (Figure 3).

Figure 2

Discounts over the past year

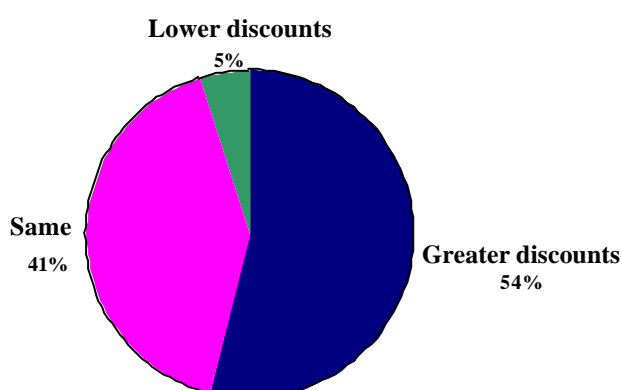
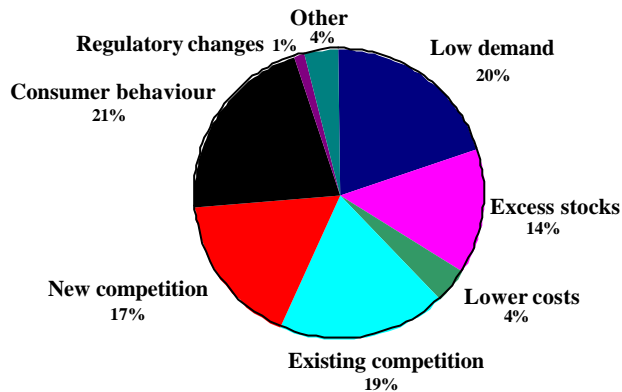


Figure 3

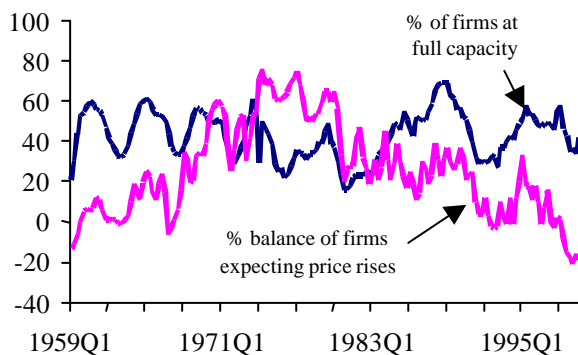
Reasons for discounting



Another bit of evidence for an intensification of product market competition is in Figure 4 – which is suggestive of a change in the relationship between domestic capacity utilisation and the balance of firms who expect to increase prices, in that, in the late 1990s, the perceived ability to increase prices seems lower, at any given level of utilisation, than in the 1970s or 1980s (though the 1960s look similar).

Figure 4

CBI survey: Capacity utilisation and price pressures



Other factors that appear relevant to competitive considerations in the conjuncture include the internet and the Competition Commission, but we defer discussion of these factors until later.

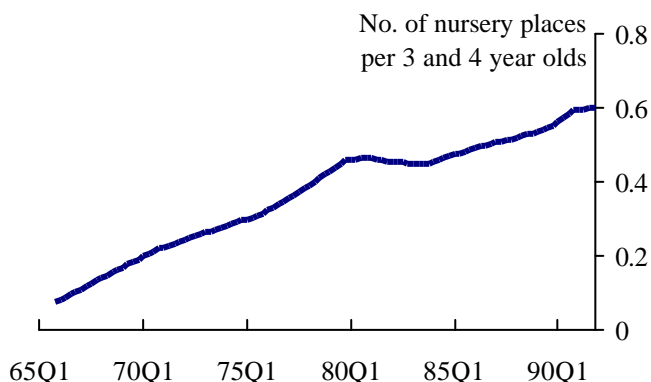
SECTION 6 OTHER FACTORS WHICH MIGHT HAVE ALSO CONTRIBUTED TO A FALL IN THE NAIRU

We have, so far, discussed a number of labour and product market factors which might have plausibly contributed to a fall in the NAIRU since 1980. However, our discussion did not pretend to be comprehensive – in this section, I want to mention some more factors which might have been relevant too, though, of necessity, much of this is conjectural.

It is important to remind ourselves that much of the increase in employment in recent years has been associated with a rise in the female participation rate – eg since 1984, the female employment rate has risen from around 58% to about 69% now, while the male employment rate has only moved modestly (77.4% then, about 79% now). Evans (1998) argues that better childcare provision might have contributed to a reduction in the NAIRU for females – Figure 5 shows the significant increase in daycare places for 3 and 4 year olds that has occurred during the last 30 years. More importantly, the greater

Figure 5

Childcare provision



availability of flexible and family-friendly working practices, as evidenced by surveys carried out by the Policy Studies Institute may also have played a role. (see Table 6).

TABLE 6

THE AVAILABILITY OF SELECTED WORKPLACE ARRANGEMENTS THAT MIGHT HELP MOTHERS WITH YOUNG CHILDREN

PERCENTAGE OF FIRMS OFFERING:	1979 SURVEY	1988 SURVEY	1996 SURVEY (a)
Part-time	39	36	79
Job sharing	n/a	6	35
Flexi-time	12	12	32
Shift work	11	9	26
Some work at home	3	4	17
Career break at home	n/a	4	23
Help with childcare	3	4	9 (b)

n/a = not available

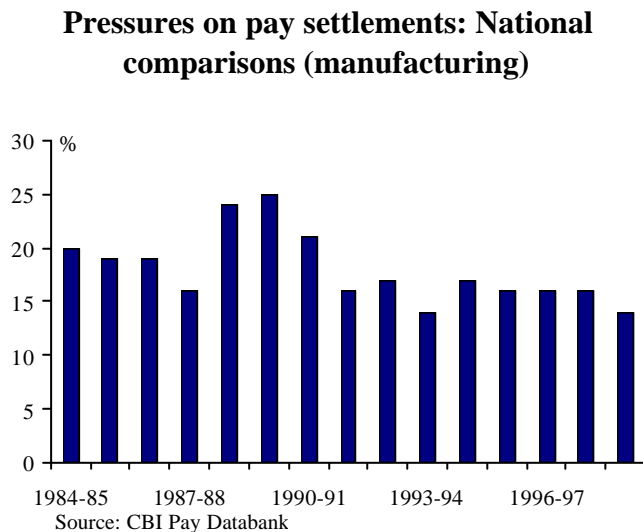
Source: Callender et al (1997)

(a) The 1996 survey asked if employers operated any of the arrangements in the table, and the 1988 survey asked if they operated them 'for people doing your kind of work'. To the extent that respondents to the 1996 survey said that their firm operated an arrangement without it actually being available to that person, it will produce higher estimates than in 1988.

(b) Workplace nursery or creche only.

Another factor that has plausibly contributed to a fall in the NAIRU is the greater decentralisation and individualisation of wage bargains. Some years ago, Calmfors and Driffill (1988) argued that wholly centralised and entirely decentralised wage bargaining systems delivered lower unemployment than intermediate degrees of centralisation. One can plausibly argue that the UK has moved from an intermediate degree of centralisation in the seventies to an increasingly decentralised and atomistic labour market. This has not only happened in a formal sense (given the fall in union coverage and density), but also in terms of perceived pay pressures. The Confederation of British Industry, as a part of their Pay Databank questionnaire, regularly asks respondents as to whether a particular factor was an important influence on the settlement. Figure 6 is consistent with a trend decline in the importance of the national comparisons in firm-based wage settlements, while Figure 7 suggests that, even intra-firm wage comparisons have become less important.

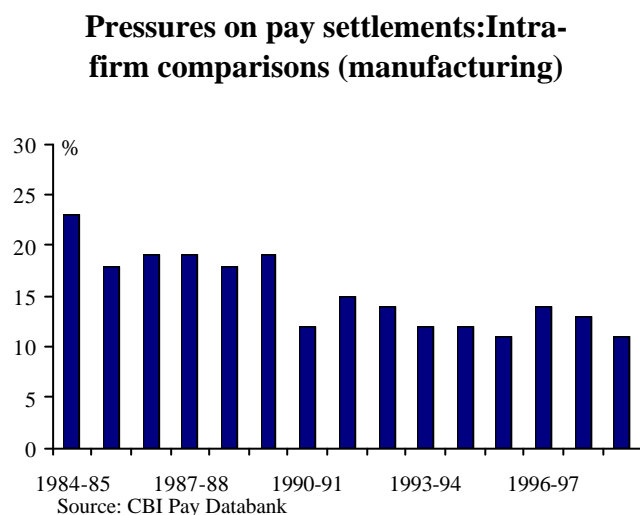
Figure 6



Another factor that might have reduced the NAIRU is the decline in the number of young people entering the labour force. The Inflation Report (November 1999) notes that, between 1989 and 1999, the 16-24 year old age group fell from 19% to 14% of the over-16 population. This matters because the young have above-average rates of unemployment. A crude way of attempting to calibrate the potential importance of this

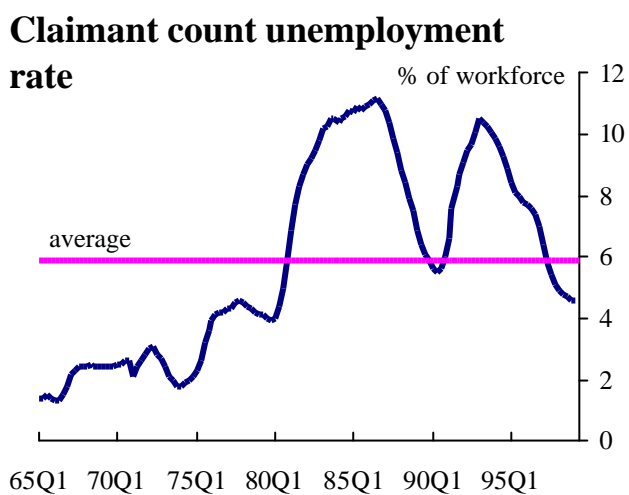
effect is to compare the actual unemployment rate with a hypothetical value calculated assuming a constant age composition of the workforce. Bank work based on calculations of this kind (reported in the Inflation Report, November 1999), suggests that this demographic factor might account for a decline in the unemployment rate of about half a percentage point.

Figure 7



Hence, there are a whole host of factors which have plausibly reduced the NAIRU since 1980, and the unemployment rate (claimant count) is now close to a record low over the last two decades (Figure 8).

Figure 8



However, it remains well above its average in the 1950-75 period. Is it plausible that the NAIRU has fallen to the levels of that ‘golden age’ period?

SECTION 7 HAS THE NAIRU FALLEN TO ‘GOLDEN AGE’ LEVELS?

At first sight, one might feel that it is quite likely that the NAIRU has fallen to its “golden age” levels of the 1960s. First, union density is now rather lower (Figure 9), and working days lost in stoppages have almost vanished (Figure 10).

Figure 9

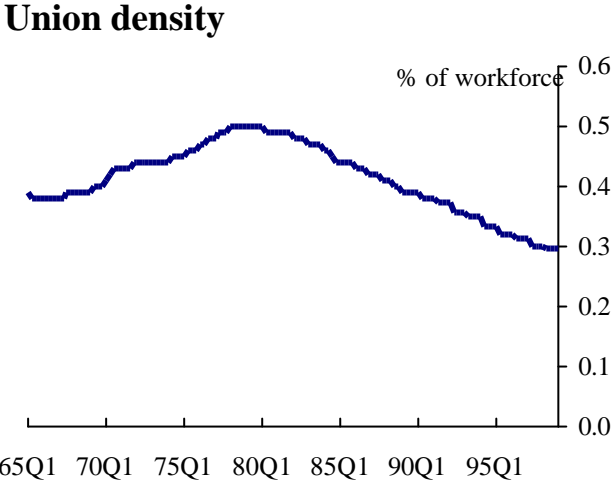
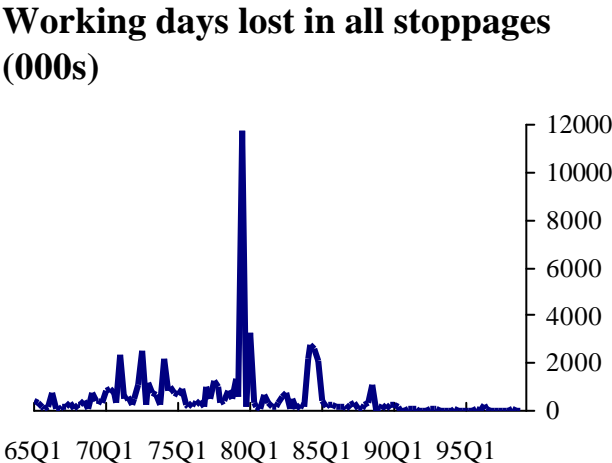
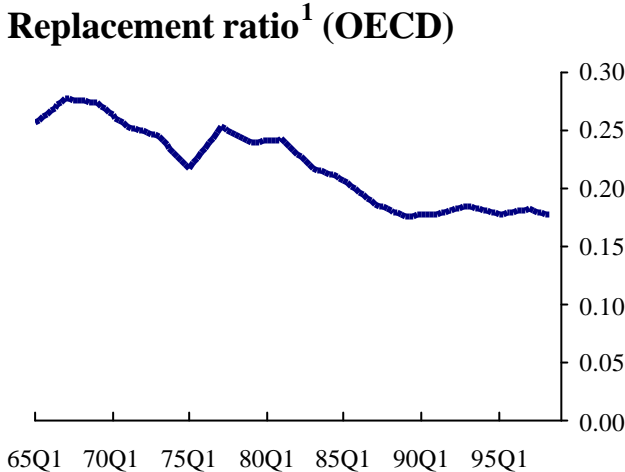


Figure 10



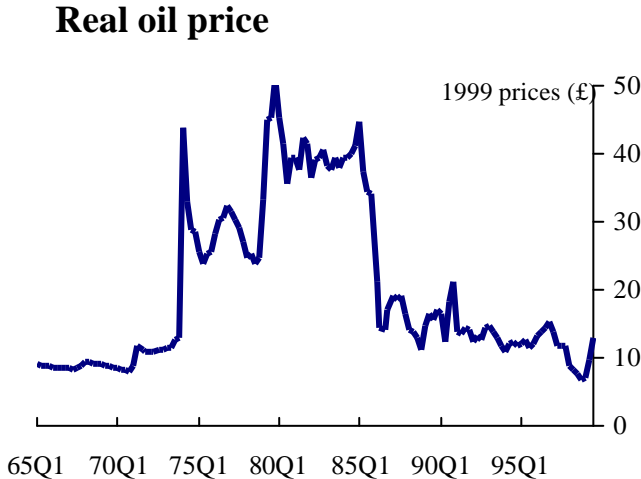
Second, the ratio of out of work benefits to in work income is lower than in the sixties (Figure 11), and the real level of the oil price is also not much different (Figure 12).

Figure 11



¹ Ratio of out of work benefits to in work income

Figure 12

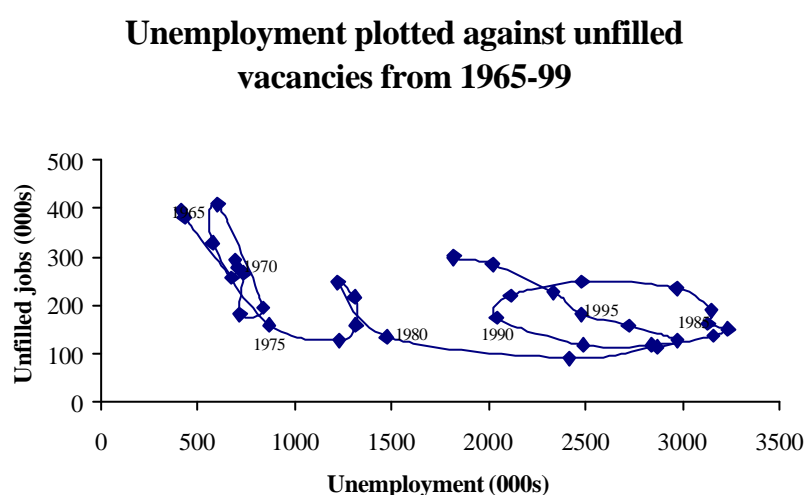


In addition, as we noted above, import penetration has steadily increased over the period (Figure 1), as has childcare provision (Figure 5), and the extent of family-friendly

workplace practices (Table 6). Further, as we discussed above, deregulation and privatisation have probably helped intensify the extent of product market competition.

However, there are several factors that have moved in the direction of increasing the NAIRU. Perhaps the most striking and direct evidence of the post-60s deterioration in the UK labour market is the fact that at any given level of vacancies, we have much more unemployment than we did before, ie the so-called Beveridge curve has moved out (Figure 13). This must have occurred either due to a reduction in the search effectiveness of the unemployed, or because of an increase in mismatch.⁴ Note that the reduction in search effectiveness might arise from either firms or workers becoming more choosy.

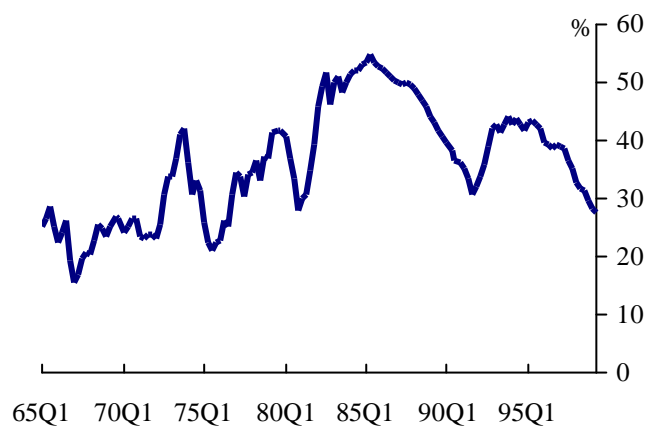
Figure 13



In his persuasive review of this question, Nickell (1999) points to several relevant considerations. First, perhaps encouraged by the indefinite availability of benefits for much of the period, the proportion of long-term unemployed has been high. Although it has fallen in recent years, it still remains above the average level of the sixties (Figure 14).

⁴ Another possible explanation is that registered vacancies may now be a smaller fraction of the stock of 'true' vacancies (including newspaper advertising, headhunters, internet, etc).

Figure 14

Long term unemployed (12 months)

Second, he points out that, in some respects, the benefit system is less job-friendly than in the sixties (notwithstanding the decline in the replacement ratio). In particular, housing benefit (which pays the rent) represents a significant fraction of total benefits for single persons who are unemployed, with a high implicit marginal tax rate of 65%.

Third, the demand for unskilled workers has probably fallen (perhaps because of technical change and competition from the Newly Industrialised Countries) by more than its supply. On one index of skill mismatch, there is evidence that, on average, it is higher than it was in the sixties (see Figure 15).

Figure 15

Skill mismatch



Fourth, the average level of UK unemployment in the 1950s and 1960s was unusually low by long-term historical standards and it is possible that the 1960s were an anomalous period. In addition to Stephen Nickell's aforementioned arguments, there are at least two more considerations that are worthy of our attention. First, Andrew Oswald (1997) shows that over the last 30 years, countries with the fastest growth in home-ownership have also had the fastest growth in unemployment. In addition, countries with high levels of home ownership also appear to have higher unemployment. Oswald presents evidence suggesting that:

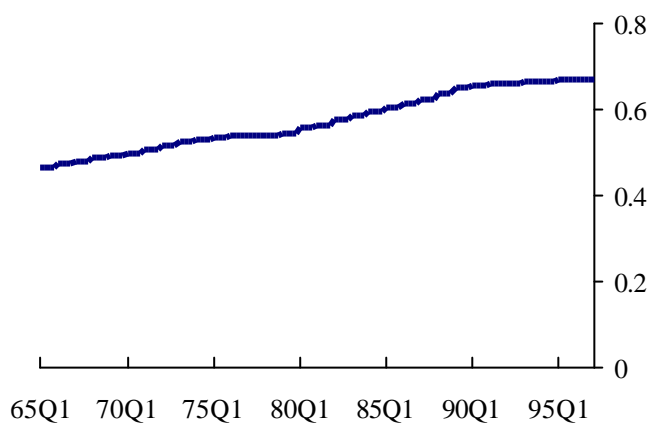
- (i) Unemployed home-owners are much less willing to move areas to find work than private renters. The latter have a notably fast outflow rate from unemployment into jobs.
- (ii) UK regions with larger proportions of private renters have higher outflows from unemployment and larger numbers of movers per head.

Clearly, at this point, we only have a few intriguing correlations, and much more research is needed. However, if Oswald's preliminary research is validated, then one could no longer regard the rise in owner-occupation (Figure 16) as an unmixed blessing,

because, notwithstanding other social benefits, it would be a factor that keeps the NAIRU higher than it need be.

Figure 16

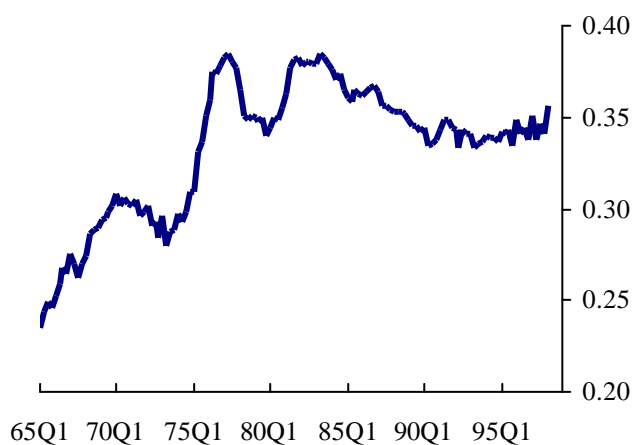
Owner occupation rate



Another factor that might have contributed to a rise in the NAIRU since the sixties is the rather higher level of the tax wedge (Figure 17).

Figure17

Tax wedge



Economists are fond of the notion that, in the long-run, a rise in the tax wedge has no consequences for the level of unemployment, with the labour market behaving as if labour supply is inelastic, and taxes are all shifted onto labour. However, Nickell and Layard (1998) record that the empirical evidence on this issue is mixed, so the rise in the overall tax burden must remain a candidate explanation for why the NAIRU might now be higher than in the sixties.

SECTION 8 SETTING POLICY WITH UNCERTAINTY ABOUT THE NAIRU

The above leaves me necessarily uncertain about the level of the NAIRU. One can be relatively confident that it has fallen over the last two decades, but also that it is still probably higher than in the sixties. Given that it is difficult to obtain a reliable estimate of the NAIRU, how should policy respond?

Given that monetary policy has long and variable lags, we have to act on our inflation forecast, and, therefore, implicitly or otherwise, have to make a guess about the NAIRU. On the other hand, one has to guard against the possibility of what Palley (1999) describes as the “structural unemployment trap”, ie if every time unemployment rises, policymakers decide that the rise is structural rather than cyclical, then, by ruling out counter-cyclical macroeconomic policy, cyclical unemployment can get transformed into long-term structural unemployment through standard “hysteresis” channels like the possibility that the long-term unemployed become demotivated and/or are discriminated against. To guard against this trap, one might want to pursue a ‘testing the water’ approach to monetary policy which appears to characterise the behaviour of the US Federal Reserve over the last few years. Looking at it as an outside observer, it would appear that the FOMC has essentially taken a “wait and see” approach under which the unemployment rate has been allowed to fall below the then prevailing estimates of the NAIRU, and has instead attempted to look at more direct indicators of inflationary pressure.

The traditional view in the economics literature is that such experimentation vis-à-vis the NAIRU is ill-advised. There is, after all, a long tradition, dating back to at least Keynes (1936), of believing that the supply of output is elastic until we approach the price level

that is consistent with “full employment”, but that supply is completely inelastic for output prices above that level. It is this belief (in the technical jargon, the Phillips curve is assumed to be convex) that underlies the view that the costs of the disinflation that would be necessary if one overshot the NAIRU by pursuing a policy of ‘wait and see’ would be higher than the extra employment that would be generated by letting the expansion run on, because the higher demand would largely lead to higher prices, and only a relatively small employment gain.

Of course, if the Phillips curve were not convex, but linear, then experimentation vis-à-vis the NAIRU has zero expected cost and if, as Joseph Stiglitz (1997) – the former Chairman of the Council of Economic Advisers - suggests, the Phillips curve is concave, then, indeed, there might indeed be benefits to experimentation.

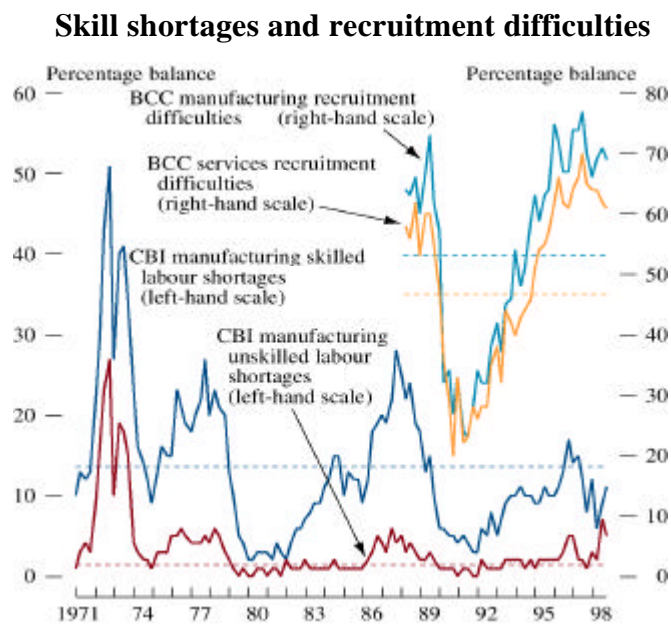
Now, one must recall that the earliest formulation of the Phillips (1958) curve was convex, and recently, Bean (1999) reports evidence for a modest degree of convexity for most OECD countries. However, Stiglitz (1997) says that

“... Empirical research at the CEA has found that when we run Phillips curve regressions allowing for a kink at the NAIRU, we find that the best fit is with a concave function.” (Page 9)

Hence, this is clearly an area that deserves further research, although the bulk of the evidence favours convexity. It is, though, worth reminding ourselves that the existence of hysteresis effects potentially reinforces the case for “testing the water”, as one can actually lower the NAIRU by holding unemployment low for a while.

In practice, one therefore looks for direct indicators of labour supply shortages, and evidence that they are placing upward pressure on pay. Currently, the evidence on labour shortages is somewhat mixed. The BCC surveys suggest that recruitment difficulties are well above average (Figure 18). However, the CBI skilled labour shortages indicator is still below its long-term historical average.

Figure 18



On a variety of measures, real earnings growth is higher than it has been in recent years (Figure 19), though at least some of the rise is probably attributable to the fact that actual RPI inflation came in well below what was expected a year ago (Figure 20). Forthcoming developments in the labour market should, therefore, continue to deserve careful monitoring.

Figure 19

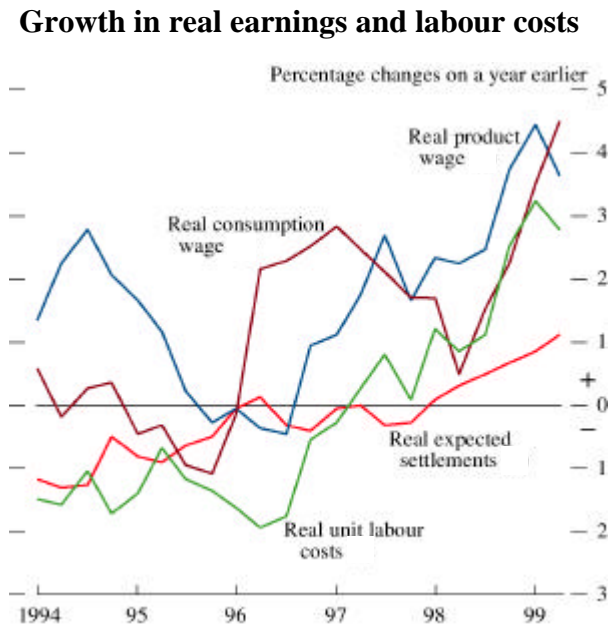
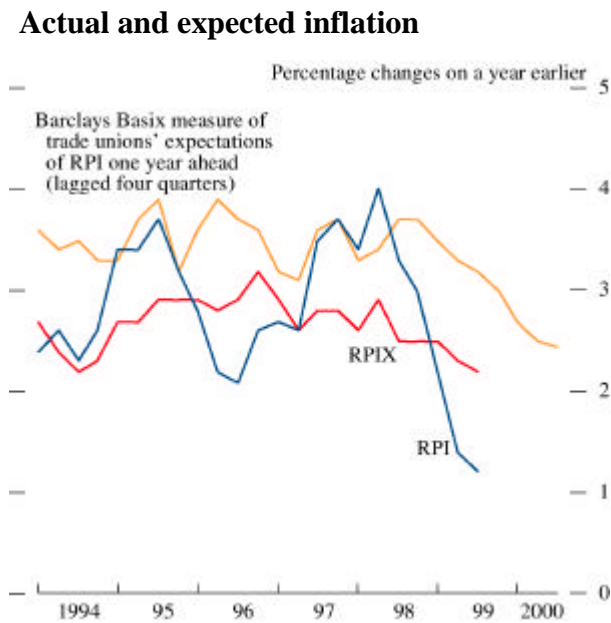


Figure 20



SECTION 9 – OUTLOOK FOR THE NAIRU

Although one is necessarily uncertain about the current level of the NAIRU, it is still important to incorporate any prospective changes in the NAIRU into one's inflation forecast, although this is necessarily speculative.

9.1 – FACTORS THAT MIGHT INCREASE THE NAIRU

Minford and Haldenby (1999 – MH, hereafter) have argued that a variety of recent legislative changes should, over the medium-term, increase unemployment by nearly 900,000. (Table 7)

TABLE 7

MINFORD-HALDENBY ESTIMATES OF THE LIKELY INCREASE IN THE NAIRU

FACTOR:	ESTIMATED IMPACT ON UNEMPLOYMENT (By Year 6)
Higher Union Membership	395,000
Minimum wage	217,000
Increase in business costs	37,000
Additional impact ¹	229,000
Total	878,000

Source: Minford-Haldenby (1999).

1 Designed to reflect 'The Sum is Greater than the Parts', i.e. an interaction effect which captures the additional impact of all these changes occurring simultaneously.

They argue that the new statutory procedure for trade union recognition will boost union membership by around 1 million, and using the Liverpool econometric model, this is postulated to increase unemployment by as much as 400,000!

In my view, one needs to be sceptical about such estimates. Although variations in “union power” might have some effect on wages, it is important to emphasise that, of course, “power” and “membership” are not the same thing. Even though the recognition procedures are to be amended, a host of other pieces of legislation that reduced the power of unions (see Brown and Wadhvani (1990)) remain on the statute book. It remains more difficult to strike, and there are much fewer examples of successful militancy to persuade the average union member that militancy is effective. The Employment Relations Act 1999 need not necessarily lead to a rise in trade union membership – indeed, some informed observers believe that all it might do is slow the current decline. Moreover, the intensification of product market competition probably implies that there is less in the way of rents for unions to capture anyway. It is notable in this context to record the fact that while, in the Liverpool econometric model, wages depend on union membership; Layard, Nickell and Jackman (1991) found that, in the context of their wage equation, a measure of the union–non-union wage mark-up performed rather better than membership. Hence, I think that it would be wise to assume that the possible rise in union membership over the next decade will only have a very small effect on the NAIRU.

Turning to the National Minimum Wage (NMW), I must confess that, once again, the MH estimates of the impact on unemployment appear to be implausibly high. MH estimate the effect of the NMW by assuming that it is equivalent to a 2% rise in unemployment benefits in the Liverpool model. This is unlikely to be a reliable way of capturing the true effect. In terms of the employment effects of the NMW, one would expect important offsetting effects from employers incorporating non-wage elements into the package. Further, turnover rates sometimes exceed 100% per annum in lower paying firms in the UK (see Brown et al (1999)), and, therefore, turnover costs can reach 20% of the total wage costs over the expected duration of a worker with the firm. A NMW can help reduce turnover costs – though the offset will, of course, only be partial.

Further, there is anecdotal evidence that some employers have coped with the NMW by improving efficiency of labour utilisation. In addition, if monopsonistic wage-setting is relevant in some segments of the labour market, then, a NMW need not even reduce employment in those cases. The academic literature on the effect of minimum wages on employment produces rather mixed results (see Gregg (1999) for a review), although the bulk of it does suggest that youth unemployment might be affected, so that the starting level of the minimum wage will have to continue to be set with care.

Survey evidence does not suggest that the NMW has been a significant factor in wage settlements, and, therefore, fears of pressures on wages because of differential restoration appear to have been misplaced. Indeed, some industries that were disproportionately affected by the NMW (e.g. retail, textiles) have seen a deceleration in the growth of wage settlements in the first half of 1999, perhaps reflective of the intensification of product market competition. Moreover, the CBI, on the basis of consulting their members, says that the NMW, at its current level, has had a little noticeable effect on employment. Some researchers now believe that, in any case, the number of employees affected by the NMW is less than early estimates had suggested. Although it is far too early to be confident, it does seem likely that the NMW, set at its current level, will only have a very small impact on the NAIRU.

9.2 LABOUR MARKET FACTORS THAT MIGHT REDUCE THE NAIRU

There are, on the other hand, some labour market factors that might reduce the NAIRU (we consider some product market factors below).

Recall that we discussed the scarring effects of long-term unemployment, and the possibility that by becoming detached from the labour market, the long-term unemployed exert little or no downward pressure on wages. Hence, one could reduce long-term unemployment with little upward pressure on pay. This is what the 'New Deal' was set up to do. Under the New Deal for 18-24 year olds, introduced in April 1998, when a young person reaches 6 months unemployed, they initially have to enter a Gateway of up to 4 months where they receive help with job search and careers

advice from a Personal Adviser. If they do not find unsubsidised work during this period, they are offered four options:-

- (i) Subsidised employment;
- (ii) Education/Training;
- (iii) Environmental Task Force;
- (iv) Voluntary Sector Option.

Of the around 350,000 young people who have joined the New Deal, around 145,000 have secured jobs, and approximately 90,000 are engaged in one of the training or work experience options. Independent research from the National Institute of Social and Economic Research (see Anderton, Riley and Young (1999)) finds that:-

- (a) About 50% of individuals leaving unemployment via the New Deal would have done so in the absence of the programme.
- (b) The programme has had a modest positive effect in that it has reduced youth unemployment by approximately 30,000 relative to what it would otherwise have been (which is equivalent to a reduction in youth long-term unemployment of nearly 40%).
- (c) Obviously, if macroeconomic conditions were to deteriorate, and unemployment were to rise, then the New Deal could be expected to have a bigger quantitative impact, as more people would be affected by it.

The New Deal has, since, been extended to Lone Parents (October 1998), Partners of the Unemployed (April 1999) and the over 50's (Pathfinders started in October 1999, to be extended nationally in April 2000). Note though that these are all voluntary programmes, unlike the New Deal for Young People, which is mandatory. The Government has, since June 1998, also operated a New Deal for 25+, but it has been confined to those who have been unemployed for over two years. By August 1999, around 172,000 people had been through the deal, of whom only 24,000 had found jobs.

TABLE 8**UNEMPLOYMENT¹ BY CATEGORY**

CATEGORY	NUMBER	% OF UNEMPLOYED	DATE
18-24 and unemployed over 6 months	121,300	8.5%	October 1997
18-24 and unemployed over 6 months	49,400	4.2%	October 1999
25-49 and unemployed over 6 months	322,500	27.2%	October 1999
25-49 and unemployed over 12 months	200,800	16.9%	October 1999
25-49 and unemployed over 2 years	92,600	7.8%	October 1999
50+ and unemployed for more than 6 months	106,000	8.9%	October 1999
50+ and unemployed for more than 12 months	74,400	6.2%	October 1999

1 Claimant count – computerised claims only.

The Government intends to intensify and extend this New Deal for 25+ from April 2001, with the important requirement that the Personal Advisers will try to establish why a particular person cannot take one of a number of suitable vacancies. It is, as yet, not entirely clear as to who will participate in this scheme (i.e. those who have been unemployed 6, 12, or 24 months). This cut-off level will, obviously, be important in determining the empirical effects of this measure.

In order to get a crude sense of how important each of the different New Deal schemes might be, Table 8 attempts a comparison of the target population in each case at a given moment of time. The scheme for young workers would have affected around 8½% of the unemployed in October 1997, and the proportion of the unemployed in that particular category had halved by October 1999. Similarly

, a scheme for the 50+ could affect up to 9% of the current unemployed – although this scheme is only voluntary. By contrast, if the Government were ambitious enough to offer a scheme for all those who were 25-49 and unemployed over 6 months, that would affect as many as 27.2% of the current claimant unemployment count, and would, therefore, potentially have a rather larger effect on the NAIRU than any of the existing individual New Deal schemes, which have, so far, only had relatively small effects.

A second reason for believing that a New Deal for the 25+ might have a larger impact than the scheme for young people is that there is a little bit of evidence (see Arulampalam, Booth and Taylor (1998)) that the ‘scarring’ effects of past unemployment experience is greater for mature men (25+) than for younger men. This might be because job-shopping is a mere acceptable form of behaviour among the young.

In addition, under the so-called ‘ONE’ scheme, there will be a single point of contact for all benefits and work issues. From April 2000, it will be compulsory for all new claimants to attend a work-focused interview to discuss their options, and, by April 2001, all benefit claimants of working age will have a personal adviser to help

them find work. The tightening of the benefits system can reasonably be expected to have some impact in terms of reducing the NAIRU.

In addition to the New Deal and the tightening of the benefit system, another factor that might help increase effective labour supply is redesigning the tax and benefit system to sharpen the incentives to work. Independent research by the Institute for Fiscal Studies (reported in the Inflation Report, February 1999) suggested that the Working Families' Tax Credit (WFTC) would boost labour supply by a small amount (a point estimate of around 30,000). A study by Gregg, Johnson and Reed (1999) suggested that the effect of the WFTC, accompanied by changes to Income Tax and NIC's would also boost labour supply more significantly.

Many of the programs that we have mentioned above might individually have a relatively small effect on the NAIRU – however, added together, the effect could be quite significant, depending, in large part, on how extensive the New Deal scheme for the 25+ is (and, indeed, and how effective it proves to be).

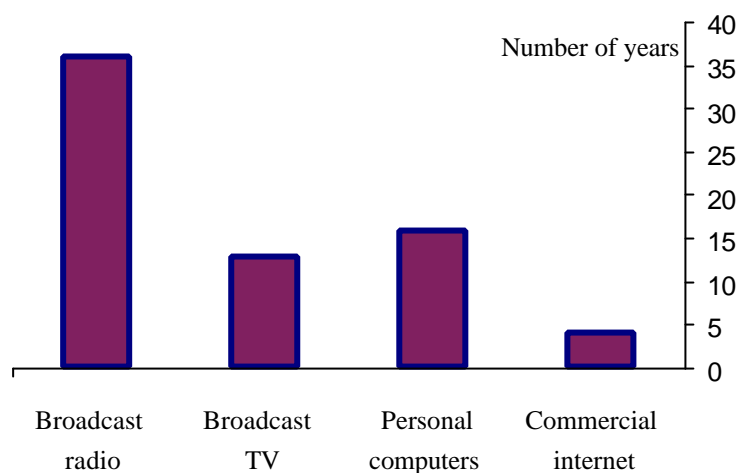
9.3 – PRODUCT MARKET FACTORS THAT MIGHT REDUCE THE NAIRU

Section 5 contained a discussion of a variety of factors that have led to an intensification of product market competitions in recent years – this included globalisation, regulatory changes and retailing 'price wars'. One might reasonably expect all three factors to exert further downward pressure on margins. Trade and FDI flows are likely to continue to trend higher. Although regulatory changes have been important in the past, in the MPC's best judgement, forthcoming price cuts in electricity and water warranted special treatment in our inflation forecast (see Inflation Report, November 1999). Moreover, the investigation into car prices is widely perceived to be having an effect.

Over the next few years, though, a potentially important reason for intensified product market competition and/or efficiency gains is the development of the internet. As my colleague, DeAnne Julius (1999) has pointed out, it took 36 years to achieve 50 million users for radio, 13 years for TV, 16 for PCs, but, for the internet, it has taken fewer than 5! (Figure 21).

Figure 21

Years to achieve 50 million users



Source: US Commerce Dept

In the retail market, the main reasons for expecting lower prices included:-

- (i) standard theory predicts that high search costs allow prices to be above marginal costs in equilibrium (see, e.g. Salop (1979)) so one would expect the lowering of search costs associated with the internet to lower prices.
- (ii) Lower market entry costs must limit the price premiums sustainable by existing market participants by increasing actual or potential competition.
- (iii) Lower distribution and inventory costs by shortening the supply chain.

Hence, it is hardly surprising that Brynjolfsson and Smith (1999) found that the prices for books and CDs sold through the internet were 9%-16% lower than in conventional outlets, even after accounting for costs from shipping and handling, delivery, and local sales taxes. In the UK, internet penetration is still low by US standards (see Table 9), though higher than in Germany or France. BRMB Internet Monitor recently reported that £2 bn was spent online in the last 12 months in the UK, which was a tenfold

increase from a year ago. Verdict Research estimates that online shopping in the UK will rise to 2.5% of retail spending in the next three years. In any case, traditional bricks-and-mortar retailers will be under increasing pressure to match the prices of the e-tailers, so, online shopping could have a disproportionate effect on the RPI. Note also that, currently, four-fifths of e-commerce is business-to-business use rather than business-to-consumer, so the biggest impact might come through cost reduction.

All in all, in my personal view, it seems reasonable to believe that the net impact of all the product and labour market changes that we discussed above will be to probably lower the NAIRU further.

TABLE 9

INTERNET USAGE

	Proportion of population using the internet
US	34.0%
UK	13.9%
Germany	8.7%
France	4.8%

Source: Owen (1999).

CONCLUSIONS

I have argued above that there are persuasive reasons for believing that the NAIRU has fallen significantly since 1980. Furthermore, and more speculatively, one can identify a variety of product and labour market factors which might plausibly lead to a further fall in the NAIRU over the next few years. The extent to which the NAIRU falls over the coming years will depend, in part, on the degree of penetration of the internet, and, also, on how comprehensive the New Deal becomes.

However, a belief that the NAIRU has fallen and is likely to fall further does not, of course, necessarily imply that one might be complacent about inflation. As my colleague, Willem Buiter (1999) has reminded everyone, inflation is ultimately, a monetary phenomenon. A fall in the NAIRU does imply that, other things being equal, nominal interest rates can, in the short-term, be lower at any given level of unemployment than they would otherwise have been. However, once the unemployment rate falls to the new level of the NAIRU, interest rates must rise back to their original level. The unemployment rate today is already at a 20 year low though much higher than its average level in the 1960s. The MPC shall, of course, have to continue to look at a wide variety of indicators in order to assess inflation prospects.

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