**FOR AGENDA**

SM/97/256

CONTAINS CONFIDENTIAL
INFORMATION

October 10, 1997

To:        Members of the Executive Board

From:      The Secretary

Subject:   **United Kingdom—Selected Issues**


This paper provides background information to the staff report on the 1997 Article IV
consultation discussions with the United Kingdom, which was circulated as SM/97/251 on
October 6, 1997.

Mr. Lane (ext. 37668) or Mr. Samiei (ext. 36356) is available to answer technical or factual
questions relating to this paper prior to the Board discussion.

Unless the Documents Preparation Section (ext. 36760) is otherwise notified, the document will
be transmitted, in accordance with the procedures approved by the Executive Board and with the
appropriate deletions, to the WTO Secretariat on Tuesday, October 21, 1997; and to the
European Commission (EC), the United Nations Economic Commission for Latin America and
the Caribbean (ECLAC), the Food and Agriculture Organization (FAO), the Organisation for
Economic Cooperation and Development (OECD), and the World Food Programme (WFP),
following its consideration by the Executive Board.



Att: (1)




Other Distribution:
Department Heads

INTERNATIONAL MONETARY FUND

UNITED KINGDOM

**Selected Issues**

Prepared by Timothy Lane, Hossein Samiei, Lars Meuller,
and Skander Van den Heuvel (all EU1)

Approved by European I Department

October 9, 1997

Contents      Page

# United Kingdom: Basic Data

**Demographic and other data:**

| | |
|---|---|
| Area | 94,247 square miles (244,100 square kilometers) |
| Population (mid-1996) | 58.8 million |
| Natural rate of increase (percent change at annual rate) | 0.3 |
| Infant mortality (per 1,000 live births) | 9.4 |
| Doctors per 1,000 inhabitants | 1.9 |
| GDP per capita (1996) | SDR 13,582 |

| Composition of GDP in 1996, at current prices | In billions of Pounds | Distribution In Percent |
|---|---|---|
| Private consumption | 473.5 | 63.8 |
| Public consumption | 155.7 | 21.0 |
| Total investment (including stockbuilding) | 117.5 | 15.8 |
| Total domestic demand | 746.8 | 100.6 |
| Exports of goods and services | 217.1 | 29.3 |
| Imports of goods and services | 222.6 | 30.0 |
| GDP at market prices (average estimate) | 742.3 | 100.0 |

| Selected economic data | 1995 | 1996 | 1997 1/ |
|---|---|---|---|
| Output and unemployment: | (Annual percentage change) | | |
| Real GDP (at market prices, average estimate) | 2.7 | 2.3 | 3.3 2/ |
| Manufacturing production | 2.2 | 1.0 | 1.6 3/ |
| Average unemployment (in percent) | 8.2 | 7.5 | 5.3 4/ |
| Earnings and prices: | | | |
| Average earnings in manufacturing | 4.5 | 4.4 | 3.9 3/ |
| Retail price index, excluding mortgage interest | 2.8 | 2.9 | 2.8 4/ |
| Money and interest rates: | | | |
| M0 (end of period) | 5.6 | 6.9 | 5.1 4/ |
| M4 (end of period) | 9.9 | 9.6 | 11.6 4/ |
| 3-month Interbank rate | 6.7 | 6.0 | 7.15 4/ |
| 10-year government bond yield | 8.2 | 7.8 | 7.06 4/ |
| | (In billions of pounds sterling) | | |
| Fiscal accounts: 5/ | | | |
| General government receipts | 271.2 | 284.1 | 309.8 |
| General government expenditure excl. privatization | 305.5 | 313.5 | 322.4 |
| PSBR excl.privatization | 34.1 | 27.1 | 12.4 |
| (In percent of GDP) | (4.8) | (3.6) | (1.6) |
| Balance of payments: | | | |
| Current account balance | -3.7 | -0.4 | 4.5 |
| (In percent of GDP) | -0.5 | -0.1 | 0.6 |
| Trade balance | -11.6 | -12.6 | -9.3 |
| Exports | 153.1 | 166.3 | 168.7 |
| Imports | 164.7 | 178.9 | 178.0 |
| Services and transfers (net) | 7.9 | 12.2 | 13.8 |
| Direct investment (net) | -13.6 | -7.8 | 1.1 |
| Portfolio investment (net) | -18.7 | -33.0 | -54.6 |
| Short-term capital flows (net) | 33.9 | 38.6 | 39.1 |
| Gross reserves, official basis (billions of SDR, end of period) | 33.1 | 32.3 | 30.1 4/ |

Sources: Office for National Statistics, *Economic Trends* and *Financial Statistics*, H.M. Treasury; and staff estimates.

1/ For 1997, data for first two quarters of the year at an annual rate, unless otherwise indicated.
2/ World Economic Outlook.
3/ July 1997.
4/ August 1997.
5/ Fiscal year beginning April 1. Estimates for 1997/98 based on staff forecasts.

# I. NATIONAL ACCOUNTS REVISIONS AND THE ECONOMIC CYCLE[1]

## A. Introduction

1.      Successful economic policy relies on good data, and on the whole, the United Kingdom's data are of high quality. However, sizeable revisions to national accounts data have sometimes occasioned a significant re-assessment of the cyclical position, and thus of the stance of policy. Notably, recent revisions to figures for 1994 and 1995 increased the latest estimate of GDP by almost 1 percent relative to the initial estimate; revisions ran up to 2 percent during the boom of the 1980s. Figure 1 suggests that revisions to GDP data have been biased upward and have had a marked cyclical pattern—i.e., they have been larger in upswings.

2.      To measure GDP, the Office for National Statistics (ONS) uses each of three basic approaches, based on output, expenditure, and income. In theory, these measures should be equal, but in practice, measurement difficulties generate discrepancies that could persist even after the information on the different measures is finalized. Such discrepancies result in relatively large balancing items, and in revisions up to two or three years after the initial estimates have been reported. Measurement uncertainties have been compounded by the increasing importance of the service sector—now constituting ⅔ of GDP—where measurement issues are harder to tackle.

3.      At the same time, the ONS has introduced several methodological improvements. One would expect the revisions to have become smaller and less systematic as these improvements take effect—as suggested by a casual inspection of Figure 1. Here, the key issue is whether these improvements have outpaced the changes in the economy that make measurement more difficult.

4.      This chapter uses a simple regression model to examine these issues more systematically. It concludes that upward revisions to GDP data are positively correlated with economic activity, in particular, with growth in its domestic component, and that although revisions may have become smaller in recent years (controlling for the stage of the cycle), the procyclical bias in the data revision has not been eliminated. The regression model employed also suggests that GDP growth in 1996—currently estimated at 2.4 percent—could be as much as 0.6 percentage point higher than that estimate.

## B. Revisions to Data and Economic Activity

5.      An investigation by the ONS identifies biases in the first estimates of GDP and suggests that these may have a systematic tendency to be larger in the expansion phase of the

---

[1]Prepared by Hossein Samiei.

FIGURE 1
UNITED KINGDOM

# REVISIONS IN GDP DATA

## (In percent of GDP)
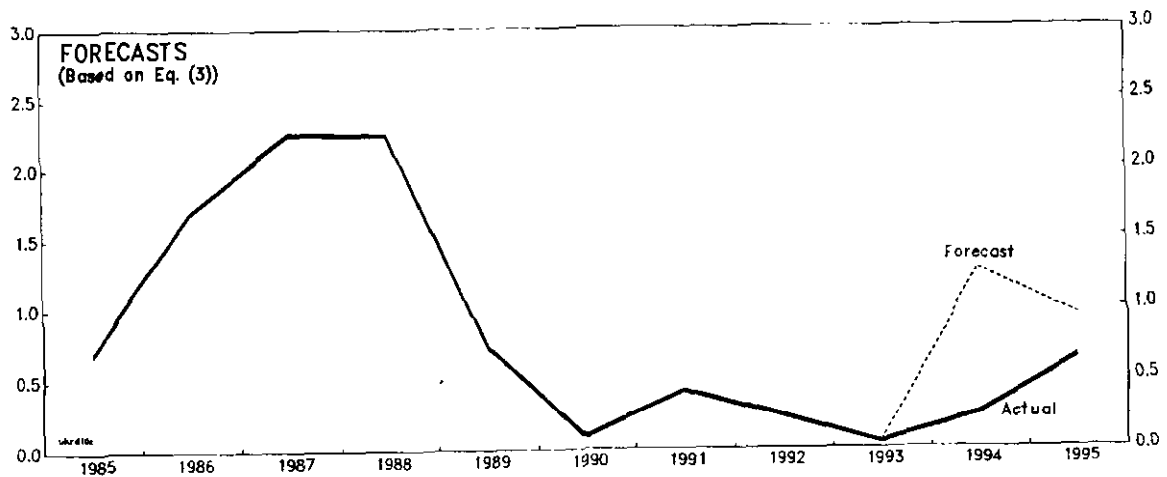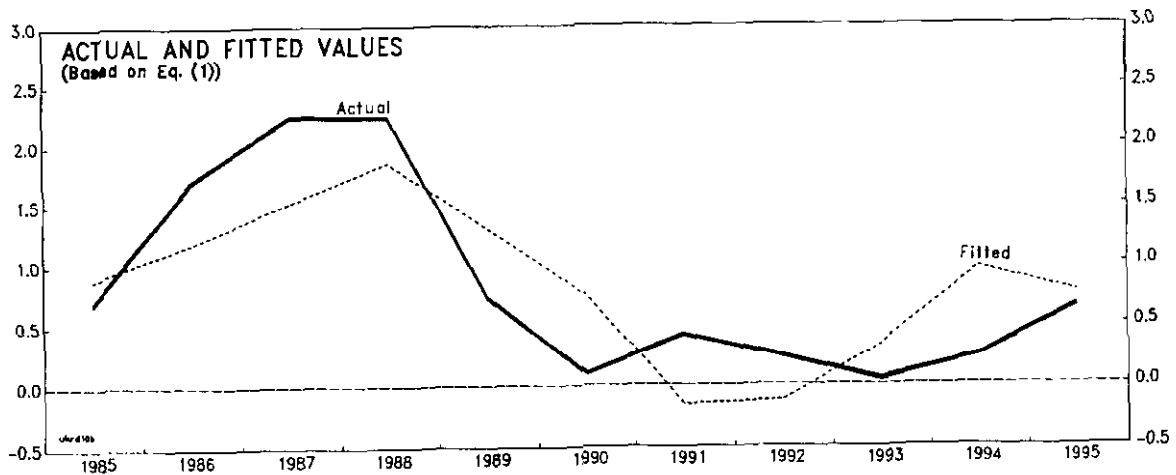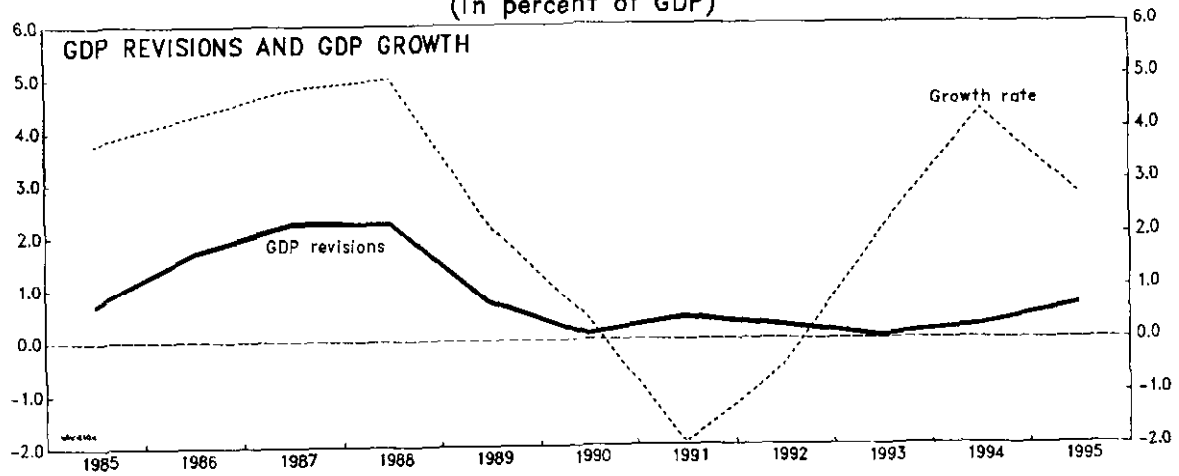


Sources: Office for National Statistics; and staff estimates.

cycle.[2] This is especially true for the expenditure measure, where a major focus of systematic downward bias is in the initial estimates of gross domestic fixed capital formation. This bias reflects procyclical increases in the number of new businesses, which are not included in the sample used for initial estimates, and in the number of outliers during an upswing. According to this study, among other components of alternative measures of GDP, revisions in imports (on the expenditure side), company profits (on the income side), and manufacturing production (on the output side) have also been relatively large.

6.      This section uses a simple regression model to examine the relationship between revisions to GDP figures and the stage of the cycle. Revision to GDP, denoted by $r$, and defined as percent difference between the initial and final estimates of GDP, is regressed against GDP growth, $g$, and the output gap (actual minus potential output) in percent of potential output, $gap$.[3] The data are annual and cover the more recent 1985–95 period, which constitutes roughly one complete cycle.[4] Estimating a linear relationship yields:

$$\hat{r} = 0.45 + 0.11 \ gap + 0.18 \ g \qquad (1)$$
$$(1.57) \quad (1.75) \qquad (2.15)$$

Period 1985–95   $\check{R}^2 = 0.49$   $D.W. = 1.46$   $s.e. = 0.590$
$\chi^2$ test for serial correlation: $\chi^2(1) = 0.85[0.36]$
$\chi^2$ test for functional form: $\chi^2(1) = 5.88[0.01]$
$\chi^2$ test for normality: $\chi^2(2) = 1.06[0.59]$
$\chi^2$ test for heterscedasticity: $\chi^2(1) = 0.48[0.49]$

where numbers in parentheses are t-ratios, and the numbers in square brackets are acceptance probabilities for the diagnostic tests.[5] The estimation results suggest that the output gap and GDP growth significantly (at 10 percent) and positively influence revisions to GDP data. A 1 percentage point increase in the output gap is associated with an upward revision in GDP of

[2]See U. M. Rizki, "Testing for Bias in Initial Estimates of the Components of GDP," *Economic Trends*, No. 514, August 1996.

[3]Data sources are the ONS, except for potential output, which is based on staff's calculations; GDP is the average measure as defined by the ONS; and GDP revisions are calculated as the difference between the initial and final estimates of GDP for a particular year in successive issues of *Economic Trends*.

[4]Although using a longer series would be desirable in terms of enhancing the regression's degrees of freedom, the difficulty of obtaining consistent data on GDP revisions and changes in data quality and definitions over time, argue in favor of focusing on the more recent data.

[5]The econometric package used for estimation is *Microfit 4.0* by M. H. Pesaran and B. Pesaran, OUP, Oxford: United Kingdom.

about 0.1 percentage point, while a one percentage point increase in GDP growth implies an upward revision of 0.2 percentage point. The estimated equation passes standard diagnostic tests except that for functional form.[6] Actual and fitted values are plotted in the middle panel of Figure 1.

7.     It can be argued that data revision is influenced differently by the different components of GDP. To test this, GDP growth is separated into its domestic component, $d$, and foreign component, $f$. A regression of data revisions on these variables and the output gap yields estimated coefficients that are generally insignificant; growth in domestic demand is marginally significant at 10 percent critical value:

$$\hat{r} = 0.50 + 0.07 \; gap + 0.15 \; d - 0.09 \; f \qquad (2)$$
$$\quad (1.80) \quad (1.05) \qquad (1.75) \quad (-0.41)$$

Period 1985-95   $\bar{R}^2 = 0.54$   $D.W. = 1.54$   $s.e. = 0.562$
$\chi^2$ test for serial correlation: $\chi^2(1) = 2.81\,[0.09]$
$\chi^2$ test for functional form: $\chi^2(1) = 1.89\,[0.17]$
$\chi^2$ test for normality: $\chi^2(2) = 0.81\,[0.66]$
$\chi^2$ test for heterscedasticity: $\chi^2(1) = 0.00\,[0.99]$

when $f$ is dropped from the regression (results not reported here), $d$ becomes significant at 5 percent. These results provide support for the hypothesis that the bias in the initial estimates is mainly associated with growth in domestic activity.[7]

## C.  Improvements in Data Quality

8.     In recent years, a number of steps have been taken to improve the quality of GDP data and to reduce discrepancies. Since 1991, rebalancing techniques, using improved and annually updated input-output tables, have been used to make the final estimates of the various

---

[6]A simple elaboration of the above specification to allow for non-linearities by including quadratic terms (results not reported) passes the functional from test, but suggests that the square of GDP growth positively affects revisions. This implies that revisions would be large and positive when growth is large in absolute terms, so that recessions are also associated with large revisions. Examining Figure 1 suggests that this could reflect revisions in one year only, namely 1991, and the possibility is not examined further here.

[7]Attempting to decompose the effects of the individual components of domestic demand was not successful due to the small number of observations. A more detailed approach, beyond the scope of the present study, would be to examine the link between revisions in the individual components of GDP and economic activity.

measures consistent and to obtain a single measure of GDP.[8] The balancing methodology attempts to reconcile estimates of industry value added between the income-based and output-based approaches, reconcile supply and demand for each product, and ensure consistency of GDP deflators with the current and constant price estimates of GDP and its components.

9.      Moreover, new statutory inquires and measurement procedures have been introduced, aimed at enhancing the quality and frequency of data collection, notably in the areas of company data and service sector output. In 1990, existing voluntary inquiries into quarterly capital expenditure and stockbuilding, and provision of monthly retail sales figures became compulsory; statutory quarterly inquiries into company profits and annual surveys of financial asset and liabilities of larger companies and share registers were introduced; new statutory quarterly inquiries covering selected parts of the service sector were also introduced; and there were quality improvements in a number of areas, including quarterly family expenditure surveys, and on the external side, in the measurement of trade in services and foreign direct investment. The ONS is considering further actions to improve and expand service sector statistics.[9] Measures taken to enhance the quality and coverage of data, together improvements in input-output balancing techniques, are expected to reduce discrepancies between alternative measures of GDP over time.

10.     With these improvements in data collection and compilation, revisions should have become smaller in recent years, as also suggested by a casual inspection of Figure 1. A simple test of this hypothesis would be to re-estimate (1) using data for the period prior to the reforms and test the predictive power of the estimated equation for the latter period. Assuming that reforms take time to be effective, the 1994–95 period is picked as the forecast period.[10] The equation is estimated using data for 1985 to 1993:

---

[8]See Sanjiv Mahajan, "Balancing GDP: U.K. Annual Input Output Balances," *Economic Trends*, No. 519, January 1997. ·

[9]See Bill Cave, "The President's Task Force on Service Sector Statistics," *Economic Trends*, No. 519, January 1997, which describes proposals by the Department of Trade and Industry.

[10]Using 1985–91 as the estimation period did not change the results, nor did the more restrictive methodology of including an intercept dummy for the latter period in the full-sample estimation of the equation.

$$\hat{r} = 0.41 + 0.07 \; gap + 0.24 \; g \qquad\qquad (3)$$
$$\phantom{\hat{r} = } (1.44) \quad (1.07) \qquad (2.61)$$

Period 1985-93 $\quad \bar{R}^2 = 0.58 \quad D.W. = 1.76 \quad s.e. = 0.579$
$\chi^2$ test for serial correlation: $\chi^2(1) = 0.00[1.00]$
$\chi^2$ test for functional form: $\chi^2(1) = 7.06[0.08]$
$\chi^2$ test for normality: $\chi^2(2) = 1.16[0.56]$
$\chi^2$ test for heterscedasticity: $\chi^2(1) = 1.01[0.31]$
$\chi^2$ test for predictive failure: $\chi^2(2) = 2.31[0.32]$

Testing for predictive failure does not suggest a structural break in the equation, despite the fact that the equation overpredicts data revisions for the 1994–95 period by relatively large amounts (Figure 1, bottom panel). Given the simplicity of the model and the small number of observations, the possibility that changing practices may have reduced the magnitude of data revisions cannot be considered as conclusively rejected by this test. However, these results do suggest that, despite the undoubtable methodological improvements in the national accounts that have taken place, the systematic procyclical bias in the data revisions has not been eliminated.

## D. Estimated Revisions to 1996 GDP

11. Equation (1) can be used to derive a forecast for revisions to GDP growth in 1996—initially estimated at 2.1 percent and currently at 2.4 percent. To do this, one needs to take account of the fact that equation (1) describes the relationship between the *final* estimates of the variables involved so that any further revisions would affect the variables on both sides of the equation. Taking this into account, the final estimates of GDP growth $g^*$ can be predicted based on the initial estimates of GDP growth and the output gap, as follows:[11]

---

[11]Denote by $g^*$, $r^*$, and $gap^*$, the final estimates of GDP growth, data revisions, and the output gap for 1996. From (1):

$$r^* = 0.45 + 0.11 \; gap^* + 0.18 \; g^*$$

Moreover: $r^* = g^* - g$, i.e., percent revision in GDP is the difference between current and final estimate of GDP growth. Similarly: $gap^* = gap + r^* = gap + (g^* - g)$. Substituting for $r^*$ and $gap^*$ gives:

$$g^* - g = 0.45 + 0.11 \; [gap + (g^* - g)] + 0.18 \; g^*$$

which yields Equation (4) upon simplification.

$$g^* = 0.63 + 0.15 \ gap + 1.25 \ g \qquad\qquad (4)$$

Applying this formula to the initial estimate for 1996 GDP growth of 2.1 percent and an associated initial output gap of -1.3 percent, the final estimate of GDP growth for 1996 is predicted to be 3.0 percent. The standard error of this forecast is 0.6, or that the final estimate of GDP growth in 1996 is in the range 2.4–3.6 with 95 percent confidence. The point estimate for 1996 of 3.0 percent is 0.6 percentage point higher than the current estimate of 2.4 percent. This estimate, of course, is subject to the qualifications already noted in the previous section.

## E.  Concluding Remarks

12.     This chapter has discussed measurement problems in GDP and has examined the link between revisions to GDP data and the stage of the cycle. The analysis, which is based on a simple regression equation—and, therefore, is intended to be only suggestive—indicates that upward revision to GDP data is positively correlated with activity, in particular, with growth in domestic demand; that the evidence in favor of a reduction in the size of the revisions in recent years is not conclusive; and that GDP growth in 1996—currently estimated to be 2.4 percent— could be as high as 3 percent. The possibility that the cyclical pattern of data revisions will repeat itself thus still constitutes an important upside risk to projections of economic activity and inflation.

## II. FISCAL POLICY: DEVELOPMENTS AND PROSPECTS[12]

### A. Introduction

13.    The new Labour government has set out a fiscal framework in which the primary focus is on fiscal sustainability and sound public finances, backed up by determined efforts to control spending and taxation. This represents a fundamental shift away from the emphasis on demand management that prevailed at the time of the previous Labour government in the 1970s. To a large extent, the new government has endorsed the sweeping changes in the approach to economic policy during the intervening years—as reflected in government involvement in the economy, as measured by the shares of public expenditure and revenue in GDP, that is now rather low by European standards.[13]

14.    The fiscal deficit, however, has been sizable in recent years, and, although significantly lower than in 1993, is still large given the cyclical position. In structural terms, the fiscal balance at 2¾ percent of GDP in 1996/97 is among the highest in major industrial countries. The medium-term path set in the previous government's 1995 budget, which envisaged fiscal tightening to balance the budget before the end of the century, went off track following revenue shortfalls during 1995/96, and in the 1996 budget, the achievement of medium-term balance was postponed by a year. This slippage was largely offset by a better-than- budgeted performance in 1996/97: the fiscal deficit (Public Sector Borrowing Requirement (PSBR), excluding privatization proceeds) at 3½ percent of GDP was ½ percent of GDP lower than the 1996 budget, mainly reflecting better-than-expected revenues (Table 1).

15.    The new government used its first budget, delivered on July 2, 1997, to stress its commitment to fiscal discipline and enhance the credibility of its pledge to sound public finances. The announced measures were intended to improve the public finances, support demand restraint, and reduce macroeconomic imbalances caused by pressures on the interest rate and sterling. The government announced tax measures amounting to ½ percent of GDP in each of the 1997/98 and 1998/99 fiscal years. These measures, together with those already in place—in particular, the previous government's tight nominal spending targets, which have been reaffirmed, in the face of a higher GDP deflator—are projected to improve the general government's structural balance by 2¼ percent of GDP in 1997/98. The PSBR data so far in 1997/98 do not suggest that this projection is overly optimistic.

---

[12]Prepared by Hossein Samiei.

[13]The shares of expenditure and revenue in GDP are not lower than in 1978, but are now low relative to other European countries, largely because the United Kingdom has been able to control growth in public spending more than elsewhere in Europe.

## Table 1. United Kingdom: General Government Finances 1/

(In percent of GDP)

|  | 1996/97 | 1997/98 | 1998/99 | 1999/00 |
|---|---|---|---|---|
| **November 1995 Budget** | | | | |
| Revenue | 37.8 | 38.2 | 38.6 | 38.8 |
| Expenditure | 41.4 | 40.5 | 39.5 | 38.7 |
| Control total (real growth) | -0.9 | 0.5 | 0.8 | 0.5 |
| PSBR (excl. privatization) | 3.5 | 2.2 | 0.9 | -0.1 |
| Structural 2/ | 2.2 | 1.2 | 0.2 | -0.7 |
| GGFD (Maastricht definition) | 3.5 | 2.0 | 0.8 | -0.3 |
| Memorandum item: | | | | |
| Nominal GDP | 754.0 | 795.0 | 836.0 | 876.0 |
| **November 1996 Budget** | | | | |
| Revenue | 37.7 | 38.0 | 38.1 | 38.5 |
| Expenditure | 42.0 | 40.8 | 39.8 | 39.9 |
| Control total (real growth) | -0.4 | 0.3 | 0.8 | 0.5 |
| PSBR (excl. privatization) | 4.1 | 2.7 | 1.6 | 0.5 |
| Structural 2/ | 2.8 | 1.7 | 0.9 | -0.1 |
| GGFD (Maastricht definition) | 4.1 | 2.6 | 1.5 | 0.2 |
| Memorandum item: | | | | |
| Nominal GDP | 745.7 | 786.9 | 826.0 | 864.0 |
| **July 1997 Budget** | | | | |
| Revenue | 38.1 | 38.7 | 39.0 | 39.1 |
| Expenditure | 41.7 | 40.3 | 39.5 | 38.9-39.4 |
| Control total (Real growth) | -0.8 | -0.5 | 0.1 | 0.8-2.3 |
| PSBR (excl. privatization) | 3.6 | 1.6 | 0.5 | -0.2-0.3 |
| Structural 1/ | 2.8 | 1.4 | 0.8 | 0.2-0.7 |
| GGFD (Maastricht definition) | 4.0 | 1.5 | 0.3 | -0.5-0.0 |
| Memorandum item: | | | | |
| Nominal GDP | 752.2 | 797.6 | 838.0 | 877.0 |
| **WEO projections** | | | | |
| Revenue | 38.1 | 38.8 | 39.1 | 39.2 |
| Expenditure | 41.7 | 40.4 | 39.7 | 39.4 |
| Control total (real growth) | -1.0 | -0.4 | 0.1 | 2.4 |
| PSBR (excl. privatization) | 3.6 | 1.6 | 0.6 | 0.1 |
| Structural 2/ | 2.8 | 1.3 | 0.4 | 0.1 |
| GGFD (Maastricht definition) | 4.2 | 1.4 | 0.3 | -0.2 |
| Memorandum item: | | | | |
| Nominal GDP | 752.0 | 798.1 | 839.7 | 879.9 |

Sources: H.M. Treasury; and staff estimates.

1/ Cash basis, except for GGFD.
2/ Staff estimates.

## B. Historical Background

16.     Although the shares of public expenditure and revenue in GDP are not any lower than in 1978 when Labour was last in office, they are now among the lowest in Europe—albeit still larger than the G-7 average—largely because the United Kingdom has been more successful than other European countries in containing spending growth (Figure 1).

17.     Throughout much of the 1970s, fiscal policy had been used largely to smooth out cyclical variations in output and employment. This broadly Keynesian demand-management approach to policy was severely restricted following the Labour government's acceptance of the IMF's conditions for assistance after the exchange rate crisis of 1977, and was further limited following the election of a Conservative government in 1979. The Conservatives embarked on a program of introducing significant changes in the running of the public sector.[14]

18.     On the spending side, a number of changes have contributed to slower growth of expenditure in the United Kingdom than elsewhere in Europe. First, on social security, in the mid-1980s a switch was made from indexing pensions and benefits to average wage, in favor of indexing to prices. This has generally reduced growth in spending on social security by 1–2 percentage points a year. Other social security changes that have tended to reduce expenditure include converting the pensions schemes of a large part of public sector employees into occupational or personal schemes, legislation to make certain benefits taxable, and tightening up of eligibility rules for claiming unemployment benefits. Despite these efforts, the share of expenditure on social security, health, and education has risen from 50 percent of total expenditure in 1979 to 60 percent in 1997, reflecting the difficulty of controlling expenditure in this area, the relatively high income elasticities of demand for such services, demographic factors, and changes in medical technology. Second, a sharp reduction in spending has occurred as the interventionist policies of the earlier period were abandoned, state enterprises were privatized, and as a result government subsidies fell, and the share of public investment declined.[15] Third, public sector pay awards have been stringently controlled during most of the period since 1980, contributing significantly to slower growth in public spending. Finally, changes in local government finance have acted to reduce central government expenditure on transfers to local authorities and to increase local spending financed by local taxes (although the failure of the Poll Tax partly reversed this process) and, more recently, by enforcing caps to control local spending.

---

[14] For an analysis of developments during this period, see N. Rajah and S. Smith, "Fiscal Developments in the United Kingdom since 1980," *European Economy, Towards Greater Fiscal Discipline*, No. 3, 1994.

[15] As emphasized in Chapter III of last year's Recent Economic Developments, SM/96/254 (10/9/96), the United Kingdom experience shows that reducing public expenditure mainly through cutting capital expenditure is not sustainable.

FIGURE 1
UNITED KINGDOM
# INTERNATIONAL COMPARISONS: PUBLIC FINANCE



**GENERAL GOVERNMENT EXPENDITURE**
(In percent of GDP)

Other EU

United Kingdom

Other G7



**GENERAL GOVERNMENT REVENUE**
(In percent of GDP)

Other EU

United Kingdom

Other G7



**STRUCTURAL FISCAL BALANCE 1/**
(In percent of potential GDP)

United
Kingdom

Other G7

Other EU
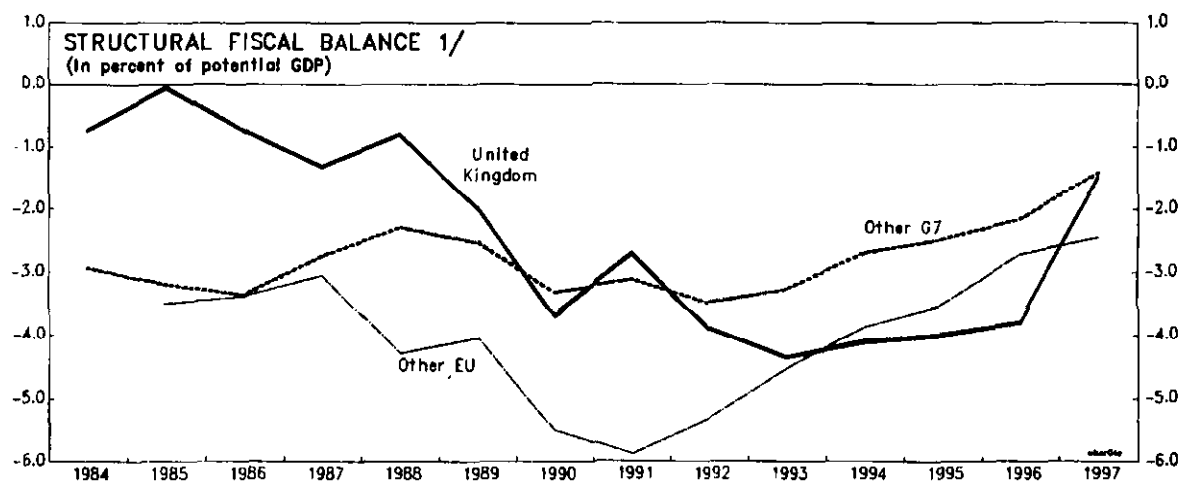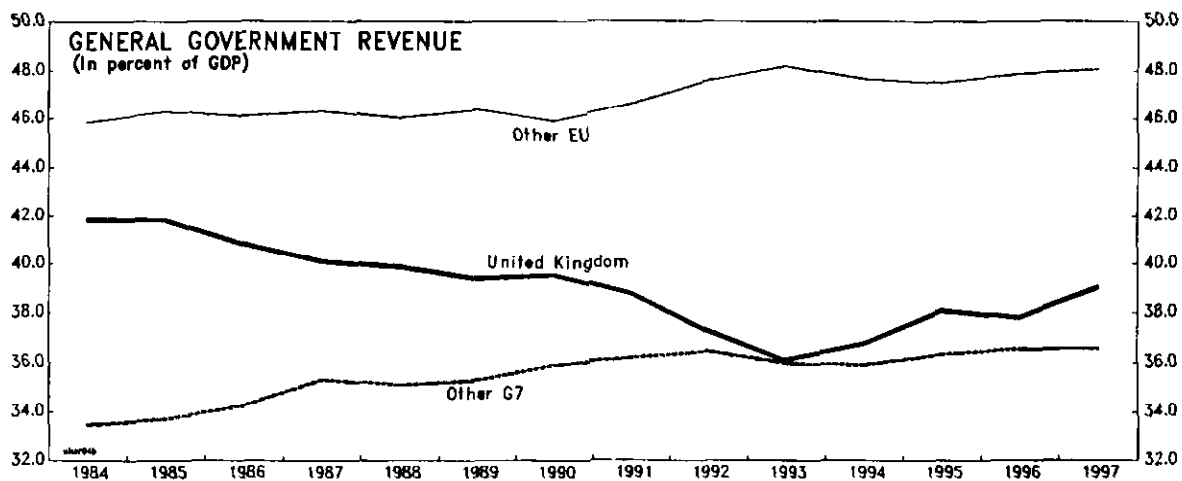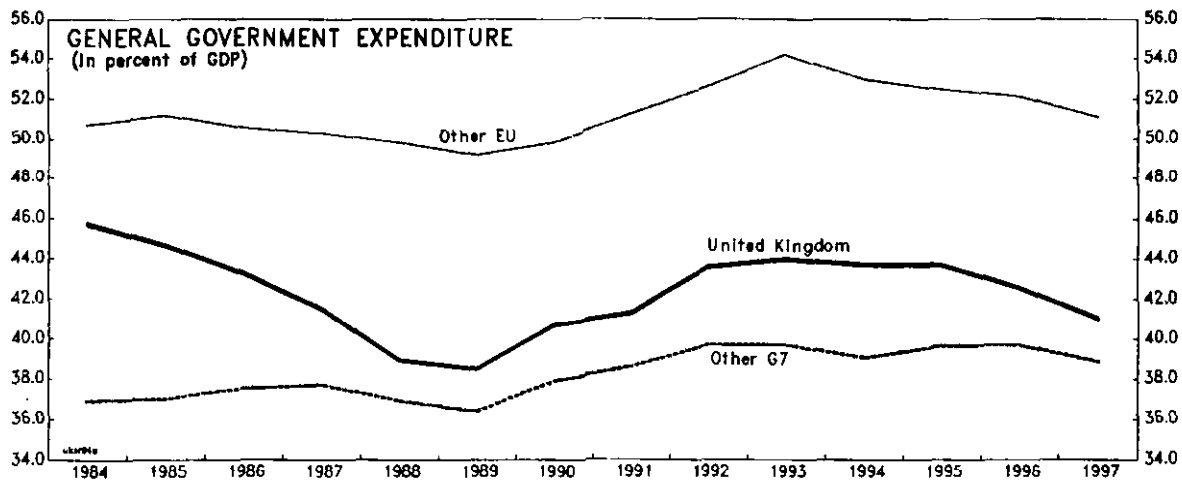
Sources: Office for National Statistics; IMF, World Economic Outlook.

1/  General government basis.

19.     On the revenue side, the major change has been the attempt to move away from direct to indirect taxes, in order to enhance the efficiency of the tax system and reduce distortions. Income tax rates have been successively reduced at all levels of income while VAT rates and coverage have increased: the share of income taxes has fallen from 29 percent of total receipt to 24 percent, while that of VAT has increased from 7.8 percent to 16.9 percent. The corporate tax rate has also fallen significantly over the period, while tax allowances have been reduced. As a result of these changes the United Kingdom is now a low-tax country by European standards.

20.     Despite these reforms, the fiscal deficit over the past two decades has been in surplus only for a short period of time during the strong recovery of the late 1980s. The deficit deteriorated particularly sharply during the recession of 1990–92, and successive budgets have since attempted to bring the PSBR back toward balance in the medium term. The fiscal deficit at 3½ percent of GDP, however, although significantly reduced since 1993, is still large given the current cyclical position.

## C.  The November 1996 Budget

21.     The November 1996 budget implied a small tightening of fiscal policy relative to the Treasury's Summer Forecast but did not go as far as putting the fiscal position back on the medium-term track envisaged in the 1994 and 1995 budgets. This largely resulted from a shortfall in revenues that was largely noncyclical and thought to reflect factors, such as increased VAT avoidance by companies. Relative to the 1995 budget, there were shortfalls in corporation tax of £1.2 billion, in income tax of £0.8 billion, and in VAT receipts of £0.7 billion, continuing a trend that had started earlier. Relative to the 1994 budget, on the other hand, corporation tax was lower by £4.6 billion, income tax by £2.0 billion, and VAT receipts by £4.8 billion.

22.     The 1996 budget projected that the PSBR would fall to 2.7 percent of GDP in 1997/98, down from 3.2 percent of GDP in the Treasury's 1996 Summer Forecast but up from 2.2 percent of GDP in the 1995 budget, and be close to balance by 1999/00 (see Table 1). New measures, which featured cuts in spending and direct taxes, partly offset by increases in indirect taxes, were equivalent to roughly ¼ percent of GDP. The improvement over the 1996 Summer Forecast also reflected an upward revision to growth projections and projected savings from a clampdown on tax and benefit fraud. The 1996 budget projected that the Maastricht fiscal criterion would be met in 1997.

23.     On the spending side, the budget planned to cut public spending by 2¼ percent relative to the previous budget over the coming three years, reducing it to 40 percent of GDP by 1997/98. Central government running costs were projected to fall by 7 percent by the end of 1999, while expenditure on health and education would increase. Benefits for single parents would be aligned with those for couples with children, and increases in social security would be held to 1.5 percent a year in real terms. The budget proposed to save nearly 1 percent of

GDP over three years by targeting tax and benefit fraud. Spending on police and prisons would rise but defense expenditure would be cut.

24.     On the revenue side, the budget included a variety of measures intended to cut direct taxes and to raise indirect taxes. The basic rate of income tax was lowered to 23 percent from 24 percent and various income tax allowances were increased in real terms, while special tax relief on profit-related pay would be phased out over 1998–2000. On corporate taxation, business rates on small properties were lowered, and the rate of corporate taxation on small companies was cut to 23 percent from 24 percent. Special measures would be undertaken to counter VAT avoidance by eliminating loopholes. National insurance contributions were lowered for employers, while upper and lower thresholds were increased for both employers and employees. Various indirect taxes were also adjusted—with increases in the rate of insurance tax, air passenger duty, and excise duties on tobacco, cars, and petrol and diesel, changes in alcohol excises, and a cut in road fuel tax—with the overall effect of increasing revenues.

25.     Although the budget was tighter than expected by the market, there were doubts over the quality of some of the measures. In particular, the budget projected that savings from intensified enforcement to reduce tax evasion and avoidance (the "spend to save" initiative) would be over £½ billion in 1997/98, and much larger in later years. However, clearly revenues from such a broad measure would be highly uncertain. The treatment of some spending components in the budget were also criticized. The sale of the Student Loan Company's loan book and that of the Ministry of Defence housing (totaling £1.7 billion) were both counted as negative expenditure under the control total and not as privatization proceeds. These concerns, among others, led the new Labour government to look into the assumptions underlying the Treasury's fiscal projections. The National Audit Office was assigned the task of scrutinizing the forecasts by reviewing the assumptions (see below).

### D.  The Outturn for 1996/97

26.     The outturn for 1996/97 was better than projected in the budget. The PSBR, excluding privatization, was £27.1 billion (3.6 percent of GDP), lower by £3.8 billion (0.5 percent of GDP) than the budget. This overperformance reflected an overshoot of £5.4 billion in government receipts, partly offset by £0.4 billion in extra general government expenditure—despite lower central government expenditure—and a £1.2 billion overshoot in public corporations borrowing (Table 2). On the revenue side, income and corporation taxes were higher than budgeted by £1.3 billion and £1.6 billion, respectively, but VAT receipts were lower by £0.6 billion. On the expenditure side, spending ceilings by departments were not violated, with control total spending marginally lower than in the budget, but other (cyclical) general government spending and net borrowing by public corporations were somewhat above the budget.

Table 2. United Kingdom: General Government Receipts and Expenditure in 1996/97

(In billions of pounds except when indicated)

|  | 1995 Budget | 1996 Budget | Outturn |
|---|---|---|---|
| Receipts | 284.8 | 280.9 | 286.3 |
| (in percent of GDP) | (37.8) | (37.7) | (38.1) |
| Income tax | 70.2 | 68.1 | 69.4 |
| Corporation tax | 26.6 | 26.1 | 27.7 |
| Value added tax | 47.9 | 47.5 | 46.9 |
| Expenditure excluding privatization | 312.3 | 313.0 | 313.4 |
| (in percent of GDP) | (41.4) | (42.0) | (41.7) |
| Control total | 260.2 | 260.6 | 260.4 |
| PSBR | 22.4 | 26.4 | 22.7 |
| PSBR excluding privatization | 26.4 | 30.9 | 27.1 |
| (in percent of GDP) | (3.5) | (4.1) | (3.6) |
| Memorandum item: Money GDP | 754 | 745.7 | 752 |

Sources: Financial Statement and Budget Report 1997–98, HMT, Tables 4A.1–4A.5; and Office for National Statistics.

27.     The overshoot in revenues contrasts with revenue shortfalls during 1994/95 and 1995/96 fiscal years. The recovery in income and corporate taxes suggests that transitory albeit noncyclical factors may have been responsible for shortfalls in earlier years. The continuation of below forecast VAT receipts, on the other hand, is evidence that factors behind VAT shortfalls have not disappeared and may be of a more structural nature. Increasing VAT avoidance by companies has been suggested as a major cause of the latter shortfalls.

### E.  Background to the July 1997 Budget

28.     At the time of the July budget, the new government faced a fiscal situation that required corrective actions on fiscal grounds, as well as on macroeconomic and political grounds. First, despite better-than-budgeted performance in 1996/97, fiscal deficits were large, in particular given the cyclical position of the economy. Second, given the modest additional fiscal consolidation in the November 1996 budget, buoyant activity and expectations of higher interest rates had pushed sterling up to a point where further appreciation would have been undesirable. Thus, fiscal consolidation was required to support demand restraint and reduce macroeconomic imbalances caused by pressures on the interest rate and sterling. Third, the consolidation plans that the new government inherited were back-loaded: of the 2 percentage point reduction in the structural balance over the three-year horizon, about half were to come into effect during the last year. And finally, the credibility of the new government's pledge to establish sound public finances, as perceived by the market, hinged on taking convincing measures in the budget.

29.     Prior to forming a government, the Labour Party had committed itself to several parameters of fiscal policy. These included: (i) respecting the spending targets set by the previous government for at least two years; (ii) leaving income tax rates unchanged; (iii) lowering VAT on domestic fuel (basically household heating bills); (iv) imposing a one-off windfall tax on the excess profits of privatized utilities with the proceeds to be used to finance a "Welfare–to–Work" program to counter unemployment (see Chapter IV below); and (v) observing over the medium term the "Golden Rule" of borrowing (over the course of the economic cycle) only to finance public investment and to stabilize the debt/GDP ratio at a sensible level on average.

30.     Once in office, the new government introduced new, more conservative budgetary assumptions: (i) expected receipts from privatization would be included in the budget only if tied to specific assets publicly identified for sale; (ii) the estimate of savings generated by the previous government's "spend to save" (anti-tax evasion and avoidance) program would be limited to the direct effects of the measures; (iii) the estimated rate of potential output growth was revised downward to 2¼ percent a year from 2½ percent; (iv) the number of people claiming unemployment benefit was assumed constant over the projection period (and thus, for example, not counting on any of the anticipated benefits from active labor market policies); and (v) the interest rate assumption would be made on the basis of market

expectations. These changes would remove a cumulative £20 billion (3 percent of GDP) from the previous government's net revenue projections over the medium term.

31.     The revised assumptions were intended to improve the quality of the forecasts and to increase transparency in the forecasting procedure. Among the changes, the downward revision to potential growth was unexpected: it had been raised to 2½ percent from 2¼ percent only two years earlier. The authorities seem to consider both estimates as being within the acceptable range, but now prefer to be on the side of caution.[16] The National Audit Office was asked to scrutinize these assumptions, judging them to be prudent, but not the only prudent assumptions.

## F.  The July 1997 Budget and the New Government's Fiscal Plans

32.     Chancellor Brown's first budget, announced on July 2, featured significant fiscal tightening. Citing the policy mix, the unbalanced recovery, and the need to address exporters' concerns at the high level of sterling, the chancellor tightened the fiscal stance by about 0.4 percent of GDP[17] in 1997/98, rising to 0.5 percent in 1998/99. Adhering to the previous government's nominal spending targets in the face of an upward revision in the GDP deflator led to further significant tightening. As a result, the general government's financial deficit is now set to improve in structural terms by 2.3 percent of GDP in 1997/98 and a further 1 percent in 1998/99 (see Table 1).

33.     As promised, the chancellor retained existing spending ceilings for 1997/98 and 1998/99, announced a windfall tax on privatized companies to be used largely to fund his Welfare–to–Work initiatives, reduced VAT on domestic fuels, and confirmed his medium-term goal of observing the "Golden Rule."

34.     Moreover, he announced a reduction (from 1998/99) in the rate of mortgage interest relief; an increase stamp duty on property transfers; phased abolition of Advanced Corporation Tax (ACT) credits for shareholders in respect of tax paid on dividends by companies; and increases in excises on road fuels and tobacco by 6 percent and 5 percent per annum, respectively, in real terms (compared with the previous government's commitments to 5 percent and 3 percent). These were partly offset by a 2 percent rate reduction in the corporate tax rate that was the one genuine surprise in the budget, and a temporary doubling of investment allowances for small and medium enterprises.

35.     The new government justified the windfall tax, a one-off levy on privatized utilities, on the grounds that these companies were sold off too cheaply at the initial privatization; that the

---

[16]The staff continues to assume 2½ percent potential growth.

[17]Excluding the temporary effect on the fiscal balance of the lag between receipts of the windfall tax and the associated spending.

regulatory regime had been too lax over the period since privatization; and that the companies had been able to exploit a degree of monopoly power. The tax would apply to companies privatized by floatation, and be assessed as a proportion of the difference between the value placed on the company at the time of sale and a valuation figure based on post-tax profits during the four years following the privatization. The tax is to be paid in two installments on December 1, 1997, and December 1, 1998, for a projected total of £5.2 billion.

36.     A number of issues have been raised in relation to this tax and its use to finance Welfare-to-Work. In particular, the tax is unlikely to ensure fairness, in the sense of targeting the individuals who actually received the "excess profit."[18] Moreover, it uses a one-off tax to finance what could become permanently higher expenditure on training, job subsidization, and other programs to reduce unemployment. Finally, retroactive measures are generally undesirable, as they create a climate of uncertainty. In principle, a windfall tax that is levied only once should not affect the economic behavior of the firms taxed, assuming that it will genuinely be "one-off." Retroactive tax measures, such as the windfall tax, however, potentially face a time-inconsistency problem: they may be resorted to again despite promises to the contrary, and, as a result, could have real effects. To alleviate such fears, the authorities have stressed that this is a genuine one-off arrangement, not to be resorted to again.

37.     The budget initiated an overhaul of corporate taxation. It lowered the corporate tax rate from 33 percent to 31 percent and introduced a phased abolition of ACT credits. The former is projected to lower revenues by £3½ billion, while the latter would add £12 billion to revenues over three years. Payments of tax credits to pension funds and United Kingdom companies (other than charitable companies) was abolished with immediate effect; for other shareholders with no tax liabilities, it would come into effect on April 6, 1999. On the same day, the rate of tax credit would also halve to 10 percent. Transitional relief for charities would be available from April 1999 over a five-year period.

38.     The combination of lower corporate taxes and a phased abolition of ACT credits was intended not only to improve the fiscal position and reduce demand pressures, but also, and more importantly, to encourage investment both through lower taxes and through a reduction in the bias in favor of retention of profits. Before 1973, the United Kingdom had operated a system where distributed profits were taxed twice, once as part of corporate taxation and then as dividends. Since 1973, in order to prevent this double taxation, an imputation system had been used which allowed a tax credit against personal income tax. However, since the credit also accrued to nontaxpaying shareholders such as pension funds, there had been a bias in favor of dividend payments. In effect, the system raised the cost of capital for investment financed from retained profits because it introduced a tax advantage in using debt finance as opposed to finance from retained profits. One estimate suggests that the bias in the tax system

---

[18]Alternative measures of excess profits such as total returns on shareholders minus return on an aggregate index, would also have suffered from similar problems; see *IFS Election Briefing*, The Institute for Fiscal Studies, April 1997.

added 1–2 percentage points to the overall cost of capital, lowering investment by up to 5 percent.[19]

39.     Phasing out the credits is, therefore, likely to encourage firms to retain more profits for investment purposes. In the short term, the measure could have the opposite effect to the extent that companies would have to use internal funds to compensate for lower returns on invested pensions. Over the long term, however, the burden of lower credits for pensions funds is likely to be largely borne by households in the form of lower pensions benefits or higher contributions.

40.     Cutting the rate of VAT on domestic fuel from 8 percent to 5 percent, the lowest level permitted under the EU's indirect tax harmonization rules, is projected to cost about £1 billion in lost revenues. Moreover, the measure runs against the objective of broadening the VAT and the desirability of tax on fuel from an environmental point of view. The argument used by the authorities to support the measure is a distributional one: since spending on domestic energy accounts for a large part of spending by the poor and the elderly, VAT on fuel is a regressive measure.

41.     The reduction in mortgage interest tax relief from 15 percent to 10 percent and the increase in stamp duty are projected to deliver an extra £2 billion in revenues over three years, with only a small part of it during the first year. These measures would also likely remove some pressure from the housing market, where prices have been rising at a rate well above the rate of inflation—although, this effect is likely to be minor since the measures had already been largely expected.

42.     On taxation of savings, the budget announced the introduction, effective April 1999, of "individual savings accounts"; these accounts will be available for holders of the existing tax-exempt savings vehicles (TESSA and PEPs)[20] as well as other individual shareholders and savers. The budget's projections for tax credits after 1999 allow for tax relief to continue through the use of individual savings accounts when they are introduced in 1999.

43.     On the expenditure side, the central component of the budget was its commitment to nominal departmental expenditure ceilings (control totals) for 1997/98 and 1998/99 set in the November 1996 budget by the previous government. These nominal ceilings were already restrictive and, with an upward revision in the GDP deflator—lowering deficits by about 1 percent of GDP over two years—this commitment translated into a significant fall in the projected deficit (see below). Including outlays financed by the windfall tax, control total spending is projected to fall in real terms by ½ percent between 1996/97 and 1998/99.

---

[19]See S. R. Bond, M. P. Devereux, and M. J. Gammie, "Tax Reform to Promote Investment," *Oxford Review of Economic Policy*, Vol. 12, No. 2, 1996.

[20]TESSAs are tax-exempt savings accounts; PEPs are personal equity plans.

44.     The budget, however, introduced two spending items outside of the control total: spending financed by the windfall tax, amounting to £5.2 billion spread over five years, with ⅔ to be spent on Welfare–to–Work, and the rest on schools and lone parents; and additional capital spending by local councils, amounting to £0.9 billion spread over two years, financed by the release of part of the blocked receipts of proceeds of earlier housing privatizations. In addition, the budget allocated, with unchanged control total, £2.5 billion out of the contingency reserve for 1998/99 to health and education.

45.     The new government has initiated a comprehensive expenditure review. Unlike the previous fundamental expenditure review, which concentrated on 3-4 departments at a time, the new plan is intended to cover all government departments in a centralized manner. It will concentrate on defining objectives and priorities based on cross-departmental reviews, rather than expenditure cuts per se.

46.     The budget sets to observe the "Golden Rule" over the medium term: that public borrowing should be used to finance investment rather than current spending over the course of the cycle. In addition, it specifies that public debt should be maintained stable at a "prudent and sensible level" over the cycle. With concrete expenditure plans awaiting the outcome of the comprehensive spending review, the budget does not contain well-defined medium-term expenditure targets. Instead, it presents three medium-term fiscal scenarios based on different expenditure growth assumptions. Even on the most expansionary of these (with expenditure growing at the same rate as trend output), the budget plans overperform on the "Golden Rule" objective, with the general government in balance by 1999/2000 and in modest surplus thereafter. The debt-to-GDP ratio would decline over the next five years from the present level of 54 percent to 45 percent of GDP.

47.     Notwithstanding the budgetary plans' substantial overperformance relative to the "Golden Rule," which leaves the status of this rule unclear in the medium-term plans, the rule itself is subject to well-known shortcomings as a medium-term objective of fiscal policy. In particular, since most of the returns from public investment do not accrue as government revenue, following this rule would not necessarily assure sustainable public finances. This is implicitly acknowledged by complementing the rule with the objective of stabilizing debt at a prudent and sensible level. The need for medium-term plans to ensure sustainability is especially important in light of the new government's announced aim of increasing public expenditure in priority areas.

48.     The new government has pledged to start a program of public-private partnership in place of the previous Private Finance Initiative (PFI). Under the new system, every potential partnership project will be subject to an appraisal at the outset, with the focus on achieving results and cutting costs. The Private Finance Panel will be strengthened to streamline procedures, develop standard forms of contract, and cut red tape. In particular, there will be new forms of public-private partnership in the National Health Service in order to overcome the problems that have plagued the PFI. The reforms also include dropping the requirement

that every investment project first be considered for the PFI and prioritizing projects already in procurement.

49. The new government has initiated reviews of the tax and benefit and pensions systems. A taskforce, made up of senior civil servants and headed by a leading businessman, is considering options for modernizing the tax and benefit system to improve work incentives and reduce welfare dependency. The government is also looking into developing a long-term strategy for pensions, in particular, the possibility of making it compulsory for employers and employees to make sizeable pension contributions into private funds.

## G. The Impact of the July Budget

50. Macroeconomic circumstances at the time of the budget had put pressure on the new chancellor to include measures that would significantly restrain demand and reduce upward pressure on the interest rate and exchange rate. The market's initial reaction was that the budget did not do enough toward that aim: interest rates' futures rose in the expectations that the Bank of England would need to raise interest rates by as much as 1 percentage point in the following months; and sterling rose further to new five-year record highs, and later that month surpassed the DM 3 level.

51. A closer examination, however, reveals that, contrary to the market's initial view, the budget's impact on demand is likely to be significant. Table 3 reports estimates for structural expenditure, revenue, and fiscal balances for the periods 1996/99—1990/2000, both on a cash basis for the public sector (PSBR, excluding privatization proceeds) and on an accrual (Maastricht) basis for the general government (GGFD). On a cash basis, the structural balance improves by 1.5 percent of GDP in 1997/98. The fiscal impulse is larger when the more economically meaningful accruals-based GGFD measure is used:[21] structural GGFD improves by about 2.3 percent of GDP, reflecting in part the larger increase in revenues on an accruals basis than a cash basis. The projections show that the Maastricht criterion will easily be met in 1997 and that the budget will be close to balance in 1998/99.

52. While the implied fiscal impulse, as measured by projected improvement in the structural balance, is hefty, the question arises as to whether the projected cuts in real spending constitute credible and genuine fiscal tightening, and whether the near-term impact of revenue measures on consumer demand would be sufficient to mitigate pressures on monetary policy.

---

[21]Structural GGFD is estimated based on the judgement that accrual adjustments to cash balances are of a noncyclical nature. These adjustments (reported in Table 4A.5 of the July Red Book) result from, among other things, changes to the timing of 1996/97 VAT payments in the 1995 budget, changes in income taxes and the introduction of gilt strips in 1996/97, the buoyancy of national insurance contributions and local business tax cash receipts in 1996/97, the sale of student loans, and the redemption of index-linked gilts in 1996/97.

## Table 3. United Kingdom: Structural Fiscal Balances

(In percent of GDP)

|  | 1996/97 | 1997/98 | 1998/99 | 1999/00 |
|---|---|---|---|---|
| **Cash Basis** | | | | |
| Revenue | 38.1 | 38.8 | 39.1 | 39.2 |
| Structural | 38.9 | 39.1 | 39.2 | 39.2 |
| Windfall tax | 0.0 | 0.3 | 0.3 | 0.0 |
| Expenditure (excl. privatization) | 41.7 | 40.4 | 39.7 | 39.5 |
| Structural | 41.7 | 40.4 | 39.7 | 39.5 |
| Expenditure out of windfall tax | 0.0 | 0.0 | 0.1 | 0.1 |
| PSBR (excl. privatization) | 3.6 | 1.6 | 0.6 | 0.2 |
| Structural | 2.8 | 1.3 | 0.4 | 0.1 |
| Structural (excl. windfall rev. and assoc. exp. in 1997/98) | 2.8 | 1.6 | 0.6 | 0.0 |
| Structural (excl. windfall rev. and assoc. exp. and ACT credits in 1997/98) | 2.8 | 1.9 | 0.9 | 0.3 |
| **Accruals Basis** | | | | |
| Revenue | 37.7 | 38.9 | 39.3 | 39.2 |
| Structural | 38.5 | 39.2 | 39.4 | 39.2 |
| Windfall tax | 0.0 | 0.3 | 0.3 | 0.0 |
| Expenditure (excl. privatization) | 41.8 | 40.3 | 39.6 | 39.5 |
| Structural | 41.8 | 40.3 | 39.6 | 39.5 |
| Expenditure out of windfall tax | 0.0 | 0.0 | 0.1 | 0.1 |
| GGFD (Maastricht definition) | 4.2 | 1.4 | 0.3 | -0.1 |
| Structural | 3.4 | 1.1 | 0.1 | -0.2 |
| Structural (excl. windfall rev. and assoc. exp. in 1997/98) | 3.4 | 1.4 | 0.3 | -0.3 |
| Structural (excl. windfall rev. and assoc. exp. and ACT credits in 1997/98) | 3.4 | 1.7 | 0.6 | 0.0 |

Sources: H.M. Treasury ; and staff estimates.

53.    Credibility is unlikely to be a problem in relation to the 1997/98 spending plans but it could with regards to the 1998/99 plans. Departmental spending in 1996/97 were within the limits set in the budget, and will likely remain so in the current fiscal year: most public sector pay settlements are already in place, with wage increases below those in the private sector; departmental bids for allocations from the reserve are running at lower levels than in the preceding two financial years; and departments seem to be learning to live within tight budget constraints. PSBR data for the first five months of 1997/98 support this favorable picture. By next year, however, upward pressures in public sector pay could build up as above-trend growth continues, and pressures to reverse the continuing fall in the provision of public services relative to GDP could increase.

54.    About a quarter of the projected tightening in 1997/98 reflects an upward revision in the GDP deflator. Some analysts have argued that this should not be treated as true fiscal tightening, unless it also implies a rise in the public consumption deflator: otherwise, it amounts to a change in relative prices, affecting wages and consumer expenditure, rather than a cut in real expenditure. However, although it is true that an upward revision in the GDP deflator relative to the public consumption deflator is a change in relative prices, it is clearly the GDP deflator that is relevant in measuring the fiscal impulse.[22]

55.    Finally, the fiscal impulse remains relatively large even when one excludes measures that might take time to affect consumer demand. It has been argued that, while the ultimate burden of the revenue measures is likely to fall on households, in the short term the measures will impact the company sector more strongly. Therefore, in view of the strength of consumption, the short-term burden on households should have been made larger—for example, by bringing forward the reduction in mortgage interest relief or abolishing the relief altogether. While this argument merits serious consideration, the new government's options were somewhat restricted by its manifesto commitments regarding VAT and personal income taxes. In any event, the effect of the budget remains large even after removing the tax measures that may not affect consumer demand immediately. Removing the windfall tax and the associated spending, for example, reduces the fiscal impact to 2.0 percent of GDP in 1997/98; removing further the immediate impact of reduction in ACT credits would still give a fiscal impulse of 1.7 percent of GDP (see Table 3).

## H.  Medium-Term Projections

56.    Table 4 reports the staff's medium-term projections. These suggest that the fiscal position will turn into surplus, in actual and structural terms, by the end of the decade. The projections assume GDP to grow at a rate of 3.2 percent in 1997/98 and 2.6 percent in

---

[22]One could perhaps argue that a rise in the GDP deflator relative to public sector wages would have a smaller impact on aggregate demand than a reduction in spending on goods and services—analogous to the reasoning underlying the balanced-budget multiplier. This appears to be a second-order consideration, however.

## Table 4. United Kingdom: Staff Medium-Term Projections

(In billions of pounds except when indicated)

|  | 1996/97 | 1997/98 | 1998/99 | 1999/2000 | 2000/01 | 2001/02 |
|---|---|---|---|---|---|---|
| General government receipts | 286.3 | 309.6 | 328.2 | 345.3 | 362.6 | 380.7 |
| In percent of GDP | 38.1 | 38.8 | 39.1 | 39.2 | 39.2 | 39.2 |
| GGE excl. privatization | 313.4 | 322.4 | 333.0 | 346.6 | 360.6 | 376.3 |
| In percent of GDP | 41.7 | 40.4 | 39.7 | 39.4 | 39.0 | 38.8 |
| Control total | 260.4 | 266.4 | 273.6 | 286.5 | 300.5 | 315.3 |
| PSBR excl. privatization | 27.1 | 12.6 | 4.7 | 1.3 | -1.9 | -4.4 |
| In percent of GDP | 3.6 | 1.6 | 0.6 | 0.1 | -0.2 | -0.5 |
| Structural PSBR excl. privatization | 20.9 | 10.1 | 3.6 | 1.5 | -1.5 | -3.7 |
| In percent of GDP | 2.8 | 1.3 | 0.4 | 0.2 | -0.2 | -0.4 |

Source: Staff estimates.

1998/99, before eventually settling down at the potential rate of growth of 2½ percent. The output gap is assumed to remain close to zero throughout. On the revenue side, the projections assume that for the period 1997/98–1998/99 the revenue measures announced in the July 1997 budget are implemented and that the revenue overshoot in 1996/97 carries through to the medium term. On the spending side, the control total is assumed to evolve as in the July budget during the two-year budget horizon, and to grow at the same real rate as potential output thereafter.

## III. INFLATION TARGETING IN THE UNITED KINGDOM: EXPERIENCE AND PROSPECTS[23]

### A. Introduction

57.     It is now five years since the United Kingdom adopted an inflation target for monetary policy. The establishment of the new monetary policy framework in October 1992 was a response to the failure first of money supply targets and then of the exchange rate link to the ERM (George, 1996). In the event, the framework ushered in a period of moderate inflation, with the officially targeted measure Retail Price Inflation (RPIX) staying close to its 2½ percent target and reaching the target in April 1997 (Figure 1). The Labour government that took office at the beginning of May 1997 introduced a new framework, granting the Bank of England operational independence while preserving the key elements of the existing inflation-targeting framework and also establishing additional elements of accountability in line with this independence.

58.     This chapter will review how the monetary framework worked up until April 1997 and discuss how it has been revised by the new government. It then reviews the experience with inflation targeting: in particular, did it deliver superior inflation or growth performance than previous policy regimes? This experience is examined in the context of a VAR model of the interrelations between monetary policy instruments, inflation, growth, and other variables.

### B. How Inflation Targeting Works

59.     Inflation targeting entails establishing a target for inflation and setting policy to achieve it.[24] This process is inherently forward-looking: monetary policy affects inflation only with a lag, which in the United Kingdom has been estimated at 18 months to two years but may be even longer. As a result, inflation targeting can be represented as setting the authorities' inflation forecast as an intermediate target (Svensson, 1997): the authorities set monetary policy instruments to bring their medium-term forecast for inflation to the target. The alternative—trying to adjust short-term interest rates to keep inflation continuously on target, despite the lags in their effect—could require larger changes in interest rates to compensate for their limited short-run effectiveness; it could even result in instrument

---

[23]Prepared by Timothy Lane and Skander Van Den Heuvel. The latter, a doctoral student at Yale University, contributed to this chapter while a summer intern at the Fund.

[24]It is possible that, in cases where optimal policy is dynamically inconsistent, the political authorities would set a target inflation rate that is actually lower than the desired rate, such that when the monetary authorities optimize given this target, the actual average rate of inflation turns out above the target. This argument and the resulting credibility problems are discussed in Green (1996).

FIGURE 1
UNITED KINGDOM

# RETAIL PRICE INFLATION (RPIX)

(Twelve-month percent change)
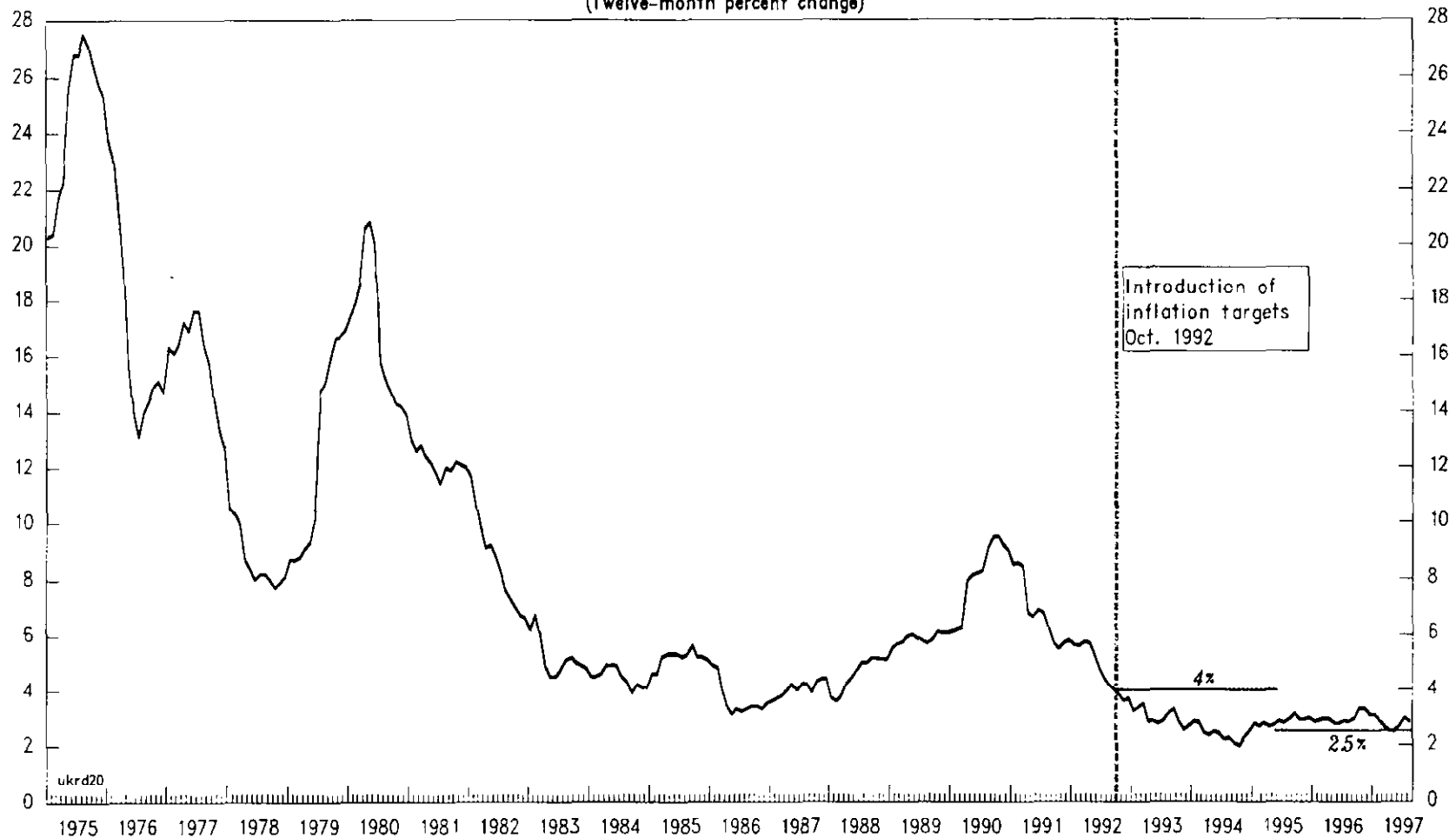


Sources: Office for National Statistics; and Bank of England.

instability, i.e., a situation where official interest rates would need to be adjusted by ever-wider amounts to compensate for shocks and for their own lagged effects (Holbrook, 1972).[25]

60.     The two-year horizon may also be regarded as a shorthand for a feedback rule in which monetary policy responds to deviations of inflation from target and to other variables. A popular simplified form of feedback rule is the so-called Taylor rule (Taylor, 1993) in which the monetary authorities adjust interest rates from their "normal" real level in response both to deviations of inflation from target and deviations of output from potential. The Taylor rule is symmetrical, assuming the authorities are equally concerned over below- as above-target inflation and about above- as below-potential output. Although the Taylor rule is essentially backward looking, under certain conditions an optimal feedback rule for setting interest rates that are forecast to achieve the inflation target is also of this form (Svensson, 1997)— although depending on the coefficients chosen, a Taylor rule may also reflect some additional concern for output variability. More generally, where the dynamics of output and inflation are more complex, an appropriate rule may include not only a response to past deviations of inflation from target and output from potential (proportional feedback), but possibly also to changes in these deviations (derivative feedback) and to cumulative deviations in the past (integral feedback); for instance, Blake and Westaway (1996) simulated alternative feedback rules in a simple stochastic analytical model, and found that a combination of these three kinds of feedback (in response to past inflation as well as to output) could control inflation with limited output and interest rate variability. Clearly, such a response is still an oversimplification of the behavior of the central bank, which must sift indicators of future inflation and make policy to take account not only of uncertain developments in the economy but also of the uncertain effects of policy.

61.     Due to the forward-looking nature of inflation targeting, it is inherently non-transparent, creating a need for compensating institutional features to enhance the transparency of the policy making process itself. In contrast with monetary policy strategies based on intermediate targets such as exchange rates or monetary aggregates—whose behavior can readily be monitored in the short term—the link between monetary policy and inflation is complex, prolonged, and uncertain. Inflation targets, the horizon over which they will be met, and the basis on which the appropriate policy to achieve these targets is assessed, therefore need to be stated clearly, and the monetary authorities' reasoning with regard to the actions needed to achieve them must be spelled out. Thus, in the United Kingdom, beginning in 1994, inflation targeting was accompanied by the publication of minutes from monthly monetary policy meetings and quarterly *Inflation Reports* presenting the Bank of analysis of inflation prospects.

---

[25]At the same time, the time horizon over which policy is being pursued may be reflected in expectations formation and thus, in turn, in econometric estimates of the lags in the effect of policy (see Lane, 1984). The time horizon and other issues are discussed in McCallum (1996).

62.     Another consequence of the forward-looking nature of inflation targets is the need for institutional arrangements to strengthen accountability. This is essential because the usual method of holding the monetary authorities accountable *ex post*—comparing the outturn to the target—is not operative until a couple of years later. Accountability was further complicated in the United Kingdom's original inflation targeting framework, since the central bank was not operationally independent and interest rate decisions remained in the hands of the chancellor of the Exchequer. In that setting, the Bank of England's role was to subject the chancellor to a kind of *ex ante* accountability, by issuing public forecasts of the inflation prospects associated with current monetary policy decisions. Accountability and transparency thus focused on the monthly meetings between governor and chancellor, in which the governor would present his advice for changes in policy while the chancellor would present the reasoning underlying his policy decision.

63.     Even with these transparency features, communicating to the public the nature of the problem of forecasting under uncertainty has been a significant challenge for inflation targeting in the United Kingdom (George, 1996). This has been particularly at issue in periods in which inflation itself is on target but forward-looking considerations call for tightening. Under such circumstances, the public may have the impression that the Bank of England is consistently aiming on the low side—an impression that the Bank must dispel in order to maintain public and political support for its policies.

64.     The previous framework's adversarial approach to transparency and accountability had both strengths and weaknesses. A strength of the framework is that it prompted an airing of arguments on both sides of the decision that was taken, promoting greater transparency. The main drawback was the absence of central bank independence. Theoretical arguments in favor of an independent central bank have been based on dynamic inconsistency of optimal policies (Rogoff, 1987, and Fischer, 1995a): an independent central bank with an explicit price stability mandate (or an optimally designed contract) can better resist the gains from surprise inflation, which—because such opportunistic behavior will be fully anticipated—is nevertheless futile in raising the level of economic activity.[26] This argument[27] is now supported by a growing empirical literature: for instance, Alesina and Summers (1993) found that countries with independent central banks indeed experienced a significantly lower level and

---

[26]This assumes that fully anticipated monetary policy has no real effects.

[27]There are, of course, counter-arguments: for instance, McCallum (1995) notes that even without independence, the monetary authorities may recognize the futility of implementing time-inconsistent policy; and that even with independence and a formal contract for the central bank to deliver on inflation targets, the government can choose not to enforce the contract.

variance of inflation, while there was no significant correlation between central bank independence and output variability.[28]

65.     In this light, the key drawback of the previous monetary arrangements is that, in the absence of central bank independence, they did not insulate monetary policy decision-making from short-run political manipulation, especially as political horizons shortened in the runup to a general election. Another potential drawback was that the resulting emphasis on disagreement between policymakers could give confusing signals to the markets, undermining confidence in the price stability objective; however, the experience in the United Kingdom seems to contradict the latter possibility, to the extent that there was no significant unfavorable market reaction to instances in which the minutes of monthly monetary policy meetings reported disagreement between governor and chancellor.[29] At the same time, the additional transparency signified by the willingness to reveal such disagreements may have helped enhance credibility.

66.     The new government's decision to grant the Bank of England operational independence changed the requirements for accountability. Under the new rules, the Bank of England is responsible for implementing a monetary policy aimed at the inflation target, with some qualifications: the Bank must also "without prejudice to this objective, support the policy of the government, including its objectives for growth and employment"; exchange rate policy remains in the hands of the government—not a major constraint with a freely floating exchange rate, but one that could limit the Bank's ability to use foreign exchange market intervention in the service of monetary policy. Finally, the government reserves the right under extreme circumstances to override the Bank's monetary policy decisions. The inflation target itself is set by the government in each annual budget, with the expectation that it would be kept stable. The target was initially set at 2½ percent, compared with the previous target of "2½ percent or less"—which in practice had been interpreted as a point target slightly below 2½ percent. Monetary policy decisions are made in monthly meetings of a Monetary Policy Committee (MPC) chaired by the governor and consisting of five Bank of England senior staff members and four outsiders.

67.     The new monetary policy framework preserves some features of the existing framework, but seeks to strengthen transparency and accountability consistent with the new assignment of responsibilities. The minutes of the monthly monetary policy meetings are still published, but now present the views of the MPC and, in principle, would report any internal differences of view. The Bank of England also continues to publish a quarterly *Inflation Report*, which is no longer an assessment of the implications of policies pursued by the chancellor but rather a presentation of the view of the MPC.

---

[28]Other studies have found more mixed results; see e.g., Fischer, 1995b.

[29]See Lane and Samiei, 1997.

68.     To these elements have been added strengthened *ex post* accountability to the
chancellor: if inflation deviates from its target by more than 1 percentage point, the governor
is required to write an open letter to the chancellor accounting for the deviation and stating
what action is being taken to correct it; if inflation continues to be off-target three months
later, another letter is required. This arrangement of open letters, while not contradicting the
two-year horizon, has quite a different flavor—since with forward-looking policy, transient
shocks to inflation would not necessarily warrant any corrective action and three months is
likely to be far too early to assess the adequacy of any such action on the basis of the inflation
outturn. The two-year horizon is no longer made explicit in the chancellor's remit to the Bank
of England, although it has been re-emphasized in the Bank's public documents and is clearly
understood and accepted by monetary policymakers.

69.     In conclusion, the new monetary policy framework is likely to bolster monetary policy
credibility, as central bank independence insulates policy from short-term political
considerations. It preserves the transparency features of the existing system while adding
stronger accountability. However, the relationship between this accountability and the
inherently forward-looking nature of inflation targeting still needs to be clarified.

## C.  The Experience with Inflation Targeting

70.     The United Kingdom's experience with inflation targeting has been generally
favorable: despite an easing of interest rates after sterling's exit from the ERM, inflation
declined to close to the target. This must also be set against a trend of lower inflation
elsewhere (Figure 2)—although it is unlikely that the United Kingdom would have shared in
that trend if suitable monetary policies had not been in place. Another key question about
inflation targeting is whether the framework itself, with its transparency features, had any
identifiable benefits—in terms of credibility, in particular—beyond those that would have been
obtained by pursuing the same policies in an ad hoc manner. Previous studies addressing these
issues are discussed in the second part of this section, and new empirical work presented in
Section D of this chapter.

### Indicators

71.     Although inflation targeting has delivered favorable inflation performance, its
introduction did not have a particularly warm reception in the markets. Expected inflation
(measured as the differential between index-linked and non-indexed bond yields) declined
from the inception of inflation targeting through 1993, but then rose sharply during 1994, and
by April 1997, was still over 4 percentage points (Figure 3), indicating that the inflation

FIGURE 2
UNITED KINGDOM
# INTERNATIONAL COMPARISONS OF INFLATION PERFORMANCE
(Consumer price index, percent change from a year earlier)
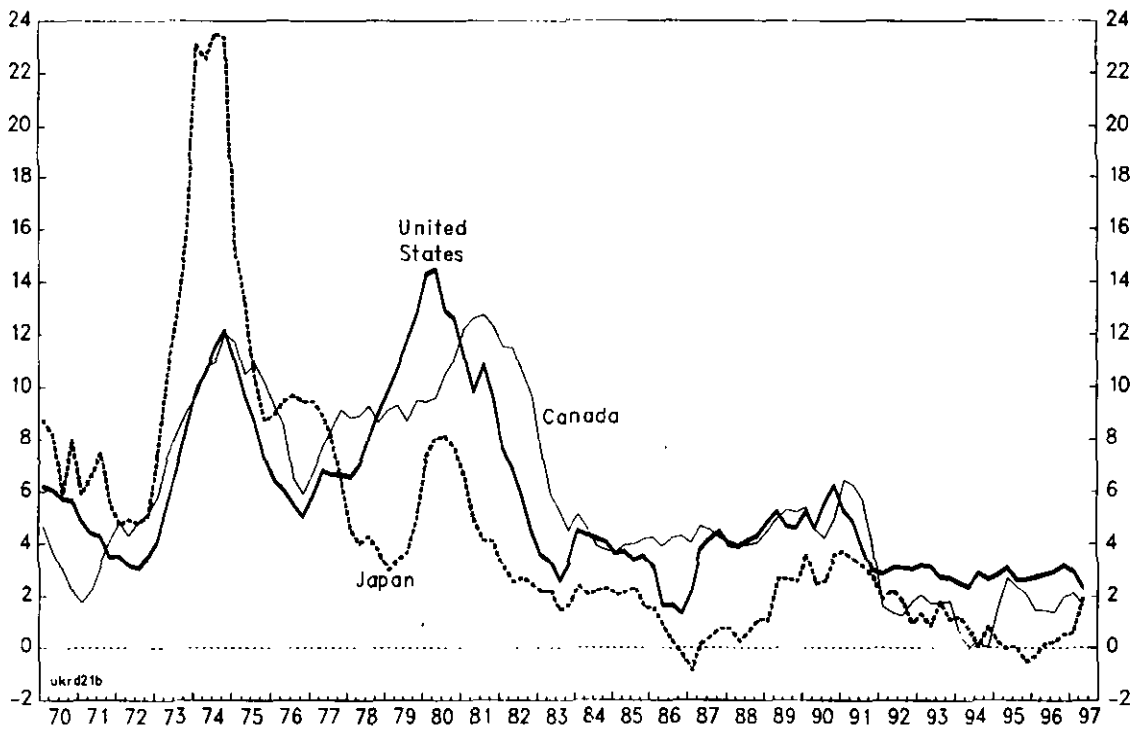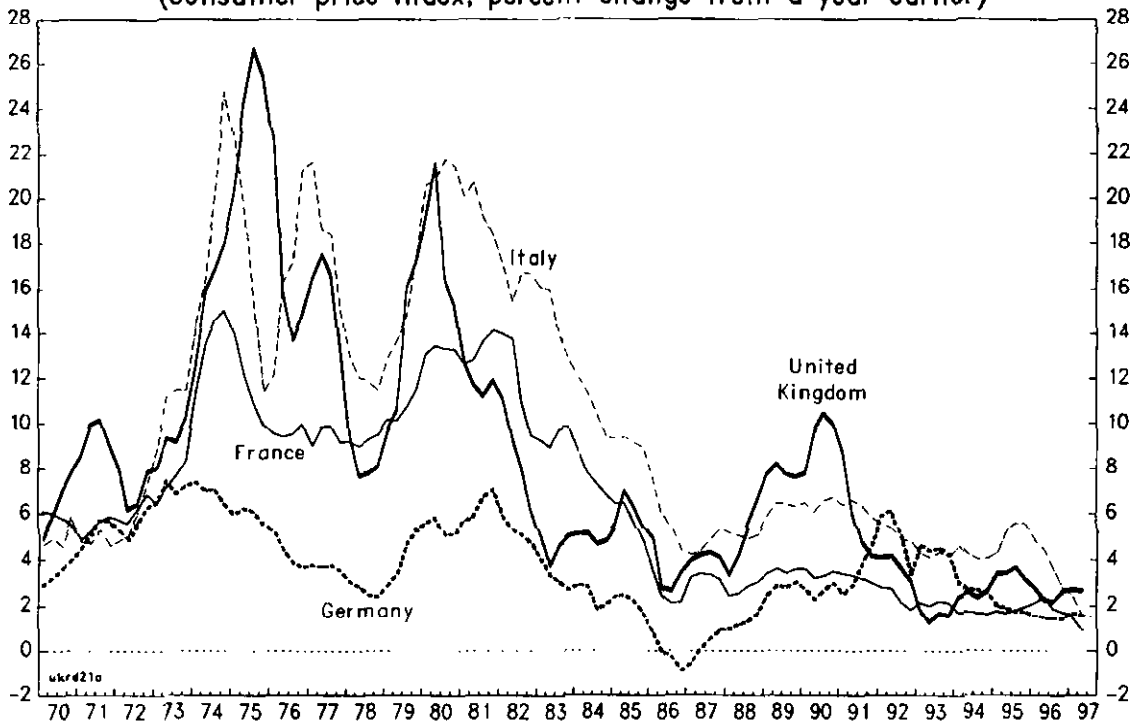


Source: IMF, International Financial Statistics.

FIGURE 3
UNITED KINGDOM

# MARKET INDICATORS OF MONETARY CREDIBILITY
## (In percent)



LONG-TERM INTEREST RATE DIFFERENTIALS AGAINST GERMANY
(Ten-year bond yields)

October 1992

Italy

United Kingdom

France

ukrd22a



INDEX-LINKED BOND YIELD AND IMPLIED INFLATION EXPECTATIONS

October 1992

Expected inflation 1/

Index-linked bond yield

ukrd22b
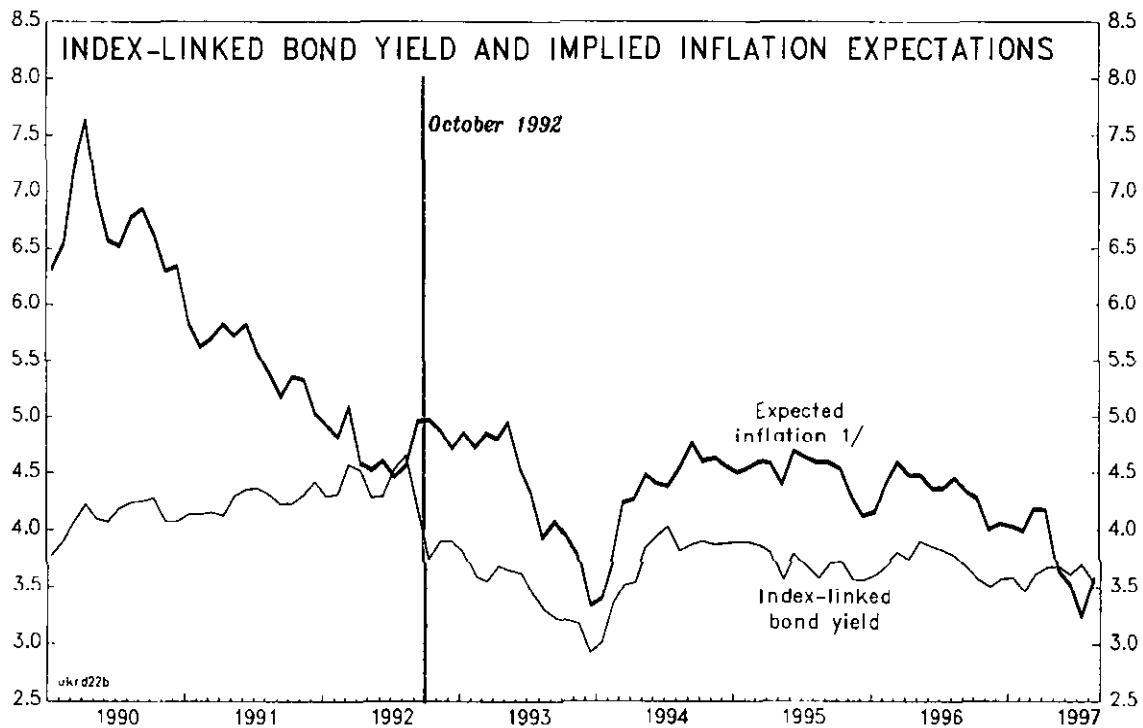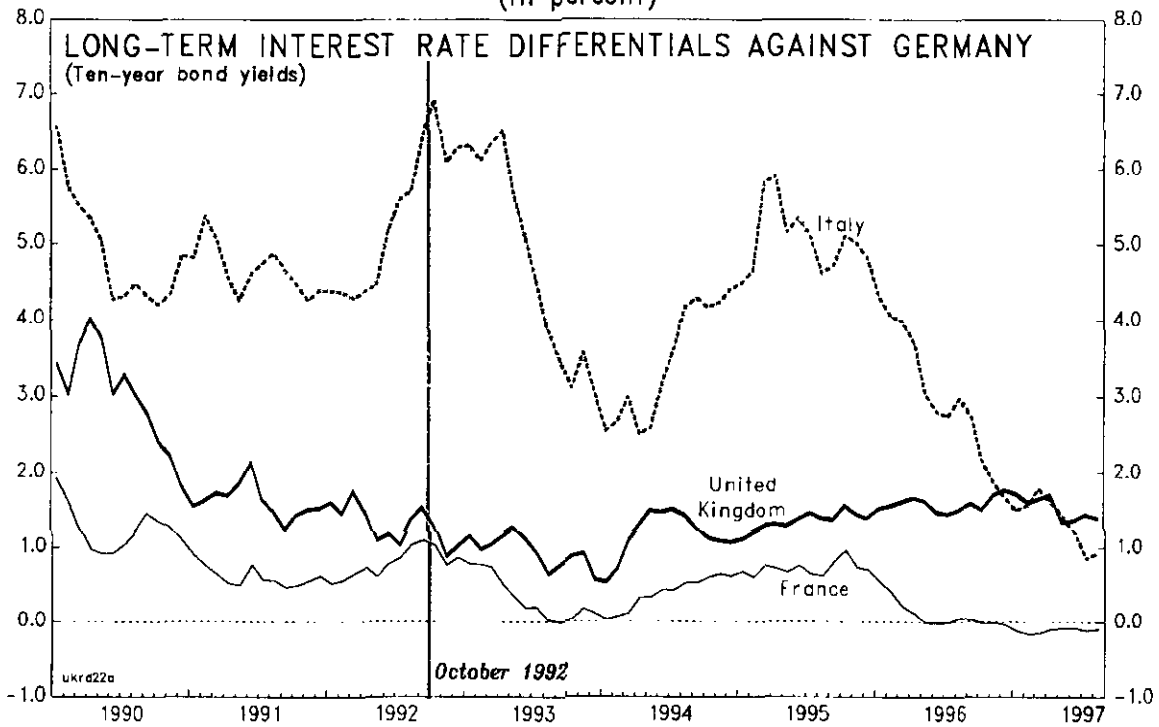
Sources:  Office for National Statistics; and IMF, Research Department.

1/ Difference in yields on 7.75% Treasury loans (2012-15) and 2.5% Treasury index-linked bonds (2016).

targets had yet to gain credibility.[30] At the same time, long-term interest rate differentials against Germany declined in the early months of inflation targeting, then rose in early 1994 (both movements partly reflecting global interest rate trends). The spread trended mildly upward during late 1994 through 1996, and was around 180 basis points in April 1997. After the announcement of the revised monetary framework in May 1997, both yield spreads over Germany and implied expected inflation declined; by September 1997, spreads over Germany were below 100 basis points (in part reflecting convergence plays focused on possible participation in EMU), while implied inflation was still around 3½ percent, still implying incomplete credibility for the 2½ percent target.

72.     The introduction of inflation targeting was initially associated with an easing of policy (Figure 4). Short-term interest rates declined sharply from their ERM levels, then stayed in the neighborhood of 6 percent—with variations that were modest by historical standards—for most of the inflation targeting period. The most recent movement in rates was the 1-percentage-point increase in official interest rates (in four consecutive 25-basis-point monthly increments) during May through August 1997.

73.     The decline of inflation during the earlier part of the inflation targeting period appears to some extent to reflect the early 1990s recession (Figure 4, bottom panel), in which sterling's participation in the ERM in turn played an important role. The recession resulted in a large output gap which (according to staff estimates) was only closed in the second half of 1997, and this may have continued to exert downward pressure on inflation. The logic of the two-year time horizon discussed above likewise implies that the inflation performance during the first two years of inflation targeting—the period during which inflation declined—should be attributed mainly to policies followed during the ERM period.

### Previous studies

74.     The implications of inflation targeting for monetary policy credibility needs to be examined further, since, of course, market-based indicators do not provide the whole picture. If the greater transparency associated with inflation targeting did enhance credibility, this might be expected to result in lower and less variable inflation than would result from pursuing the same policies in an ad hoc manner, without any increase in output variability—analogous to the implications of central bank independence discussed above. The

---

[30]Svensson (1993) examines the credibility of inflation targets based on a comparison of index-linked bond yields with nominal yields adjusted for the maximum inflation rate in the target range. On this basis, he found that Canadian and New Zealand inflation targets were credible only after the first couple of years and Sweden's (at that time) not yet credible. Since the United Kingdom had a point inflation target from 1995 onward, his method is the same as a comparison of the implied expected inflation rate with the inflation target, which indicates deficient credibility up to the present.

FIGURE 4
UNITED KINGDOM
# MONETARY POLICY AND GROWTH



MONEY MARKET INTEREST RATE

October 1992

ukrd24a

70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97



REAL GDP GROWTH
(Percent change from a year earlier)

October 1992

ukrd24b

70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97
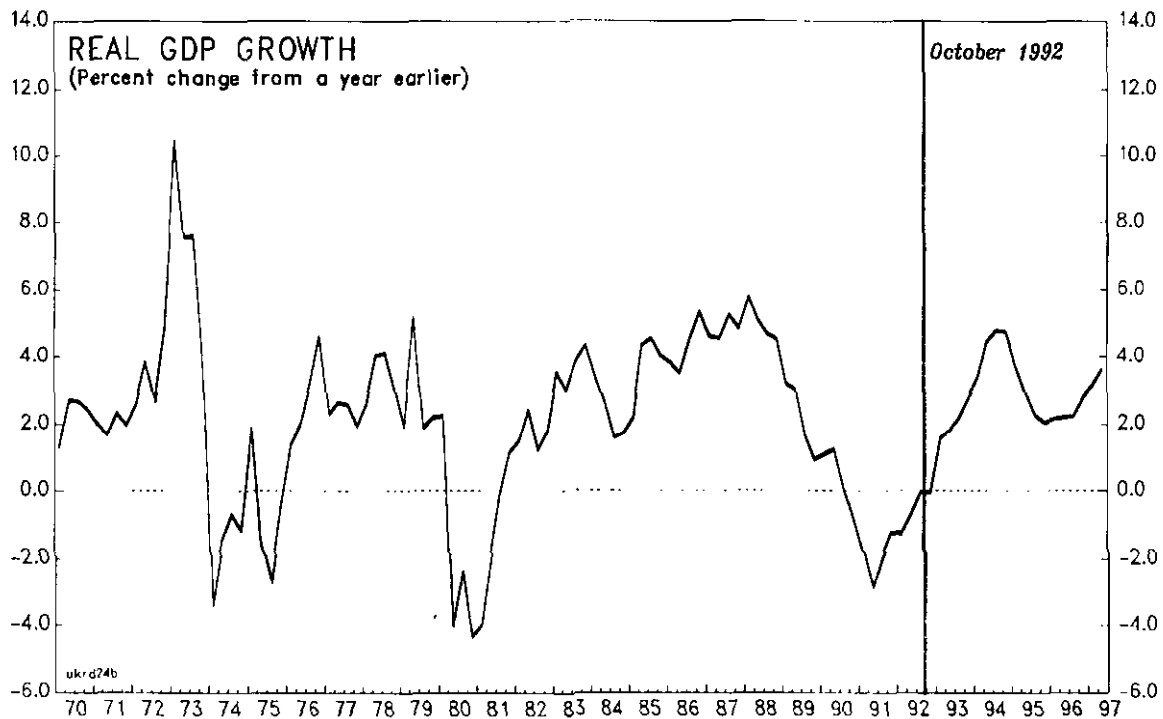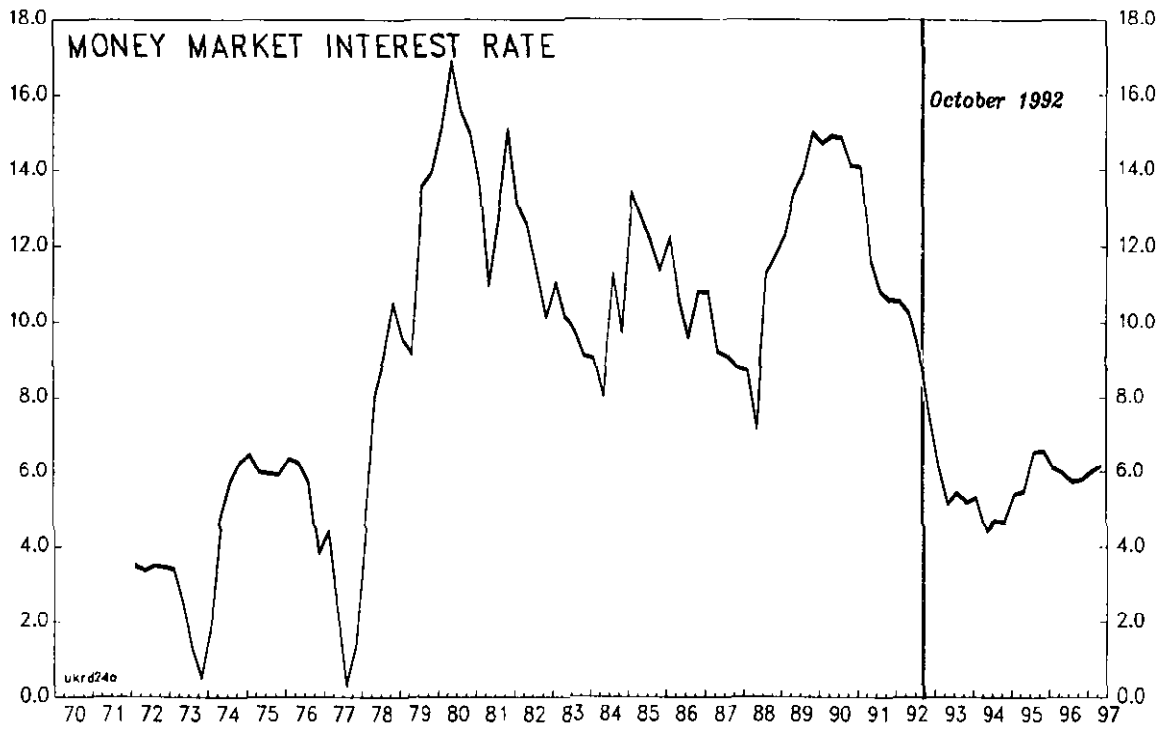
Source: Office for National Statistics.

same reasoning would suggest that disinflation could be achieved with a smaller cost in terms of output. Several studies have examined these issues for the United Kingdom and/or other inflation targeting countries.

75. The effect of inflation targeting on the output sacrificed through disinflation was investigated by Debelle (1996) in the context of Australia, Canada, and New Zealand, countries that backed up inflation targeting with quite different amounts of institutional change. He examined "sacrifice ratios," measured as the reciprocal of the ratio of the decline from peak to trough of centered moving average of inflation to the change in deviation of output from trend over the same period.[31] These ratios were shown to be similar in Australia and New Zealand, but higher in Canada. Such a comparison would not be meaningful for the inflation targeting experience in the United Kingdom, where inflation targeting started in a recession and achieved its objective—the 2½ percent target—at the end of that parliament, the period over which the target was specified; given that the output gap was closed over the period, this would imply a negative sacrifice ratio.

76. If inflation targeting is indeed viewed as a change in regime from discretionary policy, it might be associated with different empirical relationships among key economic variables. Debelle (1996) examined whether inflation targeting changed the way inflationary expectations were formed. He examined the relationship between survey measures of inflation expectations and lagged actual inflation in Australia, Canada, and New Zealand, using an autoregressive (AR) model. He found that the structure of this autoregressive process changed in New Zealand but not in the other two countries. Thus, the effect of past inflation on inflation expectations was essentially unchanged for Australia and Canada, changing only for New Zealand, where inflation targeting was accompanied by extensive institutional changes.

77. Some empirical studies have examined the influence of inflation targeting on the interaction of a larger set of economic variables. Ammer and Freeman (1995) compare the experiences of New Zealand, Canada, and the United Kingdom. They estimate a vector autoregression equation for inflation, GDP, and short-term interest rates over the pre-inflation targeting period, then examine whether these variables behaved differently under inflation targeting than would have been predicted by their previous relationships—as would be implied by the hypothesis that inflation targeting boosts credibility. Their results showed that all three of these variables were lower than predicted by the VAR; taken at face value, these results signify that inflation targeting delivered lower inflation with easier monetary policy, but at the cost of a larger slump in output. The authors note, however, that the failure of long-term interest rates to decline further contradicts the hypothesis that credibility gains were a major

---

[31]Mayes and Chapple (1995) present a critique of the sacrifice ratio, noting that it is a short-run concept—since if inflation has a deleterious effect on the economy, long-run sacrifice ratios should be negative—so the choice of time horizon is crucial (and in many cases arbitrary).

part of this story; they point instead to the effect of the recession already under way at the inception of inflation targeting in the United Kingdom.

78.    A more recent study by Huh (1996) goes further in examining the out-of-sample forecasting ability of VARs over the inflation targeting period in the United Kingdom. Huh estimated VARs for GDP growth, unemployment, RPIX inflation, trade weighted sterling, short-term interest rate, and long-term interest rate. He estimated the equations for the period up until sterling's ERM entry (October 1990), and then examined out-of-sample forecasts for two subsequent periods: the ERM period and the inflation targeting period. He found inflation below the level forecast from the VAR during ERM period, but not significantly so under inflation targeting. The striking difference about the inflation targeting period is that short-term interest rates were below forecast, which he suggests may indicate that inflation targeting was associated with greater anti-inflationary credibility for a given track record of inflation. For comparison, he applies the same model to France and United States, finding no similar overprediction of interest rates in same framework. His conclusions are tentative: he notes that the post-sample prediction results suggest credibility gains from inflation targeting, but this conflicts with the persistence of relatively high inflation expectations as reflected in both survey and market measures.

79.    In the next section, the VAR forecasting analysis of inflation targeting will be extended further, both using a longer sample period and further refinements in the econometric approach, in order to shed more light on the inflation targeting experience.

## D.  VAR Analysis

80.    This section further examines the possible benefits of inflation targeting by using the out-of-sample predictions of a VAR to considering whether key economic variables behaved differently in the inflation targeting period than would have been predicted on the basis of their previous relationships. A Vector Autoregression (VAR) was estimated to describe the interrelationship among GDP growth, unemployment, inflation, the nominal effective exchange rate, and short- and long-term interest rates. One issue that may be examined is whether the transparency features associated with inflation targeting enhanced credibility, delivering lower inflation, as well as lower expected inflation as reflected in long-term interest rates, for a given stance of monetary policy—or alternatively, the same inflation performance at a lower cost in terms of output loss.

81.    As mentioned in the previous section, this approach has been followed in some previous studies, notably by Huh (1996). The analysis presented here seeks to advance the work of the previous studies discussed, both by using data for the longer period of inflation targeting experience now available and by incorporating in the Bayesian estimation framework a more plausible set of assumptions about the time-series properties of the variables included (see Appendix I).

82.     A VAR was estimated using quarterly data for the United Kingdom for 1975-I through 1990-III—thus excluding both the inflation targeting and ERM periods from the estimation period. Real GDP, the consumer price index, and the nominal effective exchange rate were differenced, while the interest rates and the unemployment rate were included in their levels.[32] After experimenting with alternative specifications, the lag length was selected as two. Bayesian estimation methods were used to deal with the overparameterization problem associated with the large number of variables included in the VAR (see Appendix I).

83.     Figure 5 shows out-of-sample prediction errors for the estimated VAR in two sub-periods: the ERM period 1990-IV through 1992-III; and the inflation targeting period 1992-IV through 1997-I. Two-standard-error bands are also shown, indicating observations for which individual prediction errors are significant. Table 1 shows mean prediction errors for each period and the corresponding standard errors, indicating whether the changes in regime—first to ERM participation and then to inflation targeting—resulted in structural change that led key variables to be systematically above or below what would have been predicted based on past relationships.[33]

84.     The results indicate that during the inflation targeting period, inflation did not differ significantly from the predictions of the VAR. At the same time, short-term interest rates were significantly lower than would have been predicted based on the previous values of other variables in the model. Real output growth was not significantly different from predicted on average—significantly slower than predicted by the model in the early part of the inflation targeting period, converging to rates predicted by the model as time went on. Long-term interest rates were also significantly lower, on average, than predicted by the model; a possible interpretation is that although inflation targeting did not result in an improvement in inflation performance, it did increase credibility—not in absolute terms, but relative to what would have been predicted.

85.     These implications of inflation targeting contrast with those of the ERM period. During that period, inflation was significantly lower than predicted by the VAR. At the same time, short-term interest rates were in line with the model's prediction, but long-term interest

---

[32]The choice of differencing was based on theoretical consistency and previous empirical findings. Short-term interest rates were represented by the overnight rate; long-term rates by yields on long-term bonds (for United Kingdom, 3.5 percent War Loan; for France series on 7–10 year bonds compiled in IMF Research Department; for Italy IFS long bond series); prices by Consumer Price Index (Retail Price Index in the United Kingdom). Other variables were real GDP (non-oil GDP for United Kingdom); nominal effective exchange rates; and the official unemployment rate (claimant unemployment in United Kingdom). Data from IFS and other sources.

[33]Prediction errors for the other two variables (nominal effective exchange rate and unemployment) not shown.

FIGURE 5
UNITED KINGDOM
# PREDICTION ERRORS OF VAR
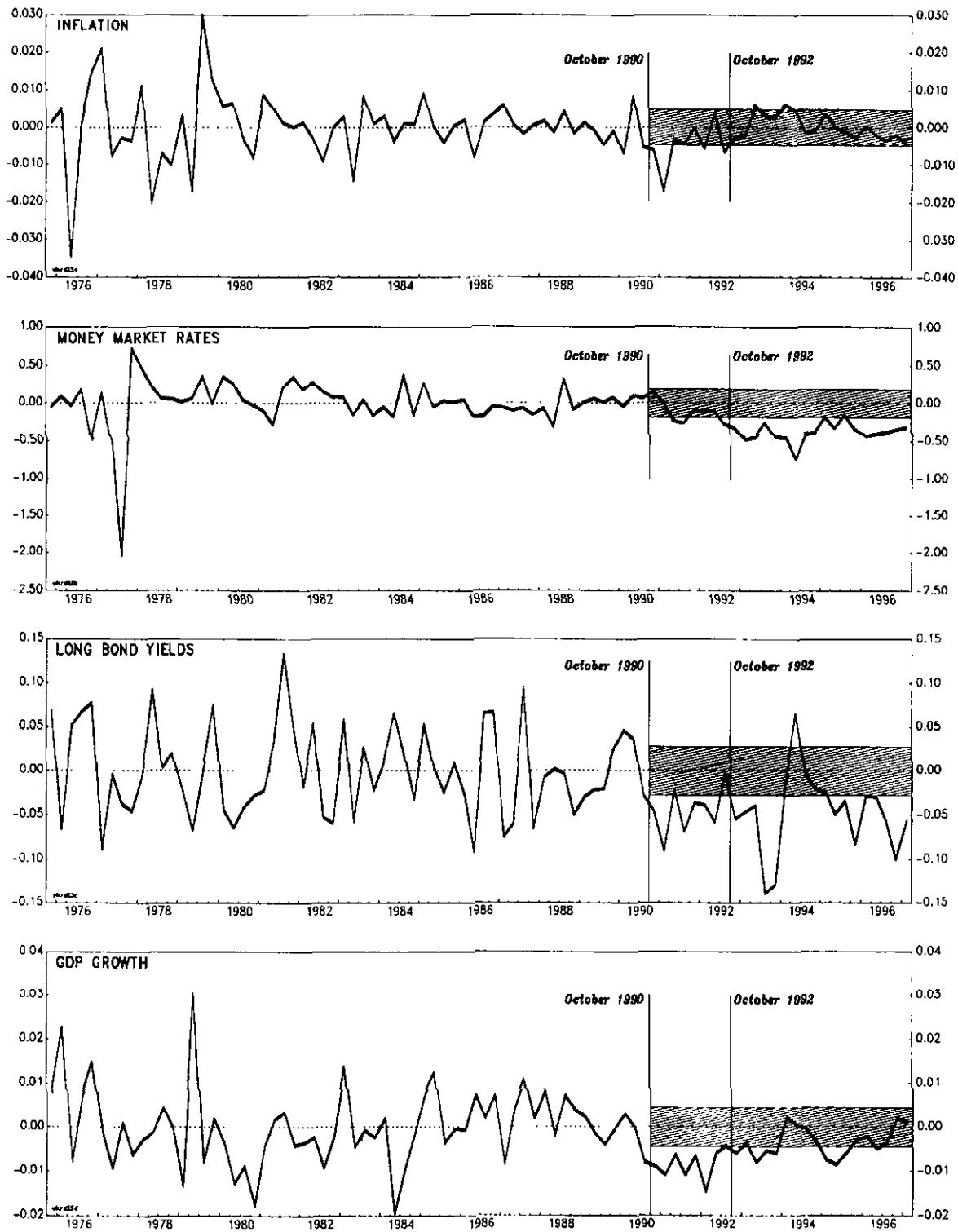


Source: Staff calculations (see text).

## Table 1. United Kingdom: Out-of-Sample Prediction Errors

(Mean prediction errors, with corresponding standard errors)

| | Growth | Unemployment | Inflation | Exchange Rate | Short Rate | Long Yield |
|---|---|---|---|---|---|---|
| **United Kingdom** | | | | | | |
| (A) 1990-IV to 1992-III | -0.008583 | 0.011165 | -0.004937 | 0.006720 | -0.118679 | -0.045682 |
| | (0.002205) | (0.004369) | (0.002392) | (0.009867) | (0.088845) | (0.013480) |
| (B) 1992-IV to 1997-I | -0.003551 | 0.001863 | 0.000132 | 0.008418 | -0.384737 | -0.047134 |
| | (0.002047) | (0.004077) | (0.002129) | (0.010256) | (0.084312) | (0.013745) |
| **France** | | | | | | |
| (A) 1990-IV to 1992-III | -0.003335 | 0.008368 | -0.001640 | -0.010124 | 0.071409 | -0.019239 |
| | (0.001445) | (0.004885) | (0.001522) | (0.003987) | (0.021154) | (0.011710) |
| (B) 1992-IV to 1997-I | -0.007035 | 0.020832 | 0.004661 | -0.007119 | -0.086616 | -0.055350 |
| | (0.001476) | (0.004669) | (0.001618) | (0.003802) | (0.021253) | (0.013183) |
| **Italy** | | | | | | |
| (A) 1990-IV to 1992-III | -0.006074 | -0.013817 | -0.006153 | 0.004545 | 0.021613 | 0.031432 |
| | (0.001404) | (0.009127) | (0.002469) | (0.004770) | (0.021369) | (0.012206) |
| (B) 1992-(v TO 1997-I | -0.008459 | 0.024602 | 0.001015 | -0.014892 | -0.136754 | -0.018144 |
| | (0.001415) | (0.009957) | (0.002534) | (0.004828) | (0.021814) | (0.013445) |

Source: Calculations by staff (see text).

rates were lower; and growth was significantly slower than predicted. This is consistent with a standard interpretation of the ERM experience: that while it lasted, it resulted in lower inflation and improved monetary policy credibility at the cost of lower growth.[34]

86.     It is useful to put these results in perspective by comparing them with results for similar VAR equations estimated for the same periods for France and Italy.[35] France is chosen for comparison because it remained within the ERM when the United Kingdom exited;[36] and Italy because it left the ERM but did not adopt full-fledged inflation targeting[37]—although the Banca d'Italia, unlike the Bank of England, was formally independent from 1993 onward.

87.     The results for France are shown in Figure 6, with average prediction errors in Table 1. During the period since September 1992, inflation in France was significantly above the predictions of the estimated VAR. Short-term interest rates were on average significantly lower than predicted, although this reflected a shift from higher than predicted in the year or so before and after September 1992, followed by much lower-than-predicted rates in more recent periods. Long-term interest rates were also significantly below the predictions of the model on average, again reflecting wide variations in both directions. Finally, growth was lower than predicted on average. The inflation results are quite different from those for the United Kingdom, while the interest rate results are more similar, suggesting that the latter but not the former may be partly attributable to international trends.

88.     In Italy, as in the United Kingdom, during the post-September 1992 period, inflation was in line with the VAR predictions (Figure 7). Short-term interest rates were significantly lower than predicted. Long-term rates were also lower on average but not significantly so, with wide (and significant) deviations in both directions that largely reflected political and fiscal uncertainties. At the same time, growth performance was significantly worse than predicted. This suggests that in Italy, as in the United Kingdom, the exit from the ERM did not result in a worsening of inflation performance compared with what was predicted by

---

[34]These results do not change noticeably if the 1989–90 period of shadowing the ERM is included in the prediction rather than the estimation period.

[35]Huh (1996) showed results for France and the United States, as well as the United Kingdom.

[36]France rather than Germany is chosen for comparison due to the effects of unification.

[37]For several years, Italy has had inflation targets used to guide wage agreements and fiscal plans. Beginning in mid-1995, the central bank announced that it would base interest rate decisions on whether actual inflation crossed a stated threshold but this announcement did not introduce any of the transparency and accountability features characteristic of inflation targeting.

FIGURE 6
FRANCE
# PREDICTION ERRORS OF VAR
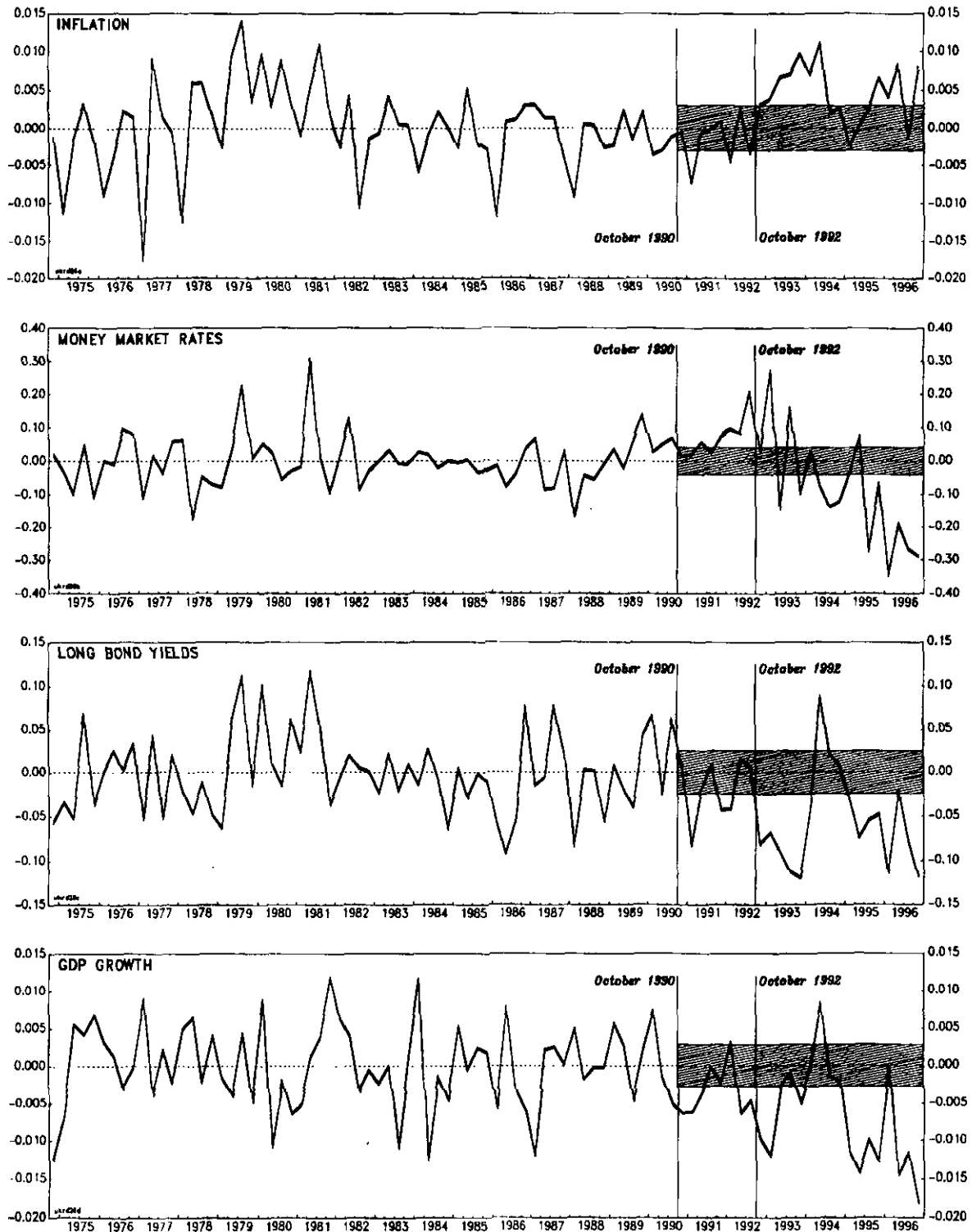


Source: Staff calculations (see text).

FIGURE 7
ITALY

# PREDICTION ERRORS OF VAR
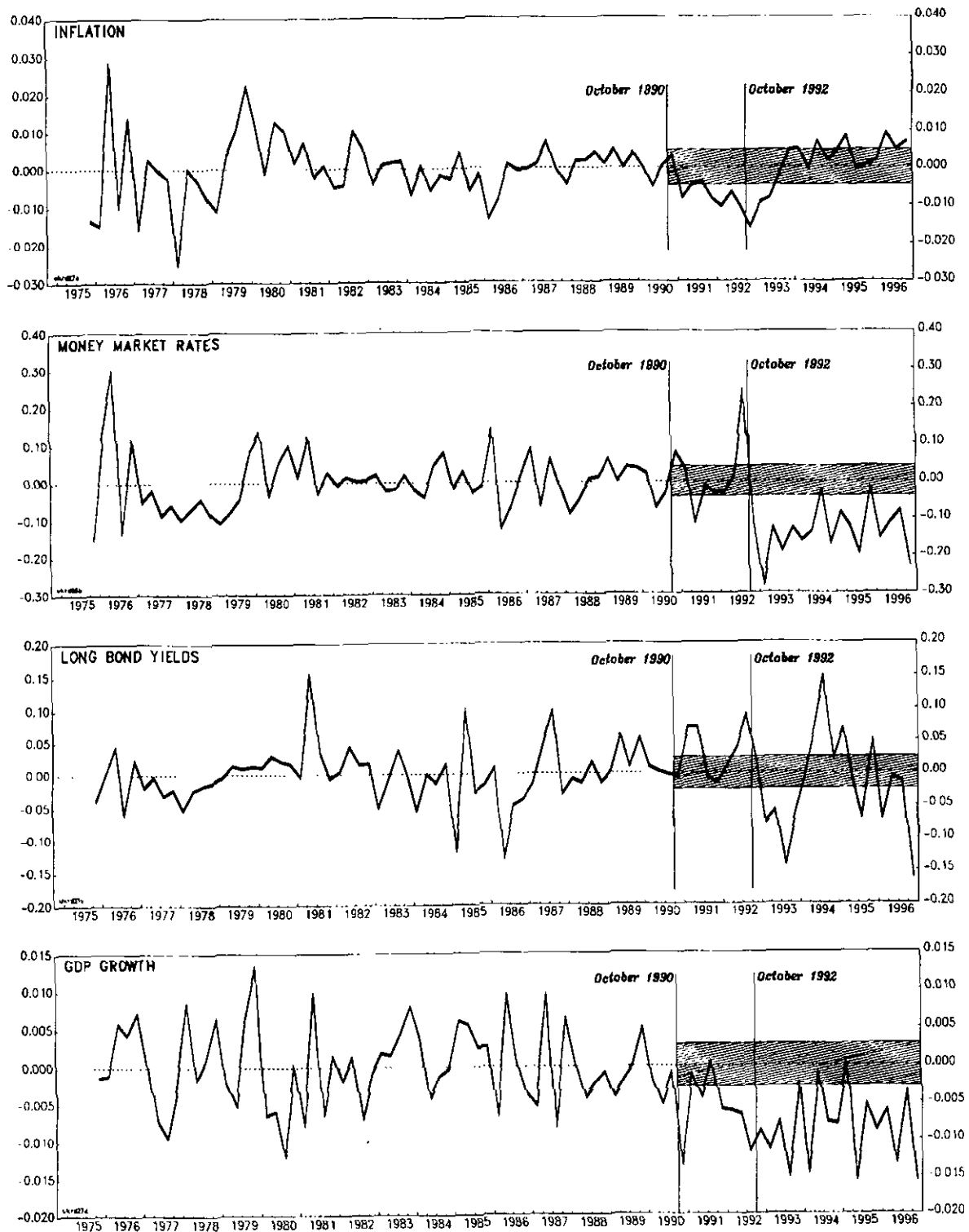


Source: Staff calculations (see text).

previous relationships. However, in the Italian case, this cannot be attributed to inflation targeting, but is more likely due to the severity of the recession—although in Italy, the cyclical pattern was different, with a recovery from the recession during 1993–95 followed by a renewed slowdown in 1996–97. The decline in long-term interest rates in the latter part of the period, although it might be interpreted as reflecting in part the credibility benefits of a more explicit focus of monetary policy on inflation (from mid-1995 onward), is more likely to be attributable to the lira's ERM re-entry in November 1996 and shifting expectations regarding Italy's EMU prospects

89.     The results for France and Italy thus shed further light on the United Kingdom's experience—notably the fact that inflation stayed in line with predictions and long-term interest rates were below predicted levels despite monetary easing. The fact that this pattern was not found for France suggests that it was not solely a reflection of international trends. However, the fact that it was partly shared by Italy (although in Italy, the undershooting of large-term interest differentials was not significant) suggests that may not be mainly attributable to inflation targeting.

## E.  Conclusion

90.     Although inflation targeting was originally adopted in the United Kingdom *faute de mieux* after the breakdown of other intermediate targets, it has delivered consistently good inflation performance. In particular, it has been associated with declining inflation, despite lower short-term interest rates than in the preceding period. The VAR analysis presented in this paper confirms results in previous literature, suggesting that inflation has been consistent with what would be predicted based on past relationships involving cyclical conditions, interest rates and exchange rates, but both short- and long-term interest rates have been lower than predicted. This result may be partly attributable to credibility gains from inflation targeting, which may have permitted inflation to continue to decline and long-term interest rates to be lower than predicted despite a monetary easing. However, the severity of the recession of the early 1990s may also have had a substantial effect. The fact that similar results are found for Italy lends weight to the latter explanation. At the same time, it is likely that the transparency features of inflation targeting helped limit the deterioration of credibility after the ERM crisis.

91.     Since the May 6, 1997 decision to grant the Bank of England operational independence, market indicators have suggested substantial further gains in credibility, as reflected in long-term interest rates and differentials—although expected inflation implied by indexed bond yields suggest that credibility still needs to be consolidated. These indicators suggest that the new monetary framework, with an independent and accountable central bank, is expected to deliver improved inflation performance.

## Econometric Method

Vector autoregressions (VARs) were estimated for real GDP growth, the unemployment rate, inflation, a trade-weighted nominal exchange rate index, and short- and long-term interest rates. All data are quarterly. The VARs were estimated using the data for 1975-I through 1990-III (i.e., up until sterling's ERM entry in October 1990. Out-of-sample forecasts were then examined for two periods: (a) the ERM period, 1990-IV through 1992-III; and (b) the inflation targeting period, 1992-IV through 1997-II.

Real GDP, the price level and the exchange rate were differenced to render these series stationary (implicitly assume that these series are difference stationary), while interest and unemployment rates were assumed already to be stationary.[1] Stationarity was particularly important since the VAR was to be used to generate forecasts relatively far out of sample (up to 26 quarters). In the presence of roots in the neighborhood of unity, small errors in the point estimates would imply large forecast errors further away from the sample period.[2]

With six series included in the VAR and 63 observations to estimate the model, there is a potential problem of overparameterization. This is a familiar problem in VARs, which may be addressed using Bayesian methods developed by Litterman, Sims and others.[3] These techniques involve specifying a prior distribution of the variables included in the VAR; the most widely used prior is the so-called "Minnesota prior" (also known as "Litterman prior"), according to which the set of time series may be characterized as a set of independent random walks (consistent with empirical studies of univariate macroeconomic time series). One must also specify a hyperparameter $\lambda$ controlling the tightness of the prior (i.e., the strength of the researcher's belief that the actual distribution of the time series variables corresponds to the prior distribution specified).

---

[1]Any departures from these assumptions would be reflected in the estimated coefficients of the VAR, although the initial degree of differencing affects the formulation of the prior (as discussed below).

[2]To illustrate this point informally, assume that $x_t$ is generated from:

$$x_t = x_{t-1} + \epsilon_t.$$

If our estimated model is

$$x_t = \alpha + \rho x_{t-1} + e_t,$$

the 1-step ahead forecast error is

$$(1-\rho)x_t - \alpha + \epsilon_{t+1}$$

If the estimated $\rho$ is not *exactly* equal to 1, this forecast error grows without bound, as $x_t$ grows without bound. This problem occurs if $x_t$ attains levels far from those attained in the sample period that was used to estimate $\rho$, which will happen with high probability for large $t$.

[3]See, e.g., Litterman (1986) for an overview of forecasting with Bayesian VARs.

In deriving the results in this chapter, the prior used is similar to the Minnesota prior, with two modifications. First, the fact that some of the series have already been differenced is taken into account. Second, it is recognized that a random walk is unlikely to be an appropriate characterization of the series that are not differenced (viz the unemployment and interest rates).[4]

Specifically, the prior distribution of the VAR coefficients is specified as follows. Let $C_{ijl}$ be the VAR coefficient on $y_{jt-l}$ in the equation for $y_{it}$. The prior distribution of a differenced series' own lag coefficients is then given by

$$C_{iil} \sim N(0, (\lambda/l)^2) \qquad \text{if series } i \text{ is differenced}$$

where $\lambda$ is the hyperparameter controlling the tightness of the prior. The mean of the prior implies that the levels are a random walk. Also, as with the Minnesota prior the variance of the coefficients shrinks with the lag length. The series that are not differenced are believed to be stationary, although near-unit roots are not unlikely. Therefore, a flat (improper) prior is imposed on the first own lag coefficient:

$$C_{ii1} \sim N(0, \infty) \qquad \text{if series } i \text{ is in levels}$$

Coefficients on own lags of order $l > 1$ are treated in the same way as the coefficients on the differenced series' own lags of order $l$-1:

$$C_{iil} \sim N(0, (\lambda/(l-1))^2) \qquad \text{if series } i \text{ is in levels and } l > 1$$

Thus, the mean of the prior for nondifferenced series represents an unrestricted AR(1). The prior for all other coefficients is of the same structure as for the Minnesota prior:

$$C_{ijl} \sim N(0, (\lambda \theta \hat{\sigma}_i / l \hat{\sigma}_j)^2) \qquad \text{for all } i \neq j$$

where $\hat{\sigma}_i$ and $\hat{\sigma}_j$ are OLS estimates of the standard errors of the VAR disturbances in

equation $i$ and $j$. (This is included to make the prior invariant to changes in units). $\theta$ is a second hyperparameter controlling the prior variance of interaction coefficients. As $\theta$ and $\lambda$ increase, the prior becomes 'flatter' and in the limit the BVAR is equivalent to an OLS VAR. Finally, the prior on the VAR intercepts is flat and prior covariances among different parameters are set to zero.

The choice of hyperparameters and lag length can be regarded as model selection problem. These are selected by conditioning on the hyperparameters and the lag length with the highest posterior probability (rather than averaging over different values weighted by their likelihood). These posterior probabilities are approximated by the posterior odds information criterion

---

[4]Compare to otherwise very similar analysis in Huh (1997), where all the variables are differenced and the Minnesota prior is also imposed, implying that their differences follow a random walk.

PIC, a model selection criterion developed by Phillips (1996). Unlike for Schwarz's BIC, the approximation of PIC remains asymptotically valid under fairly general regularity conditions that include non-stationary data.

Posterior inference is conducted conditional on the selected hyperparameter values and lag length. Out of sample forecasts are obtained as conditional expectations from the VAR with the posterior mean of the autoregressive coefficients plugged in. For one-step ahead forecasts, this approach leads to the optimal predictor under mean squared error loss, for larger forecast horizons it can be regarded as an approximation. Forecast errors and forecast error summary statistics are then calculated from the actual observations. To assess the validity of the model during the EMS and inflation targeting periods, the observed forecast errors are compared to their posterior predictive distribution under the entertained model. This method of model checking has become a frequently used tool in applied Bayesian analysis (cf. Gelman *et al.*, 1994, Chapter 6). The posterior predictive distribution is easily obtained by means of Monte Carlo simulation. VAR coefficient matrices and covariance matrices of the VAR innovations are drawn from their joint posterior distribution (see Schorfheide, 1997, for the exact form of this posterior distribution) and trajectories of future observations are simulated conditional on the last observation of the estimation sample period. For each simulated trajectory forecast, errors and summary statistics are computed in exactly the same way as it was done with the historical data. From this predictive distribution, Bayesian "confidence intervals" and calculated "p-values" are derived to measure how far the observed forecast errors and summary statistics lie in the tail of their predictive distribution.

# REFERENCES

Alesina, Alberto and Roberta Gatti, 1995, "Independent Central Banks: Low Inflation at No Cost?" *American Economic Review—Papers and Proceedings*, Vol. 85, No. 2 (May), pp. 196–200.

Alesina, Alberto and Lawrence H. Summers, 1993, "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence," *Journal of Money, Credit, and Banking*, Vol. 25, No. 2 (May), pp. 151–162.

Ammer, John and Richard T. Freeman, 1995 "Inflation Targeting in the 1990s: The Experiences of New Zealand, Canada, and the United Kingdom," *Journal of Economics and Business*,47, No. 2 (May ),pp. 165–192.

Blake, Andrew P. and Peter F. Westaway, 1996, "Credibility and the Effectiveness of Inflation Targeting Regimes," *The Manchester School*, Vol. 64 Supplement 1996, pp. 28–50.

Debelle, Guy, 1996, "The End of Three Small Inflations: Australia, New Zealand, and Canada," *Canadian Public Policy*, Vol. 22, No. 1 (March), pp. 56–78.

Fischer, Stanley, 1995a, "Central-Bank Independence Revisited," *American Economic Review—Papers and Proceedings*, Vol. 85, No. 2 (May), pp. 201–206.

————1995b, "Modern Central Banking. In *The Future of Central Banking*," edited by Forrest Capie, Stanley Fischer, Charles Goodhart, and Norbert Schnacht, (Cambridge: Cambridge University Press), pp. 262-308.

Gelman, Andrew, John B. Carlin, Hal S. Stern, and Donald B. Rubin, 1994, *Bayesian Data Analysis*, (New York: Chapman&Hall).

George, Eddie, 1996, "Inflation Targeting—The British Experience," *Central Banking*, Vol. 6, No. 4 (Spring), pp. 109–115.

Green, John H., 1996, "Inflation Targeting: Theory and Policy Implications," *Staff Papers*, International Monetary Fund, Vol. 43, No. 4 (December), pp. 779–795.

Holbrook, Robert, 1972, "Optimal Economic Policy and the Problem of Instrument Instability," *American Economic Review*, Vol. 62, pp. 57–65.

Huh, Chan, 1996, "Some Evidence on the Efficacy of the U.K. Inflation Targeting Regime: An Out-of-Sample Forecast Approach, Board of Governors of the Federal Reserve System", Discussion Paper No. 565 (September).

Lane, Timothy, 1984, "Instrument Instability and Short-Term Monetary Control," *Journal of Monetary Economics,* Vol. 14, pp. 209–224.

Lane, Timothy, Alessandro Prati and Mark Griffiths, 1995, "An Inflation Targeting Framework for Italy," IMF Paper on Policy Analysis and Assessment 95/4 (Washington: International Monetary Fund).

Lane, Timothy, and Hossein Samiei, 1997, "Does Public Disagreement on Monetary Policy Unsettle the Markets" IMF Working Paper 97/63 (Washington: International Monetary Fund).

Litterman, Robert B., 1986, "Forecasting with Bayesian Vector Autoregressions—Five years of Experience," *Journal of Business and Economic Statistics,* No. 4, pp. 25–38.

Mayes, David and Bryan Chapple, 1995, "The Costs and Benefits of Inflation: A Critique of the Sacrifice Ratio," *Reserve Bank of New Zealand Bulletin,* Vol. 57, No. 4 (March), pp. 9–21.

McCallum, Bennett T., 1995, "Two Fallacies Concerning Central-Bank Independence," *American Economic Review—Papers and Proceedings,* Vol 85, No. 2 (May), pp. 207–211.

————1996, "Inflation Targeting in Canada, New Zealand, Sweden, the United Kingdom, and In General," NBER Working Paper, No. 5579 (May).

Phillips, Peter C.B., 1996, "Econometric Model Determination," *Econometrics,* No.64, pp. 763–812.

Rogoff, Kenneth, 1987 "Reputational Constraints on Monetary Policy," *Carnegie-Rochester Conference Series on Public Policy,* No. 26, pp. 141–181.

Schorfheide, Frank, 1997, *Bayesian Vector Autoregression and Dynamic Stochastic General Equilibrium Model Priors,* manuscript, (Yale University).

Svensson, Lars E.O., 1993, "The Simplest Test of Inflation Target Credibility," NBER Working Paper, No. 4604 (December).

———— 1997, "Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets," *European Economic Review,* Vol. 41, No. 6, pp. 1111–1146.

Taylor, John, 1993, "Discretion versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy,* Vol. 39, pp. 195–214.

# IV. LABOR MARKET PERFORMANCE AND POLICIES IN INTERNATIONAL PERSPECTIVE[38]

## A. Introduction

92.      Changes in labor market laws and regulations in the United Kingdom since the early 1980s have created a relatively flexible labor market with favorable consequences, including improved efficiency and low structural unemployment. At the same time, this period has witnessed a significant increase in wage dispersion and in the number of people excluded from the labor market. The new government, while recognizing the benefits of flexibility, has sought to improve the workings of the market further. Its flagship initiative is the Welfare-to-Work program, a package of active labor market policies (ALMP) including job subsidies, training and workfare. This program represents a shift in focus from the previous government's more narrowly targeted assistance to job search for the long-term unemployed; although it includes some elements that had previously been introduced as pilot programs. The central feature of Welfare-to-Work, so far, is the "New Deal" for unemployed youth; the program also includes more limited measures aimed at the long-term unemployed and lone parents.

93.      As background to assessing these recent initiatives, it is important to review the performance of the United Kingdom's labor market, highlighting its relative strengths and weaknesses. The discussion of this experience presented in Section B of the paper observes that the United Kingdom's most glaring deficiency is the rising rates of inactivity, especially among older men; in contrast, youth unemployment in the United Kingdom has been relatively low by international standards—although solving youth unemployment is nonetheless a challenging task.

94.      The international experience with labor market policies has displayed a wide diversity of results, depending on the initial conditions and the details of the program; in some cases, programs have turned out to be successful but in others expensive and ineffective. Section C discusses the details of the Welfare-to-Work program. Noting that the program contains many elements that have been tried, either previously in the United Kingdom or in other countries, Section D reviews the experience with these elements. Section E concludes that, while implementing Welfare-to-Work presents a considerable challenge, its basic approach is appropriate, and macroeconomic conditions, overall labor market flexibility, and the low existing rate of youth unemployment favor its success. Greater challenges lie ahead, however, in addressing the more persistent problems of adult long-term unemployment and inactivity.

---

[38]Prepared by Lars Meuller.

## B. Labor Market Trends in OECD and United Kingdom

95.     In the past 15 years, the United Kingdom introduced far-reaching labor market reforms which contributed to significantly increase market flexibility[39] and helped reduce both equilibrium and actual unemployment rates. Some of these reforms dramatically altered industrial relations, including by restricting strikes and secondary picketing, introducing more democratic checks on union decisions, and decentralizing wage bargaining. Hiring and firing restrictions were also liberalized. Other measures included reducing the duration of unemployment benefits and tightening the associated eligibility criteria. In addition, the wage councils that had set minimum wages were abolished.

96.     The changing structure of the United Kingdom's economy is another key factor affecting its labor market performance. Arguably, so-called "Anglo-Saxon" policies are particularly suited to economies where an increasing share of employment is in the service sector (now accounting for over ¾ of total employment in the United Kingdom) and with a relatively large share of smaller firms with higher entry and exit rates. Flexible labor markets allow the economy to adapt to changing conditions, and reduce the persistence of unemployment; a possible down side is that the United Kingdom has tended to have larger variations in the unemployment rate across the economic cycle than in countries like Germany, France, and Italy (Morgan, 1996a).

97.     Figure 1 presents some comparisons of labor market conditions in selected OECD countries in the 1980s and 1990s. The labor market in the United Kingdom has expanded, with a lower unemployment rate (currently running at 5½ percent) than major European countries, and approaching levels found in the United States. Employment growth in the United Kingdom has been modest in relation to the United States but has been stronger than in continental Europe over the 1990s. Unemployment in the United Kingdom fell earlier in the recovery in the 1990s compared with the 1980s and employment has become more variable and correlated with changes in output.[40] Participation rates have also been higher than in continental Europe, but declined during the 1990s.

98.     In addition to cyclical changes in unemployment, diverse changes in structural employment have taken place (Table 1). The United Kingdom, together with New Zealand, the Netherlands and Ireland, have seen declining structural rates over ten years to 1996. An OECD study (1997) notes that the former two countries pursued both wide-ranging and deep structural reforms starting in the 1980s, while the Netherlands followed a more gradualist

---

[39]See Lane and Vanhoudt (1996) and Ramaswamy and Prasad (1994).

[40]Morgan (1996b) reports evidence suggestive of increased flexibility. Three years into the recovery of the 1990s, unemployment was about 2½ percent lower than at the same point in the 1980s. Meanwhile, real wages grew more slowly and regional disparities were reduced in the recession and the recovery.

FIGURE 1
UNITED KINGDOM
# LABOR MARKET INDICATORS
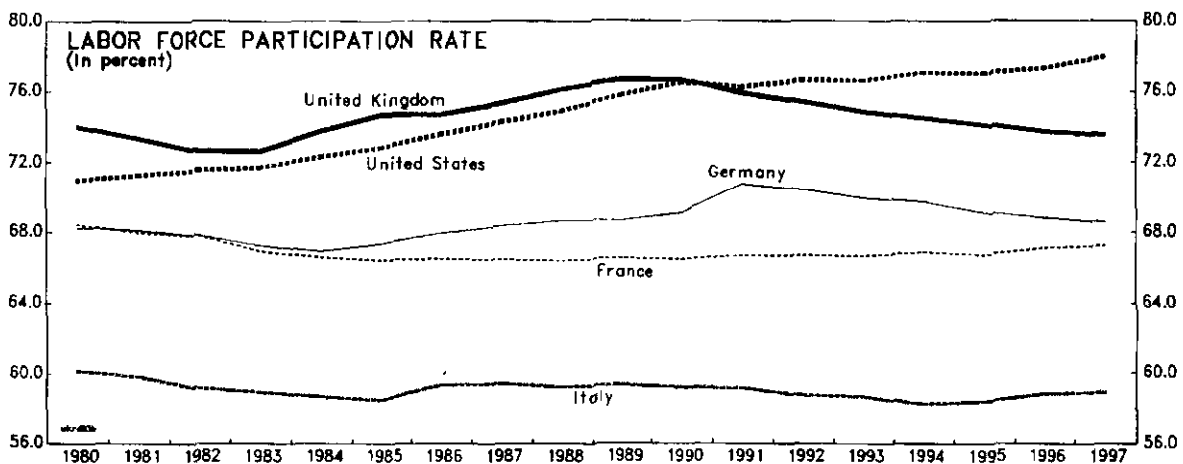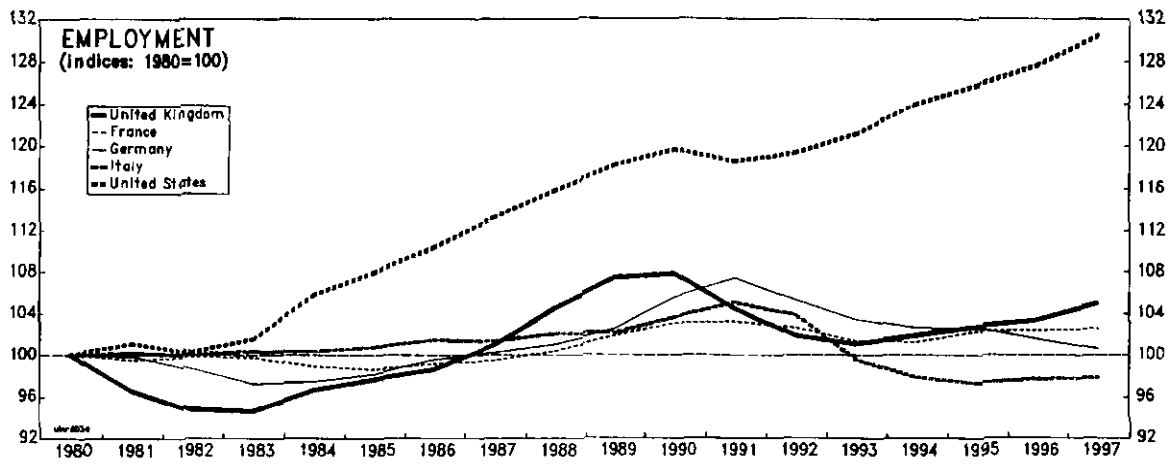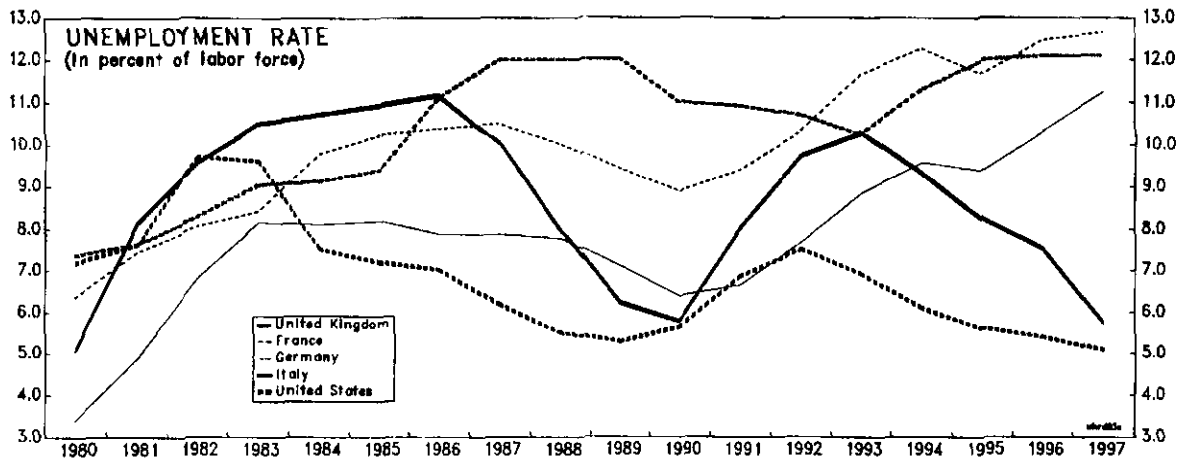


Sources: IMF, World Economic Outlook; and OECD, Economic Outlook.

Table 1. United Kingdom: Developments of Structural Unemployment:
Selected OECD Countries 1/

(As a percent of total labor force)

| Structural Unemployment Has: | 1986 | 1990 | 1996 |
|---|---|---|---|
| **Increased** | | | |
| Sweden | 2.1 | 3.2 | 6.7 |
| Germany | 7.3 | 6.9 | 9.6 |
| Spain | 19.1 | 19.8 | 20.9 |
| Italy | 8.4 | 9.7 | 10.6 |
| Austria | 4.1 | 4.9 | 5.4 |
| France | 8.9 | 9.3 | 9.7 |
| **Remained fairly stable** | | | |
| Norway | 3.1 | 4.2 | 5.1 |
| Australia | 8.1 | 8.2 | 8.5 |
| Japan | 2.5 | 2.5 | 2.7 |
| United States | 6.2 | 5.8 | 5.6 |
| Canada | 8.3 | 9.0 | 8.5 |
| Denmark | 8.6 | 9.6 | 9.0 |
| **Decreased** | | | |
| Netherlands | 8.0 | 7.0 | 6.3 |
| New Zealand | 4.7 | 7.3 | 6.0 |
| *United Kingdom* | *10.2* | *8.4* | *7.0* |
| Ireland | 15.3 | 16.0 | 12.8 |
| OECD structural unemployment rate 2/ | 7.0 | 6.8 | 7.1 |
| OECD actual unemployment rate 2/ | 7.7 | 6.1 | 7.7 |

Source: OECD (1997)

1/ Based on national definitions of unemployment. Structural unemployment rates are OECD estimates of non-accelerating wage rate of unemployment (NAWRU).

2/ Weighted averages of all OECD countries.

approach, which, as in Ireland, involved the social partners. Successful comprehensive reforms have affected broad groups in the labor market, including those characterized as "insiders." In other countries (France, Italy, and Spain), structural unemployment has moved higher from an already high level, and in some countries (Sweden and Finland) increases have been abrupt.

99.      One common factor behind rising unemployment across most OECD countries appears to be a secular shift in labor demand in favor of more skilled workers both between and within industries and occupations. Katz (1994) argues that institutional factors translated similar demand and supply shifts since 1970s into differences in labor market outcomes—either widening wage differentials or rising structural unemployment. The two countries with the largest increases in wage dispersion (Figure 2)—the United States and the United Kingdom—have relatively more decentralized wage-setting systems, and less structured pathways from school to work for those not going to college; these countries also experienced significant declines in the influence of unions and minimum wages in wage determination during the 1980s. Countries with greater institutional intervention in wage setting—including France, Italy, and Sweden—were able to prevent wage inequality from rising during parts of the 1980s. But policies that suppress market wage adjustment without directly addressing changes in underlying market conditions through appropriate human capital investments risk generating persistently high unemployment for young and less-educated workers.

100.    Efforts to improve education and training levels in the bottom half of the ability range were a key contributor to Germany's labor market performance, which until the 1990s, compared favorably with the United States and the United Kingdom. Nickell and Bell (1996) note that the real wages of the bottom decile in Germany were twice that of the same decile in the United States and the United Kingdom, while (in 1991–92), unemployment rates were lower and similar, respectively.[41] Tempering this hypothesis, Robinson and Manacorda (1997) conclude that the education and training system in United Kingdom not only kept pace with demand changes (1984–94) but allowed employers to hire more qualified workers for what seems to be essentially the same job. This would imply that intensified efforts to increase educational attainment would not necessarily do much to reduce unemployment.

101.    Other aspects surface from a broader perspective on the United Kingdom's labor market—including indicators of joblessness and flows between states in the market—which might indicate scope for well-designed ALMP's to reduce structural problems. During the recovery in the first half of the 1990s, and despite rising employment and falling unemployment, the total workforce remained fairly static. One reason behind this was that the number of men of working age who were economically active fell and the economically inactive rose 9 percent. This rise is indicative of a less favorable trend in joblessness than

---

[41]Nickell and Bell (1996) present data for 1991–92 showing unemployment rates for people with low education at 10.7 percent (Germany), 17.1 percent (United Kingdom), and 11.0 percent (United States).

FIGURE 2
UNITED KINGDOM

# TRENDS IN EARNINGS DISPERSION FOR MEN



(Ratio of ninth to first decile) 1/

United States

France

United Kingdom

Japan

Italy

Germany

ukrd04
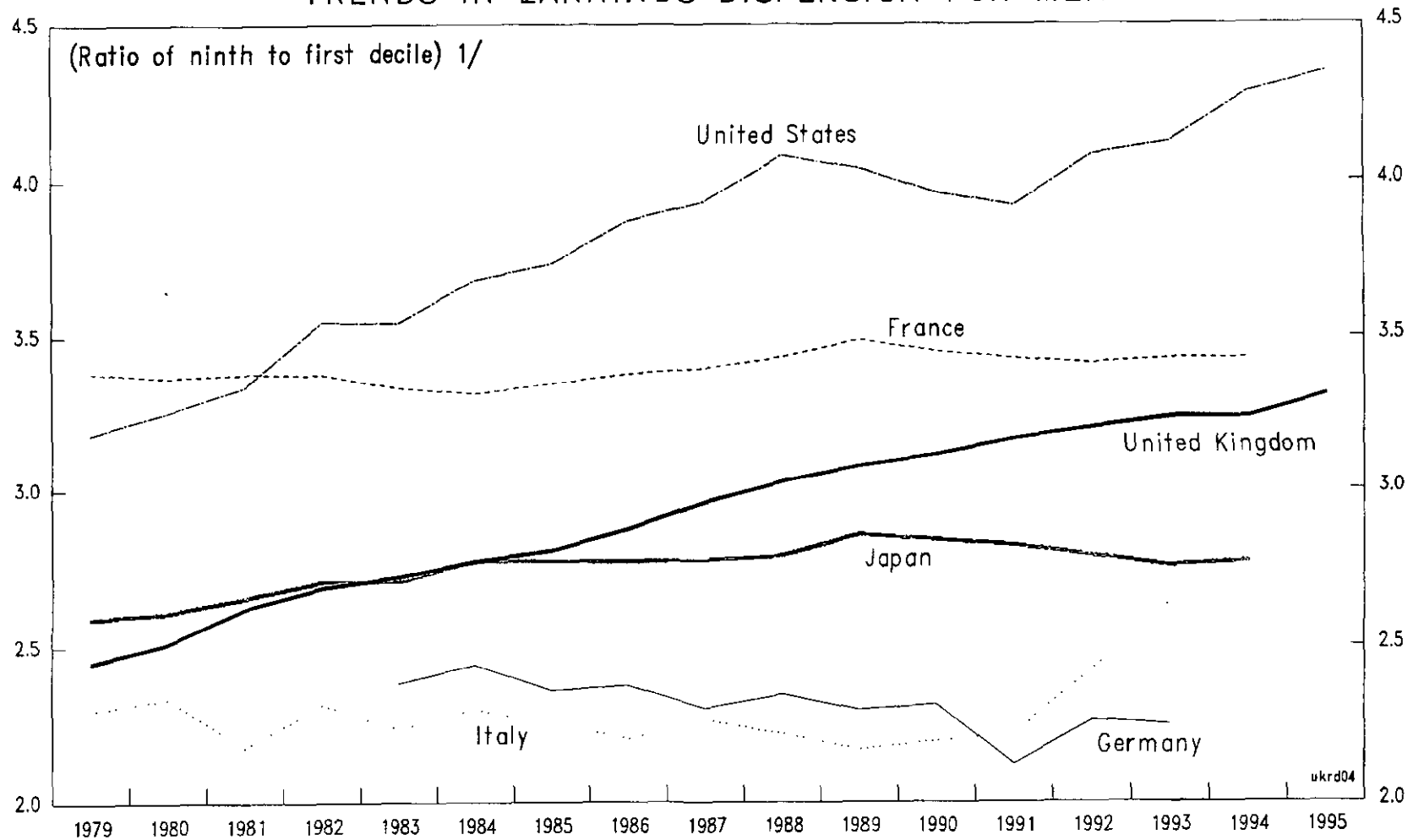
Source: OECD, Employment Outlook.

1/ For Italy, the data have been interpolated for missing years.

would be suggested by unemployment figures. While the number of inactive is obviously affected by rates of school attendance and the prevalence of choosing early retirement, a significant proportion of these in both of these categories (particularly the latter) may essentially be discouraged workers.

102. In this light, broader indicators of joblessness furnish a useful complement to the picture of the United Kingdom's labor market conditions and trends provided by official unemployment rates (Figure 3). The first three indicators (U1–U3) are focused on labor market slack while another three (U4–U5b) are more related to social distress (more dependent on the distribution of joblessness across households). In keeping with a household perspective, some 18 percent of all households were workless in 1995 compared with 7 percent in 20 years earlier. The majority of new jobs have gone to households where there was already someone in work, primarily reflecting higher female participation; by contrast, declining male employment is concentrated on single men and those with non-working partners (Employment Audit, 1996). Moreover, in Ireland, the United Kingdom, and Germany, youth unemployment is most heavily concentrated (at around 35 percent in 1993) in households where no other person is employed (OECD, 1996).

103. The United Kingdom's youth unemployment performance overall is not unfavorable in relation to other industrialized countries: male youth unemployment rates in the United Kingdom have moved from above OECD average in 1983 to close to the average in 1994, and female youth unemployment rates have moved from average to significantly lower.[42]

104. Analyzing the flows between employment, unemployment and economic inactivity reveal that it has become increasingly difficult for the unemployed to move into employment and increasingly likely that they would slide into inactivity. While the probabilities of moving between states are dependent on the economic cycle, some underlying changes stand out (Table 2). Although the probability that an employed person will flow out of employment has remained broadly unchanged over time, chances of leaving unemployment into a job have dropped from 47 percent to 33 percent. Furthermore, the risk of dropping out of the labor market when leaving unemployment rose from 10 percent prior to the 1980s recession to over 20 percent in the mid-1990s. The probability of moving from unemployment into inactivity is higher for women than for men, but has risen much more sharply for the latter; (for men, from 5 percent in 1981 to 17 percent in 1994; and for women from 14 to 29 percent). The probability of moving from employment to inactivity has also increased in recent years.

---

[42]The unemployment rate for young men (aged 15–24) declined from 19.3 percent in 1983 in the United Kingdom to18.3 percent in 1994. The OECD average was 14.8 percent (aged 20–24) in 1983 and 16.7 percent in 1994. For female youth, the corresponding numbers were 16.1 percent and 10.7 percent for the United Kingdom, and 16.4 percent and 16.9 percent for the OECD average.

FIGURE 3
UNITED KINGDOM

# ALTERNATIVE JOBLESSNESS RATES

(In percent)
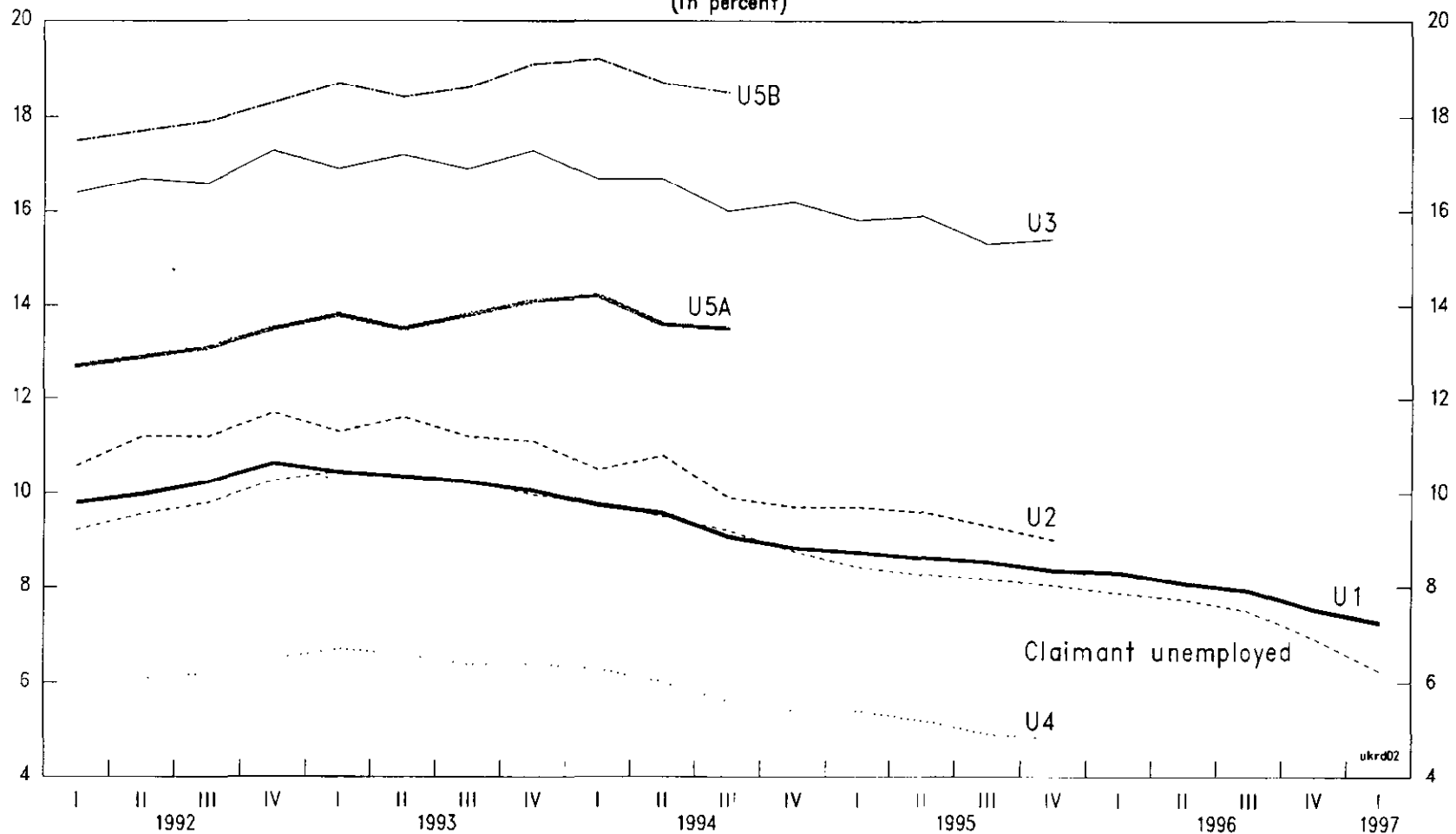
Source: Labour Force Survey, Quarterly Bulletin.
U1 = ILO unemployed; U2 = U1 + discouraged workers + people seeking work but unable to start;
U3 = U1 + all those who want jobs; U4 = more than 6 months unemployed; U5A = Individuals in workless households;
U5B = workless households.

Table 2. Probability of Flowing Between Employment States

(In percent)

| Year | From Employed to | | From Unemployed to | | From Inactive to | |
|------|------------|----------|----------|----------|----------|------------|
|      | Unemployed | Inactive | Employed | Inactive | Employed | Unemployed |
| 1977 | 2.9 | 3.1 | 47.1 | 8.2 | 16.4 | 5.1 |
| 1981 | 5.3 | 3.5 | 28.0 | 9.9 | 15.2 | 7.1 |
| 1984 | 4.0 | 3.9 | 30.6 | 15.8 | 14.7 | 6.7 |
| 1986 | 3.8 | 3.2 | 30.1 | 18.6 | 17.1 | 7.7 |
| 1988 | 3.1 | 2.7 | 37.5 | 16.5 | 18.8 | 6.8 |
| 1990 | 3.1 | 2.8 | 39.5 | 15.1 | 19.1 | 6.5 |
| 1992 | 4.2 | 5.3 | 31.0 | 21.6 | 13.3 | 4.3 |
| 1994 | 2.9 | 5.1 | 33.1 | 20.9 | 12.9 | 4.3 |

Source: Labor Force Survey, 1977–94, spring quarter.

## C. Welfare-to-Work

105.    The central theme of Welfare-to-Work is to use unemployment benefits in a more effective way to create opportunities and positive incentives for long-term unemployed instead of merely subsidizing idleness. The shift toward active labor market policies aims to break the persistence of unemployment and integrate outsiders into the labor market—by introducing positive employment and training programs and incentives. These programs include an element of compulsory participation complementing the compulsory job search associated with the Job Seeker's Allowance (JSA) introduced in October 1996.[43]

106.    At the center of the new government's Welfare-to-Work agenda is a "New Deal" for unemployed youth aimed at putting young long-term jobless into work. These measures are targeted at people aged 18–24 years who claim JSA and have been unemployed for more than six months. The four options open to the unemployed involve a job with a private sector employer, work with a voluntary organization or with an environmental task force, or full time education and training. The "New Deal" program will start in January 1998 with

---

[43]Under the JSA last October those who are unemployed cease to be eligible for unemployment benefits after six months; thereafter, they are eligible only for means-tested benefits, and no longer enter the claimant count. In addition, unemployment benefits are more difficult to obtain under the new scheme, with the claimant having to prove serious efforts at job seeking.

demonstration projects covering around 10 percent of the country before it goes nationwide in April;[44] it is run for the remainder of the present parliament, i.e., for four years.

107.     The "New Deal" relies heavily on a case managed approach, also building on the JSA. Each unemployment benefit claimant is to pass through a "Gateway"—counseling and advice in finding a job provided by the Employment Service. Those who remain unemployed after six months will be offered one of the four options provided by the Employment Service. In principle, there will be no fifth option of drawing benefit while remaining idle.

108.     The first option, on which hopes are high for providing a substantial number of opportunities, involves a subsidy or rebate of up to £60 a week to employers for six months for each jobless person less than 25 years old who is hired. The job should include at least one day per week in education and training designed to reach an accredited qualification; £750 per person have been allocated to this purpose. In addition, for those aged more than 25 and who have been unemployed more than two years, a £75 subsidy per week for the employer will be available.

109.     The other three options are as follows: second, working for a voluntary organization[45] for six months (with a component of education and training toward accredited qualifications), in return for a weekly pay equivalent to the JSA; third, working for the government's Environment Task Force, paid at the same rate; and fourth, further full-time training and education designed to lead to a qualification.[46]

110.     While in one of the options, unemployed youths will continue to receive support from personal advisors, with a focus on getting or maintaining a job in the regular labor market after the "New Deal" period. Young people who return to claimant unemployment after their six months in one of the options will receive further help from the Employment Service to get back to work as quickly as possible.

111.     Although broad-based, the size of Welfare-to-Work is modest in relation to active labor market programs implemented in continental Europe. It will add some 0.1 percent of

---

[44]The program will be implemented by the Employment Service, in association with other government agencies and departments and with advice from an employer-led Advisory Task Force.

[45]Emphasis will be placed on providing 50,000 new trained child carers to support the initiatives for lone parents (see below).

[46]Full-time training in skills up to National Vocational Qualification level 2. The "16 hours study rule" which has prevented unemployed people from accessing full-time education and training will be reformed.

GDP[47] to spending on ALMP on top of the existing level of roughly ½ percent, compared with an average spending in OECD of 1.0 percent of GDP. Even if the immediate consequences for aggregate unemployment should be expected to be limited, the effects on the targeted groups could be significant, even if labor demands are left unchanged.

112.    Most of the items on this menu of programs have their counterparts in other countries. In particular, Working Nation, beginning in 1994 in Australia, sought to improve equity and efficiency through policies geared toward providing skills and experience that would enable the long-term unemployed to compete effectively for jobs (Borland, 1997).[48] More generally, many countries have had experience with job training and subsidies, in most cases with rather mixed results. It is important to examine this experience in more depth before considering the prospectus for successful implementation of Welfare-to-Work under present conditions in the United Kingdom.

### D. Experience with Active Labor Market Policies

113.    Welfare-to-Work incorporates elements from ALMPs which have previously been implemented in other countries. The overall sources of such policies depend on targeting assistance to workers who really need it (thus avoiding deadweight costs) and providing training, experience, and job-search assistance that equips them for meaningful employment. It also depends importantly on the program's impact on other workers, via the substitution and displacement effects (Table 3).

---

[47]The Budget allocates £3.5 billion for the combined cost of the programs for youth and long-term unemployed people over the lifetime of parliament. Two other initiatives under Welfare-to-Work involve measures to help lone parents find and take work (£200 million allocated in the Budget) and to improve the quality of schools' infrastructure (£1.3 billion). The government also aims to extend the Welfare-to-Work approach to other groups excluded from the labor market (provisions of £200 million made over the course of parliament).

[48]Based on the rather mixed results of the Working National Program, significant reforms were subsequently introduced to improve the efficiency of labor market services. It is too early to assess the revamped program.

Table 3. Definitions of Some Terms in the Evaluation Literature

| Term | Definition |
|------|------------|
| Deadweight loss | Subsidies are provided to employ workers who would have found similar work in the absence of such subsidies. |
| Substitution effect | A worker hired in a subsidized job is substituted for an unsubsidized worker who would have been hired. |
| Displacement effect | A firm with subsidized workers increases output, but displaces (reduces) output among firms who do not have subsidized workers. "Fiscal displacement" refers to local governments using funding from central government to carry out projects they would have implemented anyway. |

114.   There are a variety of ALMP's in the OECD countries with different objectives. Policies include job creation in the public sector, wage subsidies to the private sector, training programs and job-search assistance. They may be targeted at specific groups, e.g., youths, long-term unemployed, and displaced workers, with the aim of improving the functioning of the labor market. Both implementation and funding vary across countries.

115.   ALMP's have two potential roles to play: to reduce structural and frictional unemployment and to improve earnings and employment rates of the targeted groups. The chances of success of an ALMP should be evaluated in a broader context including characteristics of the labor market in which it operates. Policies can be sorted into three broad categories; (i) demand-side policies that attempt to stimulate employment increases through direct job creation in the form of public sector employment or the subsidization of private sector jobs; (ii) supply-side policies that invest in education and training to upgrade the skills of the target groups; and (iii) policies to enhance the efficiency of the process of matching job seekers with job openings, such as job search assistance and improved labor market information. While useful as analytical distinctions, in practice many programs do all three.

116.   Spending on ALMP's has increased or remained stable in most countries in the 1990s, averaging 1.0 percent of GDP in 1995 up from 0.8 percent in 1990 (Table 4). On the back of rising unemployment, however, passive spending on income support increased faster than active spending in half of the OECD countries. The broad orientation of active spending has remained largely unchanged (Table 5). For the most part, the English-speaking countries have increased emphasis on job-search assistance and counseling of those facing particular disadvantages in the labor market; an early example is the Restart Programme in the United Kingdom (see below). By contrast, some of the Nordic countries have scaled back their spending in this area.

Table 4. United Kingdom: Evolution of Spending on Active Labor Market Policy:
Selected OECD Countries

|  | Percent of GDP | | Percent of Total Labor Market Spending | |
|---|---|---|---|---|
|  | 1990 | 1995 | 1990 | 1994/95 |
| United States | 0.2 | 0.2 | 33 | 36 |
| Japan | 0.1 | 0.1 | 31 | 24 |
| Germany | 1.0 | 1.3 | 29 | 38 |
| France | 0.8 | 1.2 | 30 | 38 |
| Italy | 0.7 | n.a. | 45 | n.a. |
| United Kingdom | 0.6 | 0.5 | 39 | 28 |
| Canada | 0.5 | 0.6 | 22 | 30 |
| Australia | 0.3 | 0.4 | 24 | 21 |
| Sweden | 1.7 | 3.0 | 66 | 54 |
| Average 1/ | 0.8 | 1.0 | 36 | 34 |

Sources: OECD (1997), and Nickell (1997).

1/ Unweighted average of all OECD countries.

Table 5. The Orientation of Spending on Active Labor Market Policy:
Selected OECD Countries

(Percent of total active spending)

| | PES 1/ | | Training 2/ | | Subsidies 3/ | | Job Creation 4/ | | Other 5/ | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1990 | 1995 | 1990 | 1995 | 1990 | 1995 | 1990 | 1995 | 1990 | 1995 |
| United States | 33 | 35 | 33 | 20 | 0 | 5 | 4 | 5 | 29 | 35 |
| Japan | 30 | 27 | 30 | 27 | 40 | 45 | 0 | 0 | 0 | 0 |
| Germany | 21 | 17 | 37 | 29 | 7 | 5 | 10 | 23 | 26 | 26 |
| France | 16 | 14 | 43 | 38 | 4 | 4 | 1 | 11 | 36 | 33 |
| Italy | 12 | n.a. | 4 | n.a. | 0 | n.a. | 0 | n.a. | 84 | n.a. |
| United Kingdom | 29 | 40 | 34 | 25 | 0 | 0 | 0 | 2 | 37 | 34 |
| Canada | 43 | 34 | 51 | 57 | 0 | 0 | 4 | 4 | 2 | 5 |
| Australia | 35 | 27 | 27 | 23 | 12 | 8 | 0 | 18 | 27 | 24 |
| Sweden | 12 | 9 | 31 | 26 | 1 | 9 | 7 | 18 | 49 | 38 |

Source: OECD (1997)

1/ Spending on public employment service and administration.
2/ Labor market training.
3/ Subsidies to regular employment in the private sector.
4/ Direct job creation (public or non-profit).
5/ Youth measures, support of unemployed persons starting enterprises, and measures for disabled.

117.    In a macroeconomic context, evidence suggests that spending on ALMP's contributes to explaining differences in unemployment rates across countries but effects are small (Camfors, 1994 and Scarpetta, 1996). However, even if labor demand is held constant, recent models (Richardson, 1997) indicate that policies that increase the relative outflow rates from unemployment will be effective provided they are targeted on those who are, or are likely to become, unemployed long-term (given that deadweight costs are less than 100 percent). Given that outflow rates depend inversely on duration (i.e., the longer someone is unemployed, the less likely he or she is to find work), the choice of policy involves a trade-off between larger proportional effects at longer durations of unemployment and the greater difficulty of improving outflow rates. Estimates indicate that a well-designed policy could reduce equilibrium unemployment by as much as two percentage points—with a four-percentage-point reduction in long-term unemployment partially offset by substitution and displacement effects on short-term unemployment.

118.    To illustrate some of the pitfalls and opportunities linked to different labor market measures in practice, results from evaluations of OECD countries' experiences are summarized below. Most of these evaluations focus on establishing which policies work and which do not, rather than establishing *why*. As will be discussed, experiences hint that

deadweight and substitution costs are substantial and that careful targeting and implementation are crucial.

## Subsidies to employment

119.    Wage subsidy programmes in United States, Belgium and Australia have been found to have substantial deadweight and substitution effects (Table 6). On balance, such schemes appear to increase employment slightly but short-run effects are small. There is little evidence on the long-run effects of wage subsidies, i.e., whether short-run displacement leads to longer term benefits through reintegration of the targeted group.

120.    In the United Kingdom, the Jobstart scheme in operation during 1986–90 offered employers a subsidy of up to 22 percent of earnings for hiring full-time a person who had been unemployed for more than two years (Table 6). Evaluations suggest that more than half of the unemployed who benefitted from the scheme would have secured a job anyway (deadweight cost). There was also evidence that some employers took on long-term jobless in place of other workers (substitution effects).

121.    From a policy perspective, high deadweight and substitution effects may not be considered all that important since "shuffling the queue" of job seekers is, in part, what the schemes are intended to do. Even if long-term unemployed are hired as a result of the subsidy at the expense of the short-term unemployed, that may be important for both equity and efficiency reasons. If on the other hand, employers replaces workers whose subsidy has expired with new subsidized recruits, the gains resulting from increased turnover could disappear.

## Training programs

122.    Evaluations indicate low or insignificant returns to many public training programs. Small-scale, well-targeted training programs (on both employer and job seeker needs) are likely to offer the best returns and relatively long training programs should lead to recognized qualifications. For youths, training measures need to be considered in conjunction with more general education policy. In contrast, training is found to have little impact on employability where it is a *pro forma* requirement to requalify for benefits, or used as a solution to large scale unemployment. Some studies of general training programs even point to possible adverse impacts of program participation—possibly indicating negative signals to prospective employers. (Table 7).

123.    Evaluations of the Employment Training (ET) and the Employment Action (EA) programs in the United Kingdom (up until 1993) show that the most influential factors in leading to a full-time job were time spent on employer placement (found to be of little value unless it was of long duration) and qualifications gained in the schemes. The ET/EA helped participants to get full time jobs, and the training provided helped some participants to get

Table 6. United Kingdom: Subsidies to Employment

| Program Name | Method | Key Result |
|---|---|---|
| United Kingdom<br>*Training and employment grants* | Employer/employee surveys | Deadweight about 16-20 percent |
| United Kingdom<br>*Jobstart* | Employer/employee surveys | Deadweight costs about 70 percent |
| Belgium<br>*Firm Survey* | Employer interviews | Deadweight = 53 percent<br>Substitution = 36 percent |
| Australia<br>*Jobstart program* | Survey questionnaires of different groups | Participants were more likely to be employed 6 months later than the CES sample (60 versus 30 percent). They also had higher employment rates than the LMP sample. |
| United States<br>*JTPA-II A OJT/JSA* (could be subsidized or unsubsidized employment) | Random assignment experiment | The estimated impact on earnings for women are significant and positive for each period; adult men, earnings gains are only significant in the second period and approach significance for the entire period; no effects on youths. |

Source: Fay (1996)

Table 7. United Kingdom: Training Programs for the Unemployed:
Targeted and General Training

| Program Name | Method | Key Result |
|---|---|---|
| United Kingdom (targeted) *Employment training (ET) and Employment Action (AT)* | Quasi-experimental | ET resulted in a significant impact of getting a job once the program ended. Employment gain of 5 to 10 percent for men and 0 to 5 percent for women in terms of months worked. No significant impact from EA. Participation in ET/EA had no impact on wages. (Selection bias likely to affect results.) |
| United States (targeted) *JTPA-IIA Classroom training option* | Random assignment experiment | No firm evidence of significant earnings for any group. |
| *Trade Adjustment Assistance Program* | Quasi-experimental | No significant impact on earnings of those who received training relative to those who received no training. |
| Sweden (general) *Labor market training* | Quasi-experimental | For individuals who entered training in 1990, the impact on earnings was negative and significant for all groups. |
| *Vocational training* | | Those who participated in training 1994 experienced a significant 3 percent gain in earnings compared with control group over a 6 months follow-up period. |
| Canada (targeted) Job entry program (geared to youths and women re-entrants) | Quasi-experimental | Significant short-run impact on earnings, but insignificant long-run impact. |

Source: Fay (1996)

higher paid jobs, at least in the short run. Overall, however, wage gains were modest and may have disappeared in the longer run.

**Job-search assistance**

124.   The intervention that appears most cost effective is job-search assistance (possibly combined with other labor market measures). Job-search assistance comes in a variety of forms, including initial interviews and compulsory interviews after a certain point in an unemployment spell. The difficulty lies in deciding who needs assistance and who does not in order to minimize deadweight losses. However, short-term deadweight losses should be weighed against more costly intervention for the long-term unemployed, particularly where outflows from unemployment are low.

125.   Most studies point to significant and positive gains from job-search assistance (OECD, 1997). Restart was initiated in 1986 in the United Kingdom and offered a counseling interview to people with unemployment spells exceeding six months. Simulations (Lehman, 1993) imply that some 35 percent of the decrease in long-term unemployment (associated with substantial substitution effects for the short-term unemployed) between 1984 and 1990 can be ascribed to the introduction of Restart. OECD (1997) attributes part of the decline in the NAWRU and the fall in the participation rate in the United Kingdom in the 1990s to expansion of the Restart scheme. Recent studies in the United States (Meyer, 1995) tend to find small but significant declines in unemployment insurance receipts associated with various job-search programs. It is, however, not clear if these would be enough to generate a positive benefit-to-cost ratio.

**What works?**

126.   On balance, experience suggests that job-search assistance should be emphasized as a first step in helping the unemployed to get back to work (Fay, 1996). For long-term unemployed, training can help if it is well-targeted (Table 8). Subsidies to employment can also help reintegrate them back into work, and may be particularly useful if combined with on-the-job training. As for different groups, youths are the most difficult group for which very careful targeting is needed. Education and labor market policy need to be considered in tandem if the root of the problem is found in low educational attainment resulting from early school drop-out. The long-term unemployed appear to benefit from tailored services, job-search assistance and wage subsidies.

127.   Several circumstances specific to the United Kingdom would seem to speak in favor of successful implementation of Welfare-to-Work. It has been pointed out that, while in continental Europe spending on ALMP has been large, policies have not been sufficiently

Table 8. United Kingdom: Summary of Lessons from the Evaluation Literature

| Program | Appears to Help | Appears not to Help | Observations |
|---|---|---|---|
| Subsidies to employment | Long-term unemployed; women re-entrants | Youths (if not combined with other programs) | Require careful targeting and adequate controls to maximize employment gains and social benefits. |
| On-the-job training | Women re-entrants, single mothers | Youths (if not combined with other programs) | Must meet specific labor market needs. |
| Classroom training | Women re-entrants | Youths (if not combined with other programs) | Important that courses signal strong labor market relevance, or signal "high" quality.<br><br>Youths are likely to need a combination of programs targeted at their specific labor market needs. |
| | | Prime-age men and older workers with low initial education | More evidence required for displaced workers.<br><br>Follow-up period needs to be longer as length of course increases. |
| Job search assistance | Most unemployed but in particular women and sole parents | | Require careful controls |

Source: Fay (1996)

"broad" and deep" to fully exploit complementarities among them.[49] As Welfare-to-Work is implemented in an already flexible market and targeted at long-term unemployed youth, the flexibility of the market may mitigate the adverse impact on other groups. To have an impact on entrenched behavior, a permanent break with past policies may be required to signal a change in the regime. Another crucial design characteristic is the emphasis on screening and job-search in the "Gateway" period, which may limit deadweight costs by ensuring that participants have had an adequate chance to find a job before entering one of the "New Deal" options. (At the same time, the "Gateway" may not address substitution costs which reflect the responses of employers.) The elements of formal training toward recognized qualification may help maintain the quality of training. The involvement of employers through an advisory taskforce may also secure their cooperation in making the work experience aspects meaningful. As for the timing of policies, at this point in the business cycle, brisk labor demand appears to have almost eliminated slack in the labor market. Therefore, the program would generally have the benefit of "working with the grain" (Figure 4) in trying to lower the structural unemployment rate. One possible aspect to the contrary is that the program coincides with the introduction of a national minimum wage, which if set too high, could thwart efforts to put unemployed young people into work. (See Chapter V below).

128. On the downside, it should be noted that if a sufficient number of employers (in particular small- and medium-sized firms) failed to subscribe to the tax rebate, the success of Welfare-to-Work will rely more heavily on the voluntary sector and the environmental task force which are likely to be less useful in providing relevant work experience. This may be heightened by regional disparities of long-term unemployment; in areas where the long-term joblessness is particularly widespread, it is also likely to be more difficult to place people in private sector jobs or to mobilize community support for voluntary work. Although Welfare-to-Work is intended to be kept within budget even if unemployment rises, there are uncertainties related to the influence of a possible economic downturn if the steam goes out of the labor market, transfers of the unemployed into regular jobs would diminish, increasing the magnitude of the program's task.[50]

## E. Concluding Remarks

129. The Welfare-to-Work program seeks to improve on what is, on the whole, already relatively favorable labor market performance. Whether it will indeed do so depends on learning from the experience of similar programs in other countries. That experience suggests

---

[49]Coe and Snower (1997) point to important policy complementarities (policies have greater effect on unemployment when implemented in conjunction than in isolation) underlining the case for "fundamental" labor market reform.

[50]The budgetary allocation for the Welfare-to-Work program is capped by the revenues from the Windfall Tax; in case of a rise in unemployment, the number of people benefiting from the program would be restricted, unless new legislation authorized additional funding.

FIGURE 4
UNITED KINGDOM
# UNEMPLOYMENT PATTERNS
### (In thousands)

TOTAL UNEMPLOYMENT BY DURATION

■ Over 52 weeks
▨ Over 26 and up to 52 weeks
☐ Up to 26 weeks

ukrd01b

1985  1986  1987  1988  1989  1990  1991  1992  1993  1994  1995  1996  1997

UNEMPLOYED MALES BY AGE AND DURATION
(Great Britain, April 1997)

■ Up to 26 weeks
▨ Over 26 and up to 52 weeks
☐ Over 52 weeks

ukrd01a

Under 18      18-24      25-49      50 and over

Age
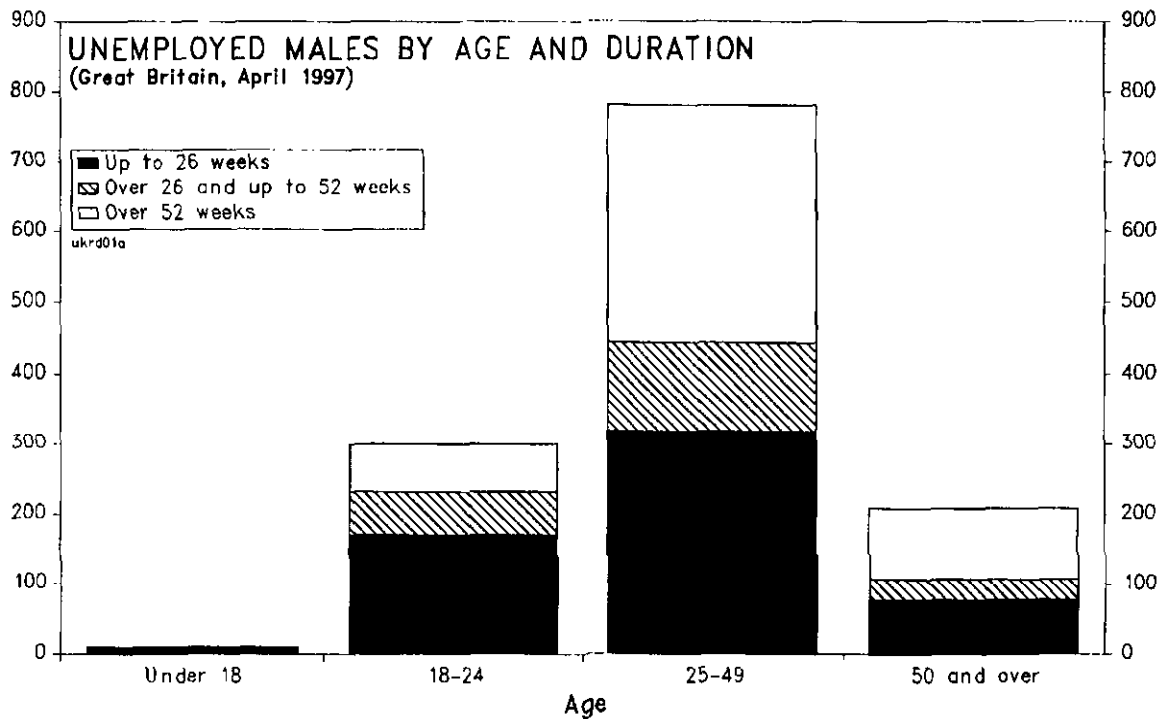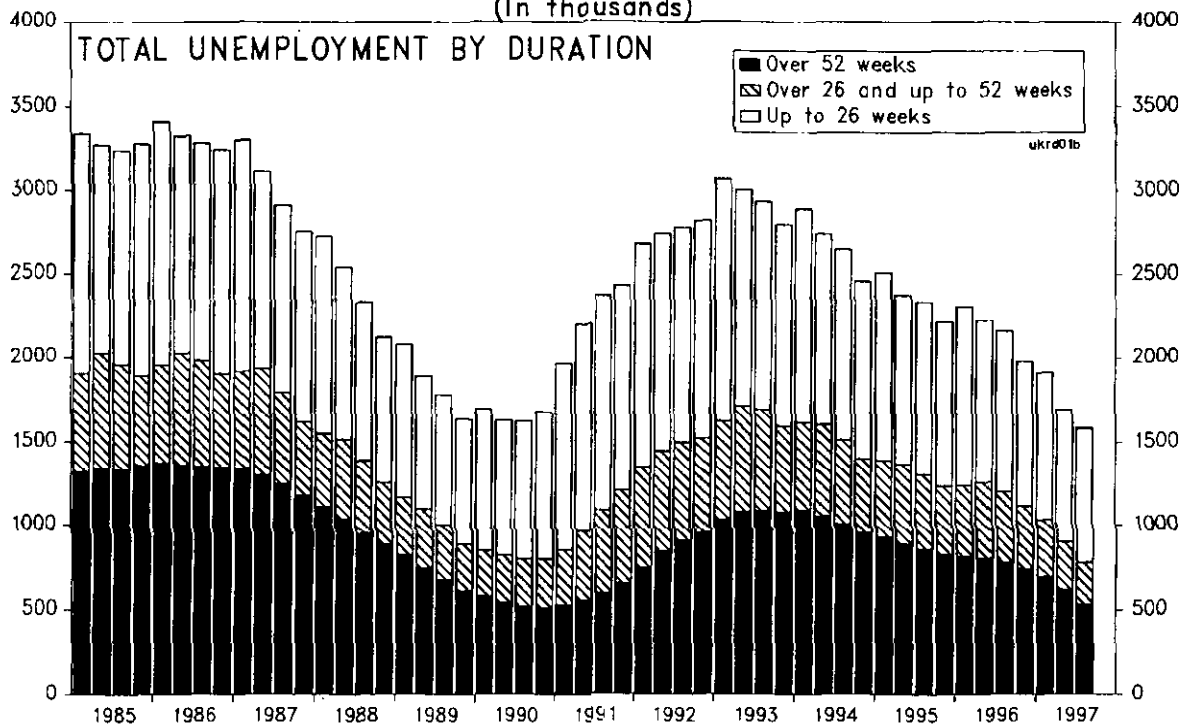
Source:  Office for National Statistics.

that the overall success of the program depends not only on how it affects those toward whom it is targeted, but also on the indirect effects on other workers (via substitution and displacement effects), and on screening to direct assistance to those who really need it (avoiding deadweight costs). It will be important to select carefully the elements that have been found to work in past experience; indications so far are promising, but many details of implementation remain to be determined and could significantly affect the program's success. The program will also benefit from its introduction into buoyant labor market conditions—provided that these conditions last. More generally, that same flexibility that accounts for the improved performance of the United Kingdom's labor market in the 1980s and 1990s will augur well for the program's success in improving on that performance, as a well-functioning market helps translate employability into employment.

## REFERENCES

Borland, 1997, "Labor Market Issues in Australia," *Australia—Selected Issues,* IMF Staff Country Report No. SM/97/40 (Washington: International Monetary Fund).

Calmfors L., 1994, "Active Labour Market Policy and Unemployment—A Framework for the Analysis of Crucial Design Features," *OECD Economic Studies,* No. 22, pp. 8–47.

Coe D.T., and D.J. Snower, 1997, "Policy Complementarities: The Case for Fundamental Labour Market Reform," *Staff Papers,* International Monetary Fund, Vol. 44, No. 1, pp. 1–35.

Employment Policy Institute, 1996, *Employment Audit,* summer 1996.

————1997, "What works? Jobs for young people".

Fay R., 1996, "Enhancing the Effectiveness of Active Labor Market Policies: Evidence from Program Evaluations in OECD Countries," *OECD Labour Market and Social Policy Occasional Paper,* No. 18.

Katz L., 1994, "Active Labor Market Policies to Expand Employment and Opportunity," in *Reducing Unemployment: Current Issues and Policy Options,* The Federal Reserve Bank of Kansas City.

Lane T. and P. Vanhoudt, 1996, "Income Distribution Since the Labor Market Reforms in the 1980s," *United Kingdom—Recent Economic Developments,* IMF Staff Country Report No. SM/96/254 (Washington: International Monetary Fund).

Lehmann H., 1993, "The Effectiveness of the Restart Program and the Enterprise Allowance Scheme," Center for Economic Performance, Discussion Paper No. 139.

Machin S., 1996, "Wage Inequality in the UK," *Oxford Review of Economic Policy,* Vol. 12, No. 1, 47–64.

Meyer B.D., 1995, "Lessons from the U.S. Unemployment Insurance Experiments," *Journal of Economic Literature,* Vol. 91–131.

Morgan J., 1996a, "Labour Market Recoveries in the UK and Other OECD Countries," *Labour Market Trends* (December).

————1996b, "What do Comparisons of the Last Two Economic Recoveries tell us about the UK Labour Market?" *National Institute Economic Review,* (May), pp. 80–92.

Nickell S., 1997, "Unemployment and Labor Market Rigidities: Europe Versus North America," *Journal of Economic Perspective*, Vol. 11, No. 3, pp. 55–74.

Nickell S. and B. Bell, 1996, "Changes in the Distribution of Wages and Unemployment in OECD countries," *American Economic Review*, Vol. 86, No. 2, pp. 302–308.

OECD, 1997, "Implementing the OECD Jobs Strategy: Member Countries' Experience," ECO/EDR/DIV.

OECD, 1996, *Employment outlook,* (July).

Richardson J., 1997, "Can active Labor Market policy work? Some Theoretical Considerations," Center for Economic Performance, Discussion Paper No. 331.

Robinson P., and M. Manacorda, 1997, "Qualifications and the Labour Market in Britain: 1984–1994 Skill Biased Change in the Demand for Labour or Credentialism?" Center for Economic Performance, Discussion Paper No. 330.

# V. THE LEVEL OF THE MIMIMUM WAGE[51]

## A. Introduction

130. The new Labour government pledged to introduce a national minimum wage aimed at ensuring fairness in the labor market. While the decision to set a minimum wage has already been taken, the level has not yet been determined. A Low Pay Commission has been established to sift the evidence and make a recommendation on an appropriate level.[52]

131. Much of the public discussion of a minimum wage in the United Kingdom has focused on "half average earnings" as a benchmark. This principle, however, implies a wide range of actual levels, depending on whether a median or a mean is used; whether it is based on all workers or only males; whether it is limited to regular earnings or includes average overtime hours; and whether it is based on data from the Family Expenditure Survey (FES) or from the 1996 New Earnings Survey (NES) which undersamples part-time and lower-paid workers (Gosling, 1996). The figure favored by the trade unions is calculated by taking half male median full-time weekly earnings (including overtime) from the NES, and dividing by average hours excluding overtime—yielding a minimum wage of around £4.50. In contrast, a median based on FES data on regular pay for both male and female workers would yield a figure slightly over £3.[53]

132. The main concern over a minimum wage is its possible effects in aggravating unemployment, particularly among young and unskilled workers whose present earnings are low. For instance, the OECD *Jobs Study* argued that statutory minimum wages could have serious adverse effects on employment opportunities for some groups; evidence reported in a review process for some countries (France, Canada, and the Netherlands) confirmed that minimum wages constrained employment for the young and less-skilled. Thus, if the minimum were set too high, it could frustrate the efforts to alleviate youth unemployment that are a central feature of the Welfare-to-Work program (see Chapter IV). Employment effects of the minimum wage have been debated, with some recent empirical studies supporting the view that these effects are small or even positive.

133. A second key issue is whether a minimum wage would achieve its intended effect on income distribution—that is, increase the incomes of the poor. Many low-earning individuals are not from low-income households, many of which have no employed members. Moreover,

---

[51]Prepared by Timothy Lane.

[52]A range of considerations related to the minimum wage is presented in Philpott (1997).

[53]Note that the lowest of these numbers still implies a minimum wage above the current level in the United States of US$4.75, despite the much higher levels of earnings in the United States.

raising the minimum wage would reduce the means-tested benefits to which a worker is entitled, attenuating the net effect on his or her income.[54]

134. A third issue is the possibility of differentiation of the minimum wages: in particular, a lower wage for youth. The government has not ruled out such differentiation, and its likely effects would need to be explored.

135. This chapter discusses each of these issues in turn. It concludes that a minimum wage is most likely to have the desired effect on the incomes of the poor if it is set at a low level—perhaps around £3, at the lower end of the range under discussion. The overall effects on income distribution include a combination of direct wage effects and employment effects, and the latter become increasingly difficult to predict, the higher the level at which the minimum wage is set. Moreover, a lower minimum wage has a relatively greater impact on the incomes of the working poor, while higher levels of the minimum tilts these effects more toward not-so-poor households with multiple wage earners.

136. Moreover, even if a higher minimum wage results in a net increase in the incomes of poor families, it has some important drawbacks compared with other means of achieving this objective—such as direct income transfers or refundable tax credits. Its adverse employment effects and the lack of targeting of income effects to poor families implies that its effects are not evenly distributed. It also understates the true cost of government intervention in the economy by allocating resources for public purposes through regulation on the private sector rather than more transparently through the budget.

## B. Employment Effects

137. Any assessment of both the distributional and the efficiency effects of a minimum wage depends on its effects on employment. The levels being contemplated for the United Kingdom, based on alternative definitions of half median earnings, are in a similar range to those in other European countries (Table 1): a level of £4 per hour (half male median hourly wage) would be in a similar range to that in France and well above that in the United States. It may also be noteworthy that about 12 percent of workers now earn less than £3.50 per hour (Table 2)— similar to the percentage in France earning at or near the minimum wage; a minimum wage of £4 would affect one fifth of the workforce. These comparisons prove nothing in themselves, but do suggest that the employment effects of the minimum wage are potentially of concern.

---

[54]Income distribution issues and their relationship to labor market policies were addressed in Chapter VI of last year's background paper (SM/96/254, 10/9/96).

Table 1. Statutory Minimum Wages: Selected OECD Countries, 1995

(In percent of wages per working hour, manufacturing)

| | |
|---|---|
| Belgium | 65 |
| Canada | 38 |
| France | 55 |
| Netherlands | 58 |
| New Zealand | 43 |
| United States | 34 |

Source: OECD.

Table 2. Workers Aged 19–59 (22–59) Affected by
Given Levels of Minimum Wage

(In percent)

| | £3.00 | £3.50 | £4.00 | £4.50 |
|---|---|---|---|---|
| Men | 2.6 (1.9) | 5.3 (4.0) | 9.5 (7.3) | 14.1 (11.5) |
| Women | 8.2 (7.6) | 18.6 (17.1) | 29.0 (26.9) | 37.6 (35.3) |
| All | 5.4 (4.8) | 12.1 (10.7) | 19.4 (17.3) | 26.1 (23.6) |

Source: IFS, *Family Expenditure Survey* for calendar year 1995 (in
December 1996 prices).

138.    If a minimum wage does have an adverse effect on employment (or on the hours of
part-time workers), this may outweigh the direct effect of higher wages on poverty.
Unemployment and inactivity are already the leading reasons for poverty: in 1991, roughly
30 percent of the bottom decile of households had no employed member, and fewer than
5 percent had at least one member employed full-time (Goodman and Webb, 1994). Thus the
scope for raising the incomes of the poorest through higher minimum wages may be limited,
while the poorest may bear the brunt of any associated reduction in employment.

139.    The predicted effect of minimum wage laws is based on the standard neoclassical
analysis of labor markets. The minimum wage fixes the price of labor (or of a category of
labor) above its market-clearing level. The resulting employment effect then depends on the
elasticities of labor supply and demand. This may only, in part, be reflected in a rise in

unemployment; it may also result in a decline in participation rates (as displaced workers become discouraged).[55]

140. However, the predicted effect of minimum wages on employment does not show up very strongly in the empirical literature (see e.g., Brown, Gilroy, and Kohen, 1982). Studies of the effects on teenage unemployment have typically uncovered elasticities of the order of 0.1 to 0.3—implying that a 10 percent increase in the minimum wage would lead to a 1–3 percent decrease in employment. Lower figures have been estimated for young adults and for low-wage industries and regions. Few significant estimates have been obtained for aggregate employment or for adults in general. A study of the United Kingdom's system of Wage Boards and Councils—a set of industry-specific minimum wage regulations that in 1990 covered 7 percent of employees, and were finally abolished in August 1993—found that eliminating this system lowered the wages of those affected but had little effect on employment (Machin and Manning, 1994).[56]

141. Some recent studies in the United States have gone further: in particular, controversial studies by Card and Krueger (1994, 1995) have found positive effects on employment. One of their studies, in particular, found that after New Jersey's minimum wage was raised in April 1992, fast-food chains in the state raised their employment in the state relative to Pennsylvania (where there was no change in minimum wage). The methodology followed by Card and Krueger has, however, been extensively criticized (e.g., Neumark and Wascher, 1995).

142. Empirical results suggesting zero or positive employment effects have led to a search for an explanation. If employers have market power in the labor market, however, a minimum wage may actually increase employment and economic efficiency. In the case of monopsony, employers face an upward-sloping supply of labor, and may artificially restrict employment (below the competitive market-clearing level) in order to reduce wages. In this case, an appropriately set minimum wage can create the right incentives for employers to increase employment toward the level that would emerge in a competitive market. Economists have typically viewed monopsony as a curiosum, whose relevance (if any) is limited to special cases such as "company towns." Recently, however, some prominent labor economists have argued that it should be taken more seriously (Card and Krueger, 1995; Machin and Manning, 1996), particularly in a dynamic context where it is costly for workers to change jobs. In this setting,

---

[55]In addition to the effect on employment effects, the minimum wage may also impair the efficiency of labor allocation, as workers displaced by the minimum wage are re-hired in other jobs where they are less productive.

[56]Another study by Bell and Wright (1996), however, found that the Wage Boards had no significant influence on wages for any category of workers, a result the authors attribute to poor enforcement. This finding tends to limit the relevance of the small employment effects reported elsewhere in the literature.

an employer could have room to lower a worker's wage somewhat below the prevailing level without inducing him/her to quit.[57] It seems implausible *a priori* that such costs would be large enough in the case of low-wage (that is, unskilled and predominantly part-time) workers to account for large discrepancies in wages, but this is an empirical question.

143. Empirical studies examining monopsony have typically found effects that are quite small (Boal and Ransom, 1997). Elasticity of labor supply facing the individual firm has been estimated at (at most) about 0.03 to 0.04, implying effects on wages of a similar magnitude (i.e., some 3–4 percent). In classic cases such as mining company towns, more substantial effects are found (up to about 15 percent), but even these are still not large in relation to the range of minimum wages now being contemplated in the United Kingdom.

144. While the Card and Krueger study suggested zero or positive employment effects, other studies have indicated a much larger negative impact. A recent study (Abowd et al., 1997) uses longitudinal individual wage and employment data to model flows into and out of employment for the United States and France. This study found significant and large employment effects: in France, a 1 percent increase in the minimum wage resulted in 2½ percent decline in the probability of employment of a young man currently employed at the minimum wage; in the United States, it had a 2.2 percent effect on the probability that an employed person came from nonemployment.

145. The main conclusion of the empirical literature appears to be that the employment effects of the minimum wage are difficult to identify empirically and may be fairly small. However, as regards adult minimum wages, the range of historical variation may be too small to permit its effects to be distinguished from those of other determinants of employment (Dolado et al, 1996). Uncertainty about the employment effects would not be a reason for ignoring such effects, but rather militates in favor of caution in setting its level, at least initially.

## C. Income Distribution

146. Since the aim of setting a minimum wage is usually to raise the incomes of the poor, it is important to consider which workers and households would likely benefit directly from a minimum wage. There are several dimensions to this issue.

147. One important conclusion is that most of the benefits of a national minimum wage would not accrue to the poorest households due to the prevalence of unemployment and non-participation. As already mentioned, most families in the bottom decile have no full-time wage earners, and only a third have any wage earners at all. For this reason, a minimum wage of £4.50, for instance (which would affect 30 percent of the workforce as a whole) would

---

[57]By the same token, however, hiring costs faced by the firm (including the acquisition of job-specific skills) would also give the individual worker some monopoly power.

raise fewer than ½ percent of households (benefit units) out of poverty (defined as less than one third of mean income). Only about 3 percent of households in the bottom decile would gain anything at all from a minimum wage of £3, while about 8 percent would gain from a minimum wage of £4.50. A larger proportion of households in any of the richest five deciles would receive higher incomes as a result of a minimum wage (Gosling, 1996).[58] Moreover, the incidence on family incomes would depend on the level of the minimum wage: a £3 minimum wage would have its greatest effect on the lowest paid, while a wage of £4 or £4.50 would have greater benefit for higher deciles—since families in the upper deciles are more likely to include multiple wage earners, some of whom would benefit from a higher minimum wage.

148.    Many of the workers earning a minimum wage would be part-timers, and fewer than one quarter of low-wage earners are heads of household. For a wage set at £4, some 45 percent of beneficiaries would be part-time women and 8 percent part-time men (Freeman, 1996); many of these part-timers are in households with multiple earners, most of which are not poor. A large percentage of low-wage earners are women, however, so that a minimum wage would militate in the direction of gender pay equality (Machin and Manning, 1996).

149.    The transient nature of much low-paying work spreads the impact of the minimum wage more widely, but also more thinly. A recent study by Sloane and Theodossiou (1996) found that much of low-paid employment is transitory, and analyzed the determinant of transition. Of the households in the British Household Panel Survey, only 55 percent of those in low-paying jobs (third decile or lower) in 1991 were still in low-paying jobs in 1993, with 15 percent moving into higher-paying jobs and the remaining 30 percent moving into other categories. High mobility implies that relatively more households would benefit somewhat from a minimum wage over a longer period (Gosling, 1996). It would also, however, further reduce the extent to which a minimum wage would raise the incomes of the poor.

150.    In-work benefits further attenuate the effect of a minimum wage on poverty. Many of the low-paid are receiving in-work benefits (notably family credit), which is withdrawn as family income increases. Such benefits result in an effective marginal tax rate of over 70 percent for about 650,000 people, so that much of the effect of a higher minimum wage would be absorbed in a withdrawal of benefits rather than in an increase of the incomes of the working poor. This would essentially transfer some of the responsibility for alleviating poverty from the government to private employers—a less transparent form of government involvement—with limited effects on poverty. This suggests that if the minimum wage is to have its intended effect on poverty, it must be coordinated with reform of the tax and in-work benefits system—which the new government is planning to undertake.

151.    More generally, the minimum wage should be compared with other means of achieving distributional objectives, such as direct income transfers or refundable tax credits. In principle, the latter can be better targeted and have fewer distortionary effects than the minimum wage.

---

[58]Unfortunately, there is little evidence on how much their incomes would be affected.

Moreover, they are more transparent: they place the costs of income redistribution directly on the budget, rather than hiding it in the form of a regulatory burden on private employers.

## D. Differentiation of Minimum Wages

152.   A national minimum wage may exacerbate regional unemployment problems, as it limits scope for wage differentials to reflect productivity differences. In principle, this would be a case for allowing regional differentiation in the minimum wage. However, in the United Kingdom the only sizeable regional wage variations are for London and the South-East (on the high side) and for Northern Ireland (on the low side); regional differentiation on such a basis is not on the agenda. However, in the absence of regional differentiation, it will be important to set the national minimum at a level that does not impose undue strain on disadvantaged regions.

153.   Another option, which the government has not ruled out, is to set a lower minimum wage for youth. This would take account of the fact that young workers may be less productive while they are acquiring job skills. Setting a uniform national minimum wage could contribute to youth unemployment, as corroborated by empirical evidence indicating that the adverse impact of the minimum wage on employment is much stronger and well-identified for teenagers and young adults than for adults (Brown, Gilroy, and Kohen, 1982). Moreover, since youths in many cases continue to benefit from their parental family units, the distributional implications of a minimum wage may be less important.

154.   In order for the youth minimum to be effective in alleviating the employment impact on young inexperienced workers, it must be far enough below the adult minimum to compensate for productivity differences associated with inexperience. At the same time, if the gap between youth and adult minimum wages is too large, this creates an incentive for misallocation of labor. For instance, employers may try to lay off workers as they pass the age threshold, replacing them with less expensive younger workers. More generally, to the extent that the minimum wage differential between youths and adults does not correspond to productivity differentials, this differential may displace older workers who are better suited to particular jobs. Thus, the existence of a lower minimum for youths, while it may attenuate the distortionary features of a minimum wage, does not give free rein for setting the adult minimum.

155.   Several countries have set lower youth minimum wages (Table 3). In several cases, results have been favorable. In the Netherlands, for instance, minimum wages for youth were lowest in the early 1980; the minimum for 16-year-olds is set at about ⅓ of the adult minimum, rising to 84 percent for 22-year-olds. This appears to be one of the features that

accounts for the favorable labor market performance of the Netherlands—in particular, low youth unemployment—in relation to other EU countries.[59]

Table 3. Youth Minimum Wages

(As percent of adult minimum)

| | |
|---|---|
| Belgium (1992) | small reduction for age under 23 |
| Denmark (1994) | 40 percent (for under 18) |
| France (1993) | 80 percent (age 16); 90 percent (age 17); 30–75 for trainees |
| Germany (1991) | embodied in industry agreements |
| Ireland (1993) | 63 percent (under 18); 81 percent (under 21 in hotels) |
| Italy (1991) | embodied in industry agreements |
| Netherlands (1993) | 34.5 percent (age 16) rising to 84 percent (age 22) |
| Portugal (1993) | 75 percent (under 18) |
| Sweden (1992) | 85 percent (under 24) |
| United States (1993) | No reduction |

Source: Dolado et al, 1996.

## E. Conclusions

156. The issues discussed in this chapter indicate a number of reasons for uncertainty about the impact of a minimum wage. Most empirical estimates suggest that minimum wages may have a fairly small effect on employment but the preponderance of empirical evidence suggests it is negative. Moreover, most of the empirical studies of the employment effects pertain to levels of minimum wage in the United States, which are well below those being contemplated in the United Kingdom; the effects are likely to be stronger for higher levels of the minimum wage now being considered as more workers would be affected. In particular, at levels of the minimum wage as high, as £4 per hour, the employment effects are quite uncertain but are likely to be negative.

157. A minimum wage would have little effect on poverty, or on the incomes of the poorest, since most of the poorest are not employed, and most of the lower-paid are part-time workers in multiple-earner households who are not poor. The effect of a minimum wage on poverty would be further attenuated by the existing benefits system, which implies a marginal tax rate of over 70 percent on many of the working poor families. Thus, a higher minimum wage would result in a loss of fiscal transparency: it would shift the cost of achieving social objectives from the budget to private employers.

---

[59]See Kingdom of the Netherlands–Netherlands: Selected Issues (SM/97/139, 6/4/97).

158.    A lower youth minimum wage could help attenuate the employment effects of the minimum wage on youth unemployment. International experience indicates some success with lower minimum wages for youth. However, a large differential between youth and adult minima may be distortionary, leading to substitution of younger for older workers. This suggests that a lower youth minimum, while useful, does not permit the adult minimum to be set with impunity. These considerations suggest that it would be safest, at least initially, to set the United Kingdom's new national minimum wage at a cautious level—perhaps between £3 and £3.50.

## REFERENCES

Abowd, John M., Francis Kramarz, Thomas Lemieux, and David N. Margolis, 1997, "Minimum Wages and Youth Employment in France and the United States," NBER Working Paper No. 6111 (July ).

Bell, David N.F., and Robert E. Wright, 1996, "The Impact of Minimum Wages on the Wages of the Low Paid: Evidence from the Wage Boards and Councils," *Economic Journal* Vol. 106, No. 436 (May), pp. 650–656.

Boal, William M., and Michael R. Ransom, 1997, "Monopsony in the Labor Market," *Journal of Economic Literature*, Vol. 35, No. 1 (March), pp. 86–112.

Brown, Charles, Curtis Gilroy, and Andrew Kohen, 1982, "The Effect of the Minimum Wage on Employment and Unemployment," *Journal of Economic Literature*, No.20 (June), pp. 487–528.

Card, David, and Alan B. Krueger, 1994, "Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania," *American Economic Review*, Vol. 84, No. 4 (September), pp. 772–793.

———1995, *Myth and Measurement: The New Economics of the Minimum Wage* (Princeton: Princeton University Press).

Dolado, Juan, Francis Kramarz, Stephen Machin, Allan Manning, David Margolis, and Coen Teulings, 1996, "The Economic Impact of Minimum Wages in Europe," *Economic Policy*, Vol. 23 (October), pp. 319–372.

Freeman, Richard, 1996, "The Minimum Wage as a Redistributive Tool," *Economic Journal*, Vol. 106, No. 436 (May), pp. 639–649.

Goodman, A., and S. Webb, 1994, *For Richer, For Poorer: The Changing Income Distribution in the United Kingdom, 1961-91* ( London: Institute for Fiscal Studies).

Gosling, Amanda, 1996, "Minimum Wage Laws: Possible Effects on the Distribution of Income," *Fiscal Studies*, Vol. 17, No 4, pp. 31–48.

Machin, Stephen, and Alan Manning, 1996, "Employment and the Introduction of a Minimum Wage in Britain," *Economic Journal*, Vol. 106, No. 436 (May), pp. 667–676.

Neumark, David, and William Wascher, 1995, "The Effect of New Jersey's Minimum Wage Increase on Fast-Food Employment: A Re-Evaluation Using Payroll Records," mimeo.

Philpott, John (Ed.), 1997, *Implementing a National Minimum Wage in the UK: Key Issues for the Low Pay Commission* (London: Employment Policy Institute).

Sloane, P. J. and I. Theodossiou, "Earnings Mobility, Family Income, and Low Pay." *Economic Journal* Vol. 106, No. 436 (May), pp. 657–666.

Table A1. United Kingdom: Real Output and Its Major Components at Constant Factor Cost

(Percentage change over preceding year)

|  | 1990 Weights | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|
| Agriculture, forestry, and fishing | 19 | 3.8 | 3.8 | -7.9 | -0.7 | -1.4 | -1.8 |
| Total production and construction | 350 | -4.3 | -0.6 | 1.6 | 4.1 | 2.0 | 1.6 |
| Manufacturing | 232 | -5.0 | -0.1 | 1.4 | 3.2 | 2.2 | 1.0 |
| Mining and quarrying 1/ | 24 | 4.6 | 2.9 | 6.7 | 15.3 | 5.2 | 3.1 |
| Utilities | 22 | 5.7 | 1.6 | 4.2 | 1.1 | 3.1 | 5.8 |
| Construction | 72 | -8.0 | -4.4 | -0.8 | 3.8 | -0.6 | 1.2 |
| Transportation and communications | 84 | -2.8 | 1.9 | 3.6 | 8.0 | 6.6 | 4.1 |
| Distributive trades | 143 | -4.0 | -0.9 | 5.0 | 4.0 | 1.7 | 3.3 |
| Other services | 404 | 0.3 | -0.8 | 2.0 | 3.6 | 2.9 | 3.2 |
| GDP 2/ | 1,000 | -2.1 | -0.5 | 2.2 | 4.5 | 2.8 | 2.5 |
| Memorandum Items: Extraction of oil and gas | 17 | 6.7 | 7.2 | 13.4 | 24.0 | 5.8 | 4.9 |
| Non-oil GDP | 983 | -2.2 | -0.7 | 2.0 | 4.0 | 2.7 | 2.4 |
| Durable goods |  | -9.1 | -0.9 | 1.4 | 7.1 | 3.5 | 4.5 |
| Non-durable goods |  | -3.3 | 1.9 | 1.1 | 1.7 | 2.3 | 1.1 |
| Intermediate goods |  | -1.5 | 0.8 | 2.9 | 5.2 | 2.8 | 1.2 |
| Investment goods |  | -6.6 | -2.3 | 1.6 | 3.5 | 2.0 | 2.9 |

Source: Office for National Statistics, *Economic Trends*.

1/ Includes oil and gas extraction.
2/ Based on output data.

## Table A2. United Kingdom: Labor Market Indicators

(In thousands)

| Level at March | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|
| Work force | 28,592 | 28,300 | 28,236 | 28,149 | 28,149 | 28,150 |
| (Percent change) | (-0.4) | (-1.0) | (-0.2) | (-0.3) | (0.0) | (0.0) |
| Work force in employment= | | | | | | |
| (1 + 2 + 3 + 4) | 25,934 | 25,356 | 25,508 | 25,797 | 25,962 | 26,439 |
| (Percent change) | (-2.6) | (-2.2) | (0.6) | (1.1) | (0.6) | (1.8) |
| 1. Employees in employment | 22,019 | 21,559 | 21,656 | 21,923 | 22,221 | 22,692 |
| Male | 11,301 | 10,970 | 10,943 | 11,079 | 11,165 | 11,425 |
| Female | 10,718 | 10,589 | 10,713 | 10,844 | 11,056 | 11,267 |
| 2. Self-employed 1/ 2/ | 3,270 | 3,141 | 3,246 | 3,341 | 3,270 | 3,322 |
| 3. H.M. forces 1/ | 293 | 275 | 254 | 233 | 225 | 214 |
| 4. Work related government training programs 1/ | 363 | 354 | 323 | 270 | 214 | 178 |
| Unemployment | 2,658 | 2,944 | 2,728 | 2,352 | 2,187 | 1,711 |
| Employees in employment 3/ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Manufactures | 18.8 | 18.2 | 18.0 | 18.3 | 18.3 | 18.1 |
| Services | 73.8 | 74.8 | 75.3 | 75.6 | 75.6 | 75.9 |
| Other | 7.4 | 7.0 | 6.6 | 6.1 | 6.0 | 6.0 |
| | | | (In percent) | | | |
| Memorandum items: | | | | | | |
| Unemployment rate 4/ | 9.2 | 10.5 | 9.8 | 8.4 | 7.9 | 6.3 |
| Long-term unemployed 5/ | 2.6 | 3.6 | 3.8 | 3.3 | 2.9 | 2.4 |
| Unemployment rate in the South East | 8.5 | 10.3 | 9.5 | 8.1 | 7.5 | 5.8 |

Source: Department of Employment, *Employment Gazette*.

1/ Not adjusted for seasonal variation.
2/ Estimates of the self-employed, with or without employees, are based on labor force surveys for data through 1990, and on Department of Employment estimates thereafter.
3/ Great Britain, percent of total.
4/ Claimants basis.
5/ Over 52 weeks.

Table A3. United Kingdom: Selected National Accounts Aggregates at 1990 Market Prices

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1/ | | 1997 1/ | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1st half | 2nd half | 1st qtr. | 2nd qtr. |
| (In billions of pounds sterling) | | | | | | | | | |
| Private consumption | 339.7 | 348.2 | 357.8 | 364.0 | 376.6 | 373.4 | 379.9 | 385.5 | 391.3 |
| Government consumption | 115.7 | 115.5 | 118.1 | 119.6 | 122.4 | 122.0 | 122.8 | 122.9 | 123.1 |
| Gross domestic fixed capital formation | 96.0 | 96.6 | 100.8 | 102.2 | 104.1 | 104.0 | 104.2 | 106.0 | 108.1 |
| Residential | 18.3 | 19.7 | 20.4 | 20.3 | 19.9 | 19.5 | 20.3 | 19.7 | 20.4 |
| Non-residential construction | 37.2 | 36.4 | 36.8 | 36.1 | 37.4 | 37.2 | 37.6 | 38.4 | 38.2 |
| Plant and equipment | 40.4 | 40.5 | 43.6 | 45.8 | 46.8 | 47.4 | 46.2 | 47.9 | 49.6 |
| Stockbuilding and work in progress | -1.7 | 0.3 | 2.9 | 4.1 | 2.6 | 2.6 | 2.7 | 3.1 | 3.8 |
| Total domestic demand | 549.7 | 560.6 | 579.6 | 590.0 | 605.8 | 602.0 | 609.6 | 617.5 | 626.4 |
| Exports of goods and services | 138.0 | 142.8 | 156.1 | 168.2 | 179.8 | 177.2 | 182.4 | 186.8 | 192.0 |
| Imports of goods and services | 150.3 | 154.8 | 163.4 | 170.3 | 184.7 | 182.3 | 187.1 | 190.5 | 198.4 |
| Foreign balance | -12.2 | -12.0 | -7.3 | -2.1 | -4.9 | -5.1 | -4.7 | -3.7 | -6.4 |
| Gross domestic product: | | | | | | | | | |
| Expenditure estimate | 537.4 | 548.6 | 572.3 | 587.9 | 600.9 | 596.9 | 604.9 | 613.8 | 620.0 |
| Statistical adjustment | ... | ... | ... | ... | 0.8 | 0.7 | 0.9 | 0.8 | 0.8 |
| Average estimate 2/ | 537.4 | 548.6 | 572.3 | 587.9 | 601.7 | 597.6 | 605.8 | 614.6 | 620.8 |
| (Annual percentage change) | | | | | | | | | |
| Private consumption | -0.1 | 2.5 | 2.8 | 1.7 | 3.5 | 3.0 | 3.9 | 3.6 | 4.4 |
| Government consumption | -0.1 | -0.2 | 2.2 | 1.3 | 2.4 | 2.5 | 2.3 | 0.9 | 0.7 |
| Gross domestic fixed capital formation | -1.5 | 0.6 | 4.3 | 1.5 | 1.8 | 1.1 | 2.5 | 3.3 | 2.5 |
| Residential | 2.3 | 7.2 | 3.6 | -0.2 | -2.0 | -7.3 | 3.6 | 4.9 | 0.9 |
| Non-residential construction | -0.7 | -2.1 | 1.0 | -1.9 | 3.5 | 2.5 | 4.4 | 4.6 | 1.5 |
| Plant and equipment | -3.8 | 0.2 | 7.7 | 5.1 | 2.2 | 3.8 | 0.6 | 1.7 | 4.1 |
| Stockbuilding and work in progress 3/ | 0.5 | 0.4 | 0.5 | 0.2 | -0.3 | 0.1 | -0.6 | -0.4 | 0.7 |
| Total domestic demand | 0.2 | 2.0 | 3.4 | 1.8 | 2.7 | 2.7 | 2.7 | 2.6 | 4.1 |
| Exports of goods and services | 4.4 | 3.5 | 9.3 | 7.8 | 6.9 | 7.3 | 6.6 | 6.6 | 7.2 |
| Imports of goods and services | 6.9 | 3.0 | 5.5 | 4.2 | 8.5 | 9.4 | 7.6 | 4.6 | 8.7 |
| Foreign balance 3/ | -0.7 | 0.0 | 0.9 | 0.9 | -0.5 | -0.6 | -0.3 | 0.5 | -0.5 |
| Gross domestic product: | | | | | | | | | |
| Expenditure estimate | -0.5 | 2.1 | 4.3 | 2.7 | 2.2 | 2.1 | 2.4 | 3.1 | 3.6 |
| Average estimate 2/ | -0.5 | 2.1 | 4.3 | 2.7 | 2.3 | 2.2 | 2.5 | 3.1 | 3.6 |
| Memorandum items: | | | | | | | | | |
| GDP at factor cost based on: | | | | | | | | | |
| Expenditure data | -0.5 | 2.2 | 4.5 | 2.8 | 2.3 | 2.1 | 2.5 | 3.1 | 3.4 |
| Income data | -0.5 | 2.2 | 4.5 | 2.8 | 2.5 | 2.3 | 2.7 | 3.1 | 3.5 |
| Output data | -0.5 | 2.2 | 4.5 | 2.8 | 2.5 | 2.3 | 2.7 | 3.1 | 3.5 |
| Non-oil GDP | -0.7 | 2.0 | 4.0 | 2.7 | 2.4 | 2.2 | 2.6 | 3.1 | 3.6 |
| GDP at current market prices 4/ | 599 | 631 | 669 | 704 | 742 | 732 | 753 | 769 | 781 |
| (Percent change) | (4.0) | (5.4) | (6.0) | (5.2) | (5.4) | (5.0) | (5.8) | (5.5) | (6.3) |

Sources: Office for National Statistics, *Economic Trends*.

1/ Half yearly and quarterly levels at seasonally adjusted annual rates or changes from a year ago.
2/ An unweighted average of expenditure, income, and output estimates.
3/ Contribution to growth of GDP (average estimate).
4/ Average measure in billions of pounds.

# Table A4. United Kingdom: Selected Personal Sector Data

(In percent of GDP)

| | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Disposable income | 68.6 | 68.1 | 68.7 | 67.6 | 67.7 | 68.1 | 68.7 | 70.6 | 72.7 | 72.8 | 71.3 | 71.8 | 72.4 |
| Consumption | 61.0 | 60.9 | 62.8 | 62.7 | 63.5 | 63.4 | 63.1 | 63.5 | 64.0 | 64.4 | 63.9 | 63.4 | 63.8 |
| Saving | 7.6 | 7.3 | 5.9 | 4.9 | 4.2 | 4.7 | 5.6 | 7.1 | 8.7 | 8.3 | 7.4 | 8.4 | 8.6 |
| (savings ratio) | (11.1) | (10.7) | (8.6) | (7.3) | (6.2) | (6.9) | (8.2) | (10.1) | (12.0) | (11.5) | (10.4) | (11.7) | (11.9) |
| Net capital transfers | 0.4 | 0.1 | -0.0 | -0.1 | -0.3 | -0.1 | 0.0 | 0.3 | 0.3 | 0.5 | 0.3 | 0.2 | 0.1 |
| Investment | 4.8 | 4.6 | 5.0 | 5.6 | 6.7 | 6.0 | 5.3 | 4.4 | 4.0 | 4.2 | 4.3 | 4.3 | 4.4 |
| Of which: Dwellings | (2.8) | (2.7) | (3.0) | (3.1) | (3.8) | (3.7) | (3.1) | (2.7) | (2.7) | (2.7) | (2.7) | (2.8) | (2.7) |
| Financial balance | 3.2 | 2.8 | 0.9 | -0.7 | -2.8 | -1.5 | 0.4 | 3.0 | 5.1 | 4.7 | 3.5 | 4.4 | 4.4 |
| Financial assets | 174.6 | 180.5 | 201.3 | 202.7 | 205.7 | 226.0 | 215.5 | 232.5 | 248.0 | 281.8 | 259.6 | 280.2 | 286.4 |
| Financial liabilities | 54.0 | 57.3 | 62.2 | 66.7 | 72.5 | 76.5 | 80.8 | 82.6 | 81.8 | 80.1 | 79.1 | 78.7 | 78.6 |
| Net financial assets | 120.6 | 123.2 | 139.1 | 136.0 | 133.2 | 149.5 | 134.8 | 150.0 | 166.2 | 201.7 | 180.5 | 201.6 | 207.8 |
| Tangible assets | 177.9 | 182.3 | 195.0 | 213.8 | 256.9 | 253.9 | 234.0 | 222.5 | 201.8 | 196.5 | 185.8 | 179.1 | 174.3 |
| Of which: | | | | | | | | | | | | | |
| Residential buildings | (149.6) | (156.1) | (169.5) | (188.1) | (230.1) | (227.2) | (210.2) | (201.1) | (182.2) | (176.8) | (166.4) | (160.4) | (155.3) |
| Net wealth | 329.2 | 335.8 | 364.6 | 382.4 | 423.9 | 435.9 | 401.0 | 403.7 | 396.7 | 428.0 | 389.9 | 402.1 | 403.0 |
| Memorandum items: | | | | | | | | | | | | | |
| Household savings ratio | 1.9 | 1.6 | -0.3 | -1.9 | -2.8 | -2.7 | -0.4 | 1.6 | 4.3 | 4.1 | 3.6 | 4.3 | 3.3 |
| House prices 1/ | 34,616 | 39,754 | 46,026 | 55,797 | 69,827 | 74,152 | 76,813 | 75,351 | 73,201 | 75,977 | 77,163 | 82,388 | 88,928 |
| Equity withdrawal/ | | | | | | | | | | | | | |
| disposable income | 2.3 | 2.6 | 4.5 | 3.8 | 4.7 | 2.6 | 2.8 | 1.3 | -0.3 | -1.1 | -0.7 | -1.6 | -1.3 |

Sources: Office for National Statistics, *Economic Trends* and *Financial Statistics*; and staff estimates.

1/ New dwellings, mortgage approved; in pounds sterling. Data for December of each year.

### Table A5. United Kingdom: Components of Personal Income

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1/ | | 1997 1/ | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | | | 1st half | 2nd half | 1st qtr. | 2nd qtr. |
| | | | | | (In billions of pounds sterling) | | | | |
| Total personal income | 548.2 | 573.0 | 598.9 | 636.1 | 672.4 | 666.7 | 678.1 | 690.4 | 707.4 |
| Wages, salaries, and armed forces pay | 301.4 | 308.0 | 318.7 | 333.6 | 348.8 | 343.8 | 353.7 | 363.8 | 367.2 |
| Employers' contributions | 41.2 | 43.6 | 46.3 | 47.7 | 51.6 | 52.1 | 51.0 | 53.3 | 53.9 |
| National Insurance benefits and other current grants from Government | 80.1 | 88.5 | 92.6 | 96.2 | 98.6 | 97.6 | 99.6 | 101.0 | 102.7 |
| Other personal income | 125.6 | 132.9 | 141.2 | 158.7 | 173.4 | 173.2 | 173.7 | 172.3 | 183.7 |
| U.K. taxes on income | 65.2 | 63.6 | 68.3 | 74.3 | 75.7 | 75.9 | 75.5 | 80.9 | 79.1 |
| National Insurance contributions | 37.0 | 39.3 | 42.1 | 44.4 | 46.3 | 45.7 | 46.8 | 48.3 | 48.7 |
| Community charge | 7.9 | 8.0 | 8.4 | 9.2 | 9.9 | 9.7 | 10.1 | 10.1 | 10.8 |
| Other miscellaneous deductions | 2.6 | 2.8 | 2.9 | 2.9 | 2.9 | 2.8 | 2.9 | 2.8 | 2.8 |
| Total personal disposable income | 435.5 | 459.2 | 477.2 | 505.4 | 537.7 | 532.6 | 542.8 | 548.4 | 565.9 |
| Real personal disposable income 2/ | 385.8 | 393.3 | 399.6 | 412.4 | 427.7 | 426.2 | 429.2 | 430.3 | 443.2 |
| Consumer expenditure | 383.5 | 406.6 | 427.4 | 446.2 | 473.5 | 466.5 | 480.5 | 491.3 | 499.7 |
| Real consumer expenditure | 339.7 | 348.2 | 357.8 | 364.0 | 376.6 | 373.4 | 379.9 | 385.5 | 391.3 |
| Durable goods | 30.8 | 33.5 | 36.2 | 37.7 | 40.4 | 39.7 | 41.2 | 42.1 | 45.0 |
| Non-durable goods | 153.1 | 156.1 | 159.1 | 159.4 | 164.8 | 163.6 | 166.0 | 168.0 | 169.3 |
| Services | 155.7 | 158.6 | 162.6 | 167.0 | 171.4 | 170.1 | 172.7 | 175.3 | 177.0 |
| Personal savings ratio 3/ | 12.0 | 11.5 | 10.4 | 11.7 | 11.9 | 12.4 | 11.5 | 10.4 | 11.7 |
| Personal financial balance 3/ | 7.0 | 6.5 | 4.9 | 6.1 | 6.0 | 6.7 | 5.4 | 4.5 | 5.2 |
| | | | | | (Annual percentage change) | | | | |
| Total personal income | 6.1 | 4.5 | 4.5 | 6.2 | 5.7 | 6.4 | 5.1 | 3.5 | 6.2 |
| Wages, salaries and armed forces pay | 3.3 | 2.2 | 3.5 | 4.7 | 4.6 | 4.2 | 4.9 | 6.2 | 6.4 |
| Employers' contributions | 2.8 | 5.9 | 6.3 | 2.9 | 8.2 | 9.6 | 6.9 | 3.0 | 2.7 |
| National Insurance benefits etc. | 15.5 | 10.6 | 4.6 | 3.8 | 2.5 | 2.0 | 3.1 | 4.5 | 4.3 |
| Other personal income | 8.5 | 5.8 | 6.3 | 12.4 | 9.3 | 12.6 | 6.2 | -2.2 | 8.0 |
| U.K. taxes on income | 2.8 | -2.4 | 7.3 | 8.8 | 1.9 | 4.2 | -0.2 | 5.2 | 5.6 |
| National Insurance contributions | 2.1 | 6.2 | 7.2 | 5.4 | 4.3 | 4.0 | 4.6 | 4.9 | 7.3 |
| Community charge 4/ | 0.1 | -0.0 | -0.1 | -0.1 | -0.1 | -0.1 | -0.2 | -0.1 | -0.1 |
| Total personal disposable income | 7.2 | 5.4 | 3.9 | 5.9 | 6.4 | 6.9 | 5.9 | 3.1 | 6.2 |
| Real personal disposable income | 2.0 | 1.9 | 1.6 | 3.2 | 3.7 | 4.2 | 3.2 | 0.8 | 4.2 |
| Consumer expenditure | 4.9 | 6.0 | 5.1 | 4.4 | 6.1 | 5.6 | 6.6 | 6.0 | 6.4 |
| Real consumer expenditure | -0.1 | 2.5 | 2.8 | 1.7 | 3.5 | 3.0 | 3.9 | 3.6 | 4.4 |
| Durable goods | -1.3 | 8.6 | 8.1 | 4.2 | 7.3 | 6.8 | 7.8 | 8.3 | 11.4 |
| Non-durable goods | -0.2 | 1.9 | 1.9 | 0.2 | 3.4 | 2.7 | 4.2 | 3.2 | 2.9 |
| Services | 0.2 | 1.9 | 2.5 | 2.7 | 2.6 | 2.4 | 2.8 | 3.0 | 4.2 |
| Memorandum item: | | | | | | | | | |
| Implied consumption deflator | 5.0 | 3.4 | 2.3 | 2.6 | 2.6 | 2.6 | 2.6 | 2.3 | 1.9 |

Source: Office for National Statistics, *United Kingdom National Accounts*.

1/ Half yearly and quarterly levels at seasonally adjusted annual rates or changes from a year ago.
2/ In 1990 prices, deflated by the implied deflator for consumers' expenditure.
3/ Relative to personal disposable income.
4/ Contribution to growth in disposable income.

Table A6. United Kingdom: Selected Financial Statistics—Industrial and Commercial Companies

(In percent of GDP)

| | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Income | 20.5 | 21.0 | 19.0 | 20.8 | 21.7 | 23.0 | 21.9 | 19.7 | 18.9 | 19.4 | 21.6 | 22.5 | 23.2 |
| Of which: | | | | | | | | | | | | | |
| Gross trading profits 1/ | (14.9) | (16.1) | (14.0) | (14.7) | (14.8) | (14.6) | (13.7) | (13.0) | (12.7) | (13.4) | (14.5) | (14.7) | (15.9) |
| Less: Taxes, interests, | | | | | | | | | | | | | |
| and dividends | 10.7 | 11.3 | 9.9 | 10.5 | 11.6 | 14.4 | 14.6 | 12.8 | 11.8 | 10.6 | 11.2 | 13.2 | 14.1 |
| Undistributed income | | | | | | | | | | | | | |
| (= saving) | 9.7 | 9.7 | 9.1 | 10.4 | 10.0 | 8.6 | 7.4 | 6.9 | 7.1 | 8.9 | 10.3 | 9.3 | 9.1 |
| Less: Investment | 8.4 | 8.7 | 8.4 | 10.0 | 11.3 | 12.0 | 10.8 | 8.2 | 7.9 | 7.9 | 8.1 | 8.9 | 8.7 |
| Financial balance | 1.3 | 1.0 | 0.7 | 0.4 | -1.2 | -3.4 | -3.4 | -1.3 | -0.8 | 0.9 | 2.2 | 0.3 | 0.5 |
| Financed by: | | | | | | | | | | | | | |
| Net borrowing 2/ | 2.2 | 1.5 | -0.2 | 2.0 | 7.0 | 6.7 | 4.4 | 0.1 | -0.2 | -2.1 | -1.3 | 1.6 | 1.2 |
| Other | -3.5 | -2.6 | -0.6 | -2.4 | -5.7 | -3.3 | -1.0 | 1.3 | 1.0 | 1.2 | -0.9 | -1.9 | -1.7 |
| Financial assets | 70.9 | 67.2 | 71.5 | 68.6 | 69.7 | 72.0 | 62.6 | 62.4 | 63.0 | 64.3 | 62.8 | 65.7 | 66.3 |
| Financial liabilities | 124.4 | 128.3 | 148.6 | 153.1 | 158.6 | 182.7 | 169.8 | 183.7 | 192.9 | 211.3 | 192.1 | 206.5 | 214.1 |
| Net financial assets | -53.5 | -61.1 | -77.1 | -84.5 | -88.9 | -110.7 | -107.2 | -121.3 | -129.9 | -147.0 | -129.3 | -140.8 | -147.8 |
| | | | | | | (In percent) | | | | | | | |
| Memorandum items: | | | | | | | | | | | | | |
| Liquidity ratio | ... | ... | ... | ... | ... | ... | 52.5 | 52.2 | 52.0 | 56.8 | 67.5 | 66.5 | 66.8 |
| Income gearing 3/ | 20.4 | 21.5 | 19.9 | 17.6 | 18.5 | 26.0 | 28.8 | 28.0 | 25.1 | 17.9 | 15.1 | 15.7 | 14.5 |

Source: Office for National Statistics, *Financial Statistics*.

1/ Net of stock appreciation.
2/ Bank borrowing and other loans less bank deposits.
3/ Ratio of interest payments to post-tax income.

Table A7. United Kingdom: Selected Indicators of Investment Activity

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1/ 1st half | 1996 1/ 2nd half | 1997 1/ 1st qtr. | 1997 1/ 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | (In billions of 1990 pounds sterling) | | | | |
| Gross domestic fixed capital formation | 96.0 | 96.6 | 100.8 | 102.2 | 104.1 | 104.0 | 104.2 | 106.0 | 108.1 |
| By sector: | | | | | | | | | |
| Private sector | 77.2 | 77.3 | 81.2 | 84.1 | 89.6 | 87.6 | 91.6 | 94.7 | 97.8 |
| Residential | 15.5 | 16.4 | 17.0 | 17.4 | 17.4 | 16.9 | 17.9 | 17.8 | 18.6 |
| Nonresidential | 61.7 | 60.8 | 64.2 | 66.7 | 72.2 | 70.7 | 73.7 | 76.9 | 79.2 |
| Public sector | 18.7 | 19.3 | 19.6 | 18.2 | 14.5 | 16.5 | 12.6 | 11.3 | 10.3 |
| General government | 13.8 | 14.1 | 14.4 | 13.4 | 10.4 | 11.9 | 8.9 | 7.6 | 6.3 |
| Public corporations | 5.0 | 5.3 | 5.1 | 4.8 | 4.1 | 4.5 | 3.7 | 3.7 | 4.1 |
| By industry: | | | | | | | | | |
| Manufacturing | 11.8 | 11.2 | 12.0 | 13.2 | 12.4 | 12.7 | 12.2 | 13.2 | 14.5 |
| Mineral oil and natural gas extraction | 6.1 | 5.3 | 4.0 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.7 |
| | | | | | (Growth rates of real investment, in percent per annum) | | | | |
| Gross domestic fixed capital formation | -1.5 | 0.6 | 4.3 | 1.5 | 1.8 | 1.1 | 2.5 | 3.3 | 2.5 |
| By sector: | | | | | | | | | |
| Private sector | -4.5 | 0.1 | 5.1 | 3.6 | 6.5 | 3.8 | 9.2 | 8.3 | 11.5 |
| Residential | 2.9 | 6.0 | 3.6 | 2.1 | -0.3 | -6.7 | 6.6 | 7.4 | 8.3 |
| Nonresidential | -6.2 | -1.4 | 5.5 | 3.9 | 8.3 | 6.7 | 9.9 | 8.5 | 12.3 |
| Public sector | 13.6 | 3.0 | 1.3 | -7.2 | -20.1 | -11.4 | -29.2 | -25.6 | -41.8 |
| General government | 9.0 | 1.9 | 2.7 | -7.3 | -22.2 | -10.6 | -33.7 | -28.2 | -52.8 |
| Public corporations | 28.4 | 6.2 | -2.4 | -6.9 | -14.3 | -13.3 | -15.4 | -19.3 | -9.7 |
| By industry: | | | | | | | | | |
| Manufacturing | -7.6 | -5.1 | 6.8 | 9.9 | -5.6 | -2.3 | -8.8 | -4.5 | 26.7 |
| Mineral oil and natural gas extraction | 12.4 | -12.5 | -24.6 | 8.0 | -1.4 | -0.1 | -2.6 | 2.2 | 9.0 |
| | | | | | (In percent of GDP (average estimate), calculated in nominal terms) | | | | |
| Gross domestic fixed capital formation | 15.6 | 14.9 | 15.0 | 15.4 | 15.4 | 15.6 | 15.3 | 15.4 | 15.4 |
| By sector: | | | | | | | | | |
| Private sector | 12.5 | 11.9 | 12.1 | 12.8 | 13.4 | 13.3 | 13.5 | 13.9 | 14.0 |
| Residential | 2.7 | 2.7 | 2.7 | 2.8 | 2.7 | 2.6 | 2.8 | 2.7 | 2.8 |
| Nonresidential | 9.9 | 9.2 | 9.4 | 10.1 | 10.7 | 10.7 | 10.8 | 11.2 | 11.2 |
| Public sector | 3.1 | 3.0 | 2.9 | 2.6 | 2.0 | 2.3 | 1.7 | 1.5 | 1.4 |
| General government | 2.3 | 2.2 | 2.2 | 1.9 | 1.4 | 1.6 | 1.2 | 1.0 | 0.8 |
| Public corporations | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 0.7 | 0.5 | 0.5 | 0.6 |
| By industry: | | | | | | | | | |
| Manufacturing | 2.1 | 2.0 | 2.0 | 2.2 | 2.1 | 2.1 | 2.0 | 2.1 | 2.2 |
| Mineral oil and natural gas extraction | 0.9 | 0.7 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |

Source: Office for National Statistics, *United Kingdom National Accounts*.

1/ Half yearly and quarterly levels at seasonally adjusted annual rates or changes from a year ago.

Table A8. United Kingdom: Selected Indicators of Wage Developments 1/

(Percentage changes from previous year)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 2/ | | 1997 2/ | |
| | | | | | | 1st half | 2nd half | 1st qtr. | 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| **Average earnings** | | | | | | | | | |
| Whole economy | 6.1 | 3.5 | 4.0 | 3.3 | 3.9 | 3.7 | 4.1 | 4.5 | 4.2 |
| Manufacturing | 6.6 | 4.5 | 4.8 | 4.5 | 4.4 | 4.3 | 4.6 | 4.3 | 4.3 |
| Services | 6.0 | 3.0 | 3.6 | 2.8 | 3.7 | 3.4 | 4.0 | 4.8 | 4.1 |
| **Average earnings deflated** | | | | | | | | | |
| **by retail prices** | | | | | | | | | |
| Whole economy | 2.3 | 1.9 | 1.5 | -0.1 | 1.4 | 1.1 | 1.7 | 1.8 | 1.5 |
| Manufacturing | 2.7 | 2.8 | 2.3 | 1.0 | 1.9 | 1.7 | 2.1 | 1.6 | 1.6 |
| Services | 2.2 | 1.4 | 1.1 | -0.6 | 1.2 | 0.9 | 1.5 | 2.0 | 1.4 |
| **Average earnings deflated by** | | | | | | | | | |
| **producers' output prices** | | | | | | | | | |
| Whole economy | 2.9 | -0.4 | 1.4 | -0.8 | 1.2 | 0.4 | 2.0 | 3.2 | 3.2 |
| Manufacturing | 3.4 | 0.5 | 2.2 | 0.3 | 1.7 | 1.0 | 2.4 | 3.1 | 3.3 |
| **Unit wage costs 3/** | | | | | | | | | |
| Whole economy | 3.4 | -0.2 | -0.7 | 1.6 | 1.7 | 1.3 | 1.8 | 2.7 | ... |
| Manufacturing | 0.3 | -0.5 | -0.4 | 3.7 | 5.3 | 5.4 | 5.3 | 3.3 | 2.9 |

Sources: Office for National Statistics, *Economic Trends*; and Department of Employment, *Employment Gazette*.

1/ Great Britain.

2/ Relative to the same period in the previous year.

3/ Wages and salaries per unit of output, based on seasonally adjusted monthly statistics for earnings, employment and output.

Table A9. United Kingdom: Selected Indicators of Price Developments

(Percentage change from corresponding period of previous year)

|  | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 | | 1997 | |
|  |  |  |  |  |  | 1st half | 2nd half | 1st qtr. | 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| GDP deflator 1/ |  |  |  |  |  |  |  |  |  |
| (market prices) | 4.6 | 3.2 | 1.6 | 2.4 | 3.0 | 2.8 | 3.2 | 2.2 | 2.6 |
| (factor cost) | 5.0 | 3.4 | 1.3 | 2.0 | 3.3 | 3.1 | 3.6 | 2.5 | 2.3 |
| Retail prices |  |  |  |  |  |  |  |  |  |
| All items | 3.7 | 1.6 | 2.5 | 3.4 | 2.4 | 2.5 | 2.4 | 2.7 | 2.7 |
| Non-food items | 4.0 | 1.5 | 2.7 | 3.3 | 2.3 | 2.2 | 2.4 | 3.2 | 3.3 |
| Housing | -0.7 | -5.4 | 3.3 | 6.7 | 1.4 | 1.7 | 1.0 | 3.8 | 4.8 |
| Excluding mortgage |  |  |  |  |  |  |  |  |  |
| interest (RPIX) | 4.7 | 3.0 | 2.4 | 2.8 | 2.9 | 2.8 | 3.0 | 2.9 | 2.6 |
| Tax and Price |  |  |  |  |  |  |  |  |  |
| Index | 2.9 | 1.3 | 2.9 | 3.9 | 1.4 | 1.9 | 1.0 | 1.3 | 1.7 |
| Producer prices |  |  |  |  |  |  |  |  |  |
| Input | -0.5 | 4.5 | 2.6 | 9.5 | -1.1 | 1.5 | -3.6 | -7.1 | -9.6 |
| Output | 3.1 | 3.9 | 2.5 | 4.2 | 2.7 | 3.2 | 2.1 | 1.2 | 1.0 |

Source: Office for National Statistics, *Economic Trends*.

1/ Based on expenditure estimate.

## Table A10. United Kingdom: Selected Balance of Payments Indicators

(In billions of pounds sterling)

| | 1992 | 1993 | 1994 | 1995 | 1996 | Est. 1997 1/ |
|---|---|---|---|---|---|---|
| Current account balance | -10.1 | -10.3 | -1.7 | -3.7 | -0.4 | 4.5 |
| Visible balance | -13.1 | -13.5 | -11.1 | -11.6 | -12.6 | -9.3 |
| Exports | 107.3 | 121.4 | 134.7 | 153.1 | 166.3 | 168.7 |
| Imports | 120.4 | 134.9 | 145.8 | 164.7 | 178.9 | 178.0 |
| Invisible trade balance | 3.0 | 3.2 | 9.5 | 7.9 | 12.2 | 13.8 |
| Services balance | 4.9 | 5.5 | 4.8 | 6.9 | 7.1 | 8.6 |
| Interest, profits and dividends balance | 3.1 | 2.6 | 9.7 | 7.9 | 9.7 | 10.1 |
| Transfers balance | -5.1 | -4.9 | -5.0 | -6.9 | -4.6 | -5.0 |
| Net long-term capital flows | -4.4 | -46.0 | 35.5 | -32.3 | -40.8 | -53.5 |
| Net direct investment | -1.7 | -7.4 | -15.9 | -13.6 | -7.8 | 1.1 |
| Net portfolio investment | -2.7 | -38.6 | 51.4 | -18.7 | -33.0 | -54.6 |
| Basic balance | -14.5 | -56.3 | 33.8 | -35.9 | -41.2 | -51.8 |
| Net short-term capital flows | 9.4 | 57.9 | -38.9 | 33.9 | 38.6 | 39.1 |
| Statistical discrepancy | 5.1 | -1.5 | 5.0 | 2.0 | 2.6 | 12.7 |
| Memorandum Items: | | | | | | |
| Non-oil trade balance | -14.7 | -15.9 | -15.0 | -15.9 | -17.5 | -14.2 |
| (As percent of GDP) | -2.4 | -2.5 | -2.2 | -2.3 | -2.4 | -1.8 |
| Current account balance (As percent of GDP) | -1.7 | -1.6 | -0.2 | -0.5 | -0.1 | 0.6 |

Source: Office for National Statistics.

1/ First two quarters at an annual rate based on seasonally adjusted data for the current account and its components; seasonally unadjusted data for the basic balance and capital account.

Table A11. United Kingdom: Merchandise Trade Indicators

(Percentage change from a year ago)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1st half | 1996 2nd half | 1997 1st qtr. | 1997 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| Exports | | | | | | | | | |
| Value | | | | | | | | | |
| All goods | 3.8 | 13.1 | 10.9 | 13.7 | 8.7 | 10.9 | 6.6 | 2.5 | 1.9 |
| Non-oil goods | 4.2 | 12.7 | 11.2 | 14.4 | 8.1 | 11.0 | 5.5 | 1.8 | 2.5 |
| Volume | | | | | | | | | |
| All goods | 2.5 | 3.6 | 10.3 | 7.8 | 6.7 | 7.5 | 6.0 | 6.6 | 8.4 |
| Non-oil goods | 2.3 | 2.6 | 9.8 | 8.6 | 7.5 | 8.5 | 6.6 | 6.7 | 8.9 |
| Price | | | | | | | | | |
| All goods | 1.3 | 9.2 | 0.6 | 5.4 | 1.8 | 3.2 | 0.5 | -3.8 | -6.0 |
| Non-oil goods | 1.9 | 9.8 | 1.3 | 5.3 | 0.6 | 2.3 | -1.1 | -4.6 | -5.9 |
| Imports | | | | | | | | | |
| Value | | | | | | | | | |
| All goods | 5.9 | 12.0 | 8.1 | 12.9 | 8.7 | 12.6 | 5.0 | -1.4 | 0.6 |
| Non-oil goods | 6.7 | 12.1 | 9.2 | 13.4 | 8.3 | 12.5 | 4.4 | -1.5 | 0.9 |
| Volume | | | | | | | | | |
| All goods | 6.6 | 3.8 | 4.4 | 4.5 | 8.5 | 9.8 | 7.3 | 3.4 | 8.3 |
| Non-oil goods | 7.1 | 3.6 | 5.4 | 5.1 | 8.9 | 10.1 | 7.7 | 3.7 | 8.4 |
| Prices | | | | | | | | | |
| All goods | -0.6 | 7.8 | 3.6 | 8.1 | 0.1 | 2.6 | -2.1 | -4.7 | -7.0 |
| Non-oil goods | -0.4 | 8.2 | 3.6 | 8.0 | -0.5 | 2.2 | -3.0 | -5.0 | -6.9 |
| Terms of trade | | | | | | | | | |
| All goods | 1.9 | 1.2 | -2.9 | -2.4 | 1.6 | 0.7 | 2.7 | 0.9 | 1.1 |
| Non-oil goods | 2.3 | 1.4 | -2.2 | -2.4 | 1.1 | 0.2 | 1.7 | 0.4 | 1.1 |

Source: Office for National Statistics, *Monthly Digest of Statistics*.

STATISTICAL APPENDIX

## Table A12. United Kingdom: Exports by Commodity

(Volume Indices: 1990 = 100; seasonally adjusted)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1st half | 1996 2nd half | 1997 1st qtr. | 1997 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| Total | 103.7 | 107.4 | 118.5 | 127.7 | 136.3 | 134.6 | 138.0 | 142.0 | 147.3 |
| Food,beverages | | | | | | | | | |
| and tobacco | 114.2 | 114.1 | 129.0 | 140.7 | 139.9 | 139.2 | 140.8 | 141.7 | 152.0 |
| Basic Materials | 86.8 | 97.6 | 107.5 | 114.8 | 111.3 | 110.8 | 112.0 | 110.7 | 117.0 |
| Fuels | 104.7 | 122.1 | 140.8 | 142.9 | 139.4 | 136.8 | 142.2 | 146.0 | 137.0 |
| Total Manufactures | 103.6 | 106.8 | 117.3 | 127.3 | 138.3 | 136.7 | 139.7 | 144.7 | 150.3 |
| Manufacturers excluding erratics 1/ | | | | | | | | | |
| Semi-manufactures 2/ | | | | | | | | | |
| Total less SNAPS | 104.2 | 104.2 | 118.2 | 130.2 | 140.6 | 138.8 | 142.7 | 144.2 | 149.9 |
| Total less PS | 107.9 | 112.2 | 122.0 | 129.8 | 133.8 | 132.3 | 135.2 | 133.3 | 139.0 |
| Chemicals | 111.2 | 118.5 | 127.5 | 133.9 | 142.1 | 140.3 | 143.8 | 145.0 | 146.7 |
| Other less PS | 104.9 | 106.1 | 116.7 | 125.7 | 125.8 | 124.8 | 126.8 | 122.0 | 131.0 |
| Finished manufactures 3/ | | | | | | | | | |
| Total less SNA | 102.5 | 100.3 | 116.5 | 130.7 | 144.5 | 142.0 | 147.0 | 149.7 | 156.3 |
| Passenger cars | 118.8 | 110.9 | 126.5 | 155.2 | 190.3 | 169.8 | 210.8 | 206.3 | 194.3 |
| Other Consumer | 94.9 | 91.9 | 109.3 | 112.7 | 123.8 | 123.3 | 124.7 | 124.8 | 129.5 |
| Intermediate | 106.3 | 100.8 | 114.0 | 125.8 | 138.3 | 139.0 | 137.2 | 139.9 | 150.6 |
| Capital | 99.0 | 102.9 | 121.4 | 142.1 | 154.8 | 150.8 | 158.5 | 164.5 | 172.5 |

Source: Office for National Statistics, *Monthly Digest of Statistics.*

1/ These are defined as ships, North Sea installations, aircraft, precious stones and silver.
2/ Excluding precious stones and silver.
3/ Excluding ships, North Sea installations and aircraft.

## Table A13. United Kingdom: Imports by Commodity

(Volume Indices: 1990=100; seasonally adjusted)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1st half | 1996 2nd half | 1997 1st qtr. | 1997 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| Total | 100.9 | 104.8 | 109.4 | 114.3 | 124.1 | 122.7 | 125.4 | 126.5 | 133.2 |
| Food, beverages | | | | | | | | | |
| and tobacco | 101.6 | 111.9 | 112.8 | 123.4 | 126.2 | 127.5 | 124.8 | 118.7 | 118.7 |
| Basic materials | 88.9 | 96.6 | 107.9 | 114.7 | 110.5 | 112.9 | 108.1 | 107.2 | 106.6 |
| Fuels | 88.4 | 90.4 | 86.3 | 94.6 | 109.2 | 105.7 | 112.8 | 108.2 | 94.2 |
| Total manufactures | 100.4 | 106.2 | 113.1 | 118.5 | 129.2 | 127.7 | 130.7 | 132.2 | 139.2 |
| Manufacturers excluding erratics 1/ | | | | | | | | | |
| Semi-manufactures 2/ | | | | | | | | | |
| Total less PS | 105.8 | 105.9 | 117.2 | 123.3 | 130.0 | 129.0 | 131.0 | 128.3 | 131.0 |
| Chemicals | 111.4 | 115.5 | 131.2 | 139.1 | 147.8 | 146.9 | 148.7 | 146.6 | 149.2 |
| Other less PS | 102.9 | 100.6 | 109.6 | 114.7 | 120.3 | 119.2 | 121.5 | 118.0 | 121.7 |
| Finished manufactures 3/ | | | | | | | | | |
| Total less SNA | 99.4 | 103.1 | 110.5 | 117.2 | 129.8 | 128.2 | 131.3 | 129.7 | 137.7 |
| Passenger cars | 79.1 | 85.8 | 88.8 | 87.8 | 100.0 | 96.0 | 104.0 | 107.8 | 113.1 |
| Other consumer | 103.9 | 113.2 | 115.8 | 113.1 | 123.7 | 119.9 | 127.5 | 124.9 | 134.9 |
| Intermediate | 100.9 | 97.1 | 105.8 | 115.9 | 137.3 | 137.4 | 137.2 | 131.9 | 140.2 |
| Capital | 102.7 | 110.0 | 121.9 | 136.4 | 138.8 | 137.6 | 140.0 | 140.2 | 148.9 |

Source: Office for National Statistics, *Monthly Digest of Statistics*.

1/ These are defined as ships, North Sea installations, aircraft, precious stones and silver.
2/ Excluding precious stones and silver.
3/ Excluding ships, North Sea installations and aircraft.

## Table A14. United Kingdom: Direction of Trade

### (Balance of payments basis)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 1/ |
|---|---|---|---|---|---|---|
| | (In percent of total) | | | | | |
| Exports, f.o.b. | | | | | | |
| European Union | 60.4 | 56.9 | 57.1 | 58.5 | 57.2 | 55.8 |
| Rest of Western Europe | 4.0 | 4.3 | 4.2 | 4.2 | 4.4 | 4.5 |
| North America | 13.6 | 14.5 | 14.5 | 13.3 | 13.4 | 14.2 |
| Other OECD | 4.9 | 5.4 | 5.7 | 6.1 | 6.6 | 6.4 |
| Oil exporting countries | 5.6 | 5.4 | 4.3 | 4.1 | 4.7 | 4.9 |
| Other countries 2/ | 11.5 | 13.5 | 14.1 | 13.9 | 13.7 | 14.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Imports, c.i.f. | | | | | | |
| European Union | 57.9 | 55.1 | 56.5 | 56.8 | 55.5 | 54.6 |
| Rest of Western Europe | 7.0 | 7.0 | 6.4 | 6.2 | 6.3 | 6.2 |
| North America | 12.6 | 13.2 | 13.2 | 13.5 | 13.8 | 14.9 |
| Other OECD | 8.2 | 8.4 | 8.4 | 8.3 | 7.6 | 7.9 |
| Oil exporting countries | 2.4 | 2.7 | 2.1 | 1.8 | 1.8 | 1.7 |
| Other countries 2/ | 12.0 | 13.6 | 13.5 | 13.4 | 14.9 | 14.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | (In billions of pounds sterling) | | | | | |
| Memorandum items: | | | | | | |
| Total exports, f.o.b. | 107.3 | 121.4 | 134.7 | 153.1 | 166.3 | 168.7 |
| Total imports, c.i.f. | 120.4 | 134.9 | 145.8 | 164.7 | 178.9 | 178.0 |

Source: Office for National Statistics.

1/ First two quarters at a seasonally adjusted annual rate.
2/ Including residuals.

### Table A15. United Kingdom: Nonfactor Services

(In billions of pounds sterling; seasonally adjusted)

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1996 1/ | | 1997 1/ | |
| | | | | | | 1st half | 2nd half | 1st qtr. | 2nd qtr. |
|---|---|---|---|---|---|---|---|---|---|
| **Credits** | | | | | | | | | |
| Private sector and public corporations | | | | | | | | | |
| Sea transport | 3.5 | 3.9 | 4.2 | 4.6 | 4.7 | 4.8 | 4.6 | 4.7 | 4.5 |
| Civil aviation | 4.5 | 5.1 | 5.4 | 5.8 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| Travel | 8.1 | 9.5 | 9.9 | 12.1 | 12.8 | 12.7 | 12.8 | 13.0 | 12.9 |
| Financial and other services | 18.6 | 20.0 | 21.8 | 23.6 | 26.6 | 25.5 | 27.7 | 28.5 | 28.2 |
| Total | 34.7 | 38.5 | 41.4 | 46.1 | 50.4 | 49.2 | 51.6 | 52.5 | 51.9 |
| General government | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.4 | 0.4 | 0.2 |
| **Total credits** | **35.2** | **39.1** | **41.9** | **46.6** | **50.8** | **49.7** | **51.9** | **52.9** | **52.2** |
| **Debits** | | | | | | | | | |
| Private sector and public corporations | | | | | | | | | |
| Sea transport | 3.8 | 4.2 | 4.5 | 4.7 | 5.2 | 5.1 | 5.3 | 5.1 | 5.1 |
| Civil aviation | 5.0 | 5.4 | 6.1 | 6.3 | 7.0 | 7.0 | 7.1 | 7.3 | 7.5 |
| Travel | 11.3 | 13.0 | 14.5 | 15.7 | 16.7 | 16.6 | 16.8 | 17.4 | 17.5 |
| Financial and other services | 7.5 | 8.6 | 9.5 | 10.6 | 11.9 | 12.0 | 11.9 | 11.6 | 11.5 |
| Total | 27.7 | 31.2 | 34.6 | 37.2 | 40.9 | 40.7 | 41.0 | 41.5 | 41.6 |
| General government | 2.5 | 2.3 | 2.5 | 2.5 | 2.8 | 2.8 | 2.8 | 2.5 | 2.3 |
| **Total debits** | **30.2** | **33.5** | **37.2** | **39.7** | **43.7** | **43.5** | **43.9** | **43.9** | **43.8** |
| **Balance** | | | | | | | | | |
| Private sector and public corporations | | | | | | | | | |
| Sea transport | -0.3 | -0.3 | -0.3 | -0.1 | -0.5 | -0.4 | -0.6 | -0.4 | -0.6 |
| Civil aviation | -0.5 | -0.3 | -0.7 | -0.5 | -0.7 | -0.7 | -0.8 | -1.0 | -1.2 |
| Travel | -3.2 | -3.5 | -4.6 | -3.6 | -3.9 | -3.8 | -3.9 | -4.4 | -4.6 |
| Financial and other services | 11.1 | 11.4 | 12.3 | 13.0 | 14.6 | 13.4 | 15.8 | 16.9 | 16.7 |
| Total | 7.1 | 7.3 | 6.8 | 8.9 | 9.5 | 8.5 | 10.5 | 11.1 | 10.3 |
| General government | -2.1 | -1.8 | -2.0 | -2.0 | -2.4 | -2.3 | -2.5 | -2.1 | -2.0 |
| **Total** | **5.0** | **5.5** | **4.8** | **6.9** | **7.1** | **6.3** | **8.0** | **9.0** | **8.3** |

Source: Office for National Statistics, *Balance of Payments*.

1/ At an annual rate.

## Table A16. United Kingdom: Capital Account 1/

(In billions of pounds sterling)

|  | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 2/ |
|---|---|---|---|---|---|---|
| Transactions in external assets of the U.K. | | | | | | |
| Direct investment | -10.9 | -17.7 | -22.0 | -27.9 | -28.6 | -26.2 |
| Portfolio investment | -27.3 | -84.1 | 18.4 | -38.1 | -60.7 | -89.1 |
| Ordinary shares | 4.0 | -8.1 | -0.6 | -8.2 | -10.2 | ... |
| Bonds | -31.4 | -76.1 | 19.1 | -29.9 | -50.5 | ... |
| Bank lending | -26.8 | 3.2 | -48.2 | -26.9 | -63.3 | -145.6 |
| Non-bank lending | -17.3 | -57.2 | 18.5 | -25.5 | -66.6 | -42.1 |
| Official reserves | 1.4 | -0.7 | -1.0 | 0.2 | 0.5 | 2.5 |
| Other assets of central government | -0.7 | -0.6 | -0.6 | -0.6 | -0.7 | -0.6 |
| **Total** | **-81.6** | **-157.2** | **-34.9** | **-118.8** | **-219.3** | **-301.3** |
| Transactions in external liabilities of the U.K. | | | | | | |
| Direct investment | 9.2 | 10.3 | 6.1 | 14.3 | 20.8 | 27.3 |
| Of which: | | | | | | |
| Non-oil companies | 6.3 | 8.5 | 3.4 | 14.4 | 17.9 | 21.1 |
| Portfolio investment | 24.6 | 45.5 | 32.9 | 19.5 | 27.7 | 34.6 |
| Of which: | | | | | | |
| U.K. company securities | | | | | | |
| Bonds | 6.0 | 11.8 | 22.3 | 16.7 | 17.3 | 27.4 |
| Ordinary shares | 10.3 | 17.4 | 4.9 | 3.7 | 4.4 | 3.2 |
| Bank borrowing | 21.2 | 23.1 | 47.4 | 36.5 | 74.7 | 123.2 |
| Non-bank borrowing | 33.0 | 93.0 | -55.4 | 48.5 | 94.7 | 103.6 |
| Other liabilities of general government | -1.4 | -2.9 | 0.5 | 1.7 | -0.8 | -1.7 |
| **Total** | **86.6** | **169.1** | **31.5** | **120.5** | **217.1** | **286.9** |
| Net transactions | | | | | | |
| Of which: | | | | | | |
| Long-term private capital | -4.4 | -46.0 | 35.5 | -32.3 | -40.8 | -53.5 |
| Short-term private capital | 10.0 | 62.0 | -37.7 | 32.6 | 39.5 | 39.0 |
| **Total** | **5.0** | **11.8** | **-3.4** | **1.7** | **-2.2** | **-14.4** |
| Memorandum items: | | | | | | |
| Net foreign assets 3/ | 22.3 | 37.3 | 28.0 | 25.9 | 4.7 | 24.9 |
| Official reserves 3/ | 27.5 | 29.0 | 28.1 | 31.8 | 27.3 | 24.9 |
| Change in official reserves | -3.9 | -1.5 | 1.0 | -3.7 | 4.4 | 4.9 |

Source: Office for National Statistics, *Balance of Payments*.

1/ A negative sign indicates a net outflow of capital (i.e., an increase in assets or a reduction in liabilities).
2/ First two quarters at an annual rate.
3/ End-period.

## Table A17. United Kingdom: General Government Accounts

(National accounts basis)

| | 1991/92 | 1992/93 | 1993/94 | 1994/95 | 1995/96 | 1996/97 Budget | 1996/97 Outturn | 1997/98 Nov. 96 Budget | 1997/98 July 97 Budget |
|---|---|---|---|---|---|---|---|---|---|
| | (In billions of pounds sterling) | | | | | | | | |
| **Total receipts** | **225.6** | **222.1** | **230.4** | **251.4** | **270.8** | **286.0** | **284.1** | **301.2** | **309.3** |
| Current receipts | 222.3 | 219.6 | 228.0 | 248.5 | 267.9 | 282.5 | 280.7 | 297.4 | 305.3 |
| Taxes on income | 76.0 | 72.3 | 73.8 | 83.8 | 92.2 | 99.0 | 98.0 | 102.0 | 110.1 |
| Taxes on expenditure | 88.0 | 87.8 | 91.1 | 98.0 | 105.4 | 111.7 | 110.1 | 119.4 | 119.7 |
| Social security contributions | 36.7 | 37.0 | 40.4 | 42.9 | 44.9 | 47.0 | 46.9 | 49.2 | 49.7 |
| Other | 21.6 | 22.4 | 22.7 | 23.8 | 25.3 | 24.8 | 25.8 | 26.8 | 25.8 |
| Capital receipts | 3.3 | 2.6 | 2.4 | 2.9 | 2.9 | 3.5 | 3.3 | 3.8 | 4.0 |
| **Total expenditure 1/** | **244.2** | **267.3** | **280.3** | **293.7** | **306.9** | **312.7** | **314.1** | **321.6** | **322.2** |
| Current expenditure | 223.9 | 246.0 | 260.7 | 273.7 | 287.6 | 292.7 | 297.4 | 304.5 | 305.1 |
| Final consumption | 126.6 | 133.4 | 139.1 | 145.4 | 150.9 | 152.4 | 156.8 | 156.8 | 157.8 |
| Subsidies and grants | 80.5 | 94.9 | 101.6 | 105.8 | 110.9 | 113.3 | 114.1 | 117.9 | 118.2 |
| Debt interest | 16.8 | 17.8 | 19.7 | 22.7 | 25.7 | 27.0 | 26.7 | 29.8 | 29.1 |
| Capital expenditure | 20.3 | 21.4 | 19.6 | 20.0 | 19.2 | 17.5 | 16.8 | 14.7 | 14.6 |
| Unallocated reserve | ... | ... | ... | ... | ... | 2.5 | ... | 2.4 | 2.5 |
| **Financial balance 1/** | **-18.6** | **-45.2** | **-50.0** | **-42.3** | **-36.1** | **-26.7** | **-30.0** | **-20.4** | **-12.9** |
| Financial transactions 2/ | 18.6 | 45.2 | 50.0 | 42.3 | 36.1 | 26.7 | 30.0 | 20.4 | 12.9 |
| Net lending | 8.0 | 6.9 | 3.7 | 5.4 | 2.4 | 1.8 | 5.3 | 2.3 | 1.7 |
| Of which: | | | | | | | | | |
| Privatization proceeds | (7.9) | (8.2) | (5.4) | (6.4) | (2.4) | (4.0) | (4.4) | (2.0) | (2.0) |
| Other miscellaneous 3/ | -3.2 | 0.5 | -0.6 | -0.9 | -0.3 | 0.6 | 2.0 | -1.1 | 0.3 |
| Borrowing requirement | 13.9 | 37.8 | 46.8 | 37.8 | 33.9 | 24.3 | 22.8 | 19.2 | 10.9 |
| | (Annual percentage changes) | | | | | | | | |
| Memorandum items: | | | | | | | | | |
| Total receipts | 2.6 | -1.5 | 3.7 | 9.1 | 7.7 | ... | 4.9 | ... | ... |
| Total expenditure | 8.6 | 9.5 | 4.9 | 4.8 | 4.5 | ... | 2.4 | ... | ... |
| Including net lending | 8.3 | 10.2 | 6.2 | 4.2 | 5.6 | ... | 1.4 | ... | ... |
| | (In percent of GDP) 4/ | | | | | | | | |
| Total receipts | 38.8 | 36.6 | 36.0 | 37.0 | 38.0 | 37.7 | 37.8 | 38.3 | 38.8 |
| Total expenditure | 42.0 | 44.1 | 43.8 | 43.3 | 43.0 | 41.3 | 41.8 | 40.9 | 40.4 |
| Including net lending | 40.6 | 42.9 | 43.2 | 42.5 | 42.7 | 41.5 | 41.1 | 41.2 | 40.6 |
| Financial balance | -3.2 | -7.5 | -7.8 | -6.2 | -5.1 | -3.5 | -4.0 | -2.6 | -1.6 |
| Borrowing requirement | 2.4 | 6.2 | 7.3 | 5.6 | 4.8 | 3.2 | 3.0 | 2.4 | 1.4 |
| Excluding privatization receipts | 3.7 | 7.6 | 8.2 | 6.5 | 5.1 | 3.7 | 3.6 | 2.7 | 1.6 |

Sources: Office for National Statistics, *Financial Statistics* and *Economic Trends*, and H.M. Treasury, Financial Statement and Budget Report, 1996/97, 1997/98, and July 1997.

1/ Including unallocated reserve where appropriate.
2/ A positive sign denotes a drawdown in assets or an increase in liabilities.
3/ Including accruals adjustments and balancing item.
4/ GDP adjusted for statistical distortions arising from the introduction of the community charge. 1997/98 figures use budget estimates of GDP.

### Table A18. United Kingdom: Nominal Exchange Rates 1/

(Period average)

|  | Nominal Effective Exchange Rate (1990=100) | U.S. Dollar | Deutsche Mark | Japanese Yen | French Franc |
|---|---|---|---|---|---|
| 1991 | 100.82 | 1.7694 | 2.9269 | 238.13 | 9.9514 |
| 1992 | 96.99 | 1.7655 | 2.7536 | 223.70 | 9.3337 |
| 1993 | 88.98 | 1.5020 | 2.4827 | 166.99 | 8.5037 |
| 1994 | 89.25 | 1.5316 | 2.4825 | 156.41 | 8.4940 |
| 1995 | 84.88 | 1.5785 | 2.2617 | 148.36 | 7.8781 |
| 1996 | 86.34 | 1.5617 | 2.3507 | 170.00 | 7.9906 |
| 1996 |  |  |  |  |  |
| January | 83.28 | 1.5303 | 2.2368 | 161.96 | 7.6601 |
| February | 83.86 | 1.5361 | 2.2521 | 162.41 | 7.7430 |
| March | 83.58 | 1.5272 | 2.2567 | 161.60 | 7.7262 |
| April | 83.82 | 1.5153 | 2.2822 | 162.84 | 7.7373 |
| May | 84.63 | 1.5145 | 2.3223 | 161.21 | 7.8624 |
| June | 86.01 | 1.5422 | 2.3556 | 167.89 | 7.9839 |
| July | 85.77 | 1.5536 | 2.3382 | 169.85 | 7.9134 |
| August | 84.73 | 1.5497 | 2.2978 | 166.98 | 7.8413 |
| September | 86.13 | 1.5592 | 2.3479 | 171.12 | 7.9962 |
| October | 88.38 | 1.5852 | 2.4226 | 178.12 | 8.1904 |
| November | 92.02 | 1.6629 | 2.5138 | 186.67 | 8.5074 |
| December | 93.85 | 1.6645 | 2.5825 | 189.36 | 8.7258 |
| 1997 |  |  |  |  |  |
| January | 96.05 | 1.6602 | 2.6635 | 195.94 | 8.9934 |
| February | 97.51 | 1.6258 | 2.7227 | 199.99 | 9.1937 |
| March | 97.38 | 1.6053 | 2.7240 | 196.88 | 9.1817 |
| April | 99.46 | 1.6289 | 2.7870 | 204.45 | 9.3868 |
| May | 99.10 | 1.6333 | 2.7819 | 194.35 | 9.3800 |
| June | 100.42 | 1.6440 | 2.8397 | 187.75 | 9.5828 |
| July | 104.61 | 1.6713 | 2.9948 | 192.46 | 10.1005 |
| August | 102.67 | 1.6034 | 2.9540 | 189.04 | 9.9488 |

Source: International Monetary Fund, *International Financial Statistics*.

1/ Units of foreign currency per pound sterling.

## Table A19. United Kingdom: Interest Rates 1/

(In percent per annum)

| | Three-Month Rates | | London Clearing Banks' Base Rate | Government Securities Calculated Redemption Yields | | |
| | U.K Inter-bank | U.S. Treasury Bills | | 5-year maturity | 10-year maturity | 20-year maturity |
|---|---|---|---|---|---|---|
| 1992 | 9.52 | 3.46 | 7.00 | 8.94 | 9.06 | 9.12 |
| 1993 | 5.87 | 3.02 | 5.50 | 6.65 | 7.47 | 7.87 |
| 1994 | 5.50 | 4.27 | 6.25 | 7.83 | 8.17 | 8.05 |
| 1995 | 6.68 | 5.51 | 6.50 | 7.93 | 8.23 | 8.26 |
| 1996 | 6.02 | 5.03 | 6.00 | 7.28 | 7.79 | 8.10 |
| **1996** | | | | | | |
| 1st qtr. | 6.19 | 4.95 | 6.00 | 7.17 | 7.74 | 8.08 |
| 2nd qtr. | 5.96 | 5.04 | 5.75 | 7.53 | 8.06 | 8.34 |
| 3rd qtr. | 5.75 | 5.14 | 5.75 | 7.25 | 7.84 | 8.19 |
| 4th qtr. | 6.20 | 5.01 | 6.00 | 7.18 | 7.54 | 7.80 |
| **1997** | | | | | | |
| 1st qtr. | 6.24 | 5.06 | 6.00 | 7.10 | 7.37 | 7.58 |
| 2nd qtr. | 6.50 | 5.07 | 6.50 | 7.15 | 7.28 | 7.39 |
| **1996** | | | | | | |
| January | 6.36 | 5.02 | 6.25 | 6.88 | 7.41 | 7.79 |
| February | 6.16 | 4.87 | 6.25 | 7.14 | 7.75 | 8.10 |
| March | 6.05 | 4.96 | 6.00 | 7.48 | 8.05 | 8.34 |
| April | 6.00 | 4.99 | 6.00 | 7.55 | 8.05 | 8.30 |
| May | 6.02 | 5.02 | 6.00 | 7.56 | 8.08 | 8.35 |
| June | 5.85 | 5.11 | 5.75 | 7.48 | 8.05 | 8.36 |
| July | 5.73 | 5.17 | 5.75 | 7.32 | 7.91 | 8.25 |
| August | 5.75 | 5.09 | 5.75 | 7.22 | 7.81 | 8.16 |
| September | 5.77 | 5.15 | 5.75 | 7.21 | 7.81 | 8.16 |
| October | 5.94 | 5.01 | 6.00 | 7.02 | 7.51 | 7.88 |
| November | 6.30 | 5.03 | 6.00 | 7.25 | 7.55 | 7.81 |
| December | 6.35 | 5.00 | 6.00 | 7.28 | 7.56 | 7.71 |
| **1997** | | | | | | |
| January | 6.32 | 5.05 | 6.00 | 7.23 | 7.53 | 7.74 |
| February | 6.19 | 5.00 | 6.00 | 6.90 | 7.17 | 7.39 |
| March | 6.20 | 5.14 | 6.00 | 7.16 | 7.42 | 7.62 |
| April | 6.38 | 5.17 | 6.00 | 7.36 | 7.61 | 7.77 |
| May | 6.45 | 5.13 | 6.25 | 7.02 | 7.13 | 7.23 |
| June | 6.66 | 4.92 | 6.50 | 7.06 | 7.11 | 7.18 |
| July | 6.96 | 5.07 | 6.75 | 7.11 | 7.01 | 6.97 |
| August | 7.15 | 5.13 | 7.00 | ... | 7.06 | ... |

Sources: Office for National Statistics, *Financial Statistics*; and IMF, Research Department.

1/ The numbers are period averages, except for the clearing banks' base rate, for which monthly numbers are rates on the last Friday of the month and quarterly and annual numbers reflect the last month of the period.

## Table A20. United Kingdom: Growth Rates of Selected Monetary Aggregates

(Seasonally adjusted, 12-month percent change)

|  | M0 | M4 | M4 Sterling Lending Counterpart |
|---|---|---|---|
| Stock, end 1996, ( £ billions) | 24.0 | 679.6 | 776.9 |
| Changes to end of: |  |  |  |
| 1992 | 2.4 | 2.7 | 5.1 |
| 1993 | 4.9 | 4.9 | 3.6 |
| 1994 | 6.4 | 4.0 | 3.7 |
| 1995 | 5.9 | 9.9 | 7.7 |
| 1996 | 6.7 | 9.6 | 9.1 |
| 1996 |  |  |  |
| January | 5.5 | 10.8 | 9.0 |
| February | 6.3 | 10.1 | 9.4 |
| March | 5.7 | 9.7 | 8.9 |
| April | 5.9 | 10.1 | 8.8 |
| May | 6.6 | 9.9 | 8.8 |
| June | 7.5 | 10.0 | 9.3 |
| July | 7.1 | 9.0 | 8.9 |
| August | 7.5 | 9.4 | 9.3 |
| September | 7.0 | 10.0 | 9.2 |
| October | 7.4 | 10.5 | 9.5 |
| November | 7.4 | 10.8 | 10.0 |
| December | 6.9 | 9.6 | 8.4 |
| 1997 |  |  |  |
| January | 7.2 | 9.8 | 9.0 |
| February | 6.4 | 11.1 | 9.2 |
| March | 6.4 | 11.2 | 9.0 |
| April | 5.9 | 10.3 | 8.9 |
| May | 6.1 | 11.2 | 9.5 |
| June | 6.2 | 11.4 | 9.4 |
| July | 5.8 | 12.0 | 9.1 |
| August | 5.1 | 11.6 | 8.7 |

Sources: Office for National Statistics, *Financial Statistics*; and Bank of England, *Monetary and Financial Statistics*.

Table A21. United Kingdom: Contributions of Asset Counterparts
to Growth in Broad Money (M4) 1/

(In percent of M4 four quarters earlier)

| | 1993 Qtr 1 | 1994 Qtr 1 | 1995 Qtr 1 | 1996 Qtr 1 | 1996 Qtr 2 | 1996 Qtr 3 | 1996 Qtr 4 | 1997 Qtr 1 | 1997 Qtr 2 |
|---|---|---|---|---|---|---|---|---|---|
| **M4** | **2.4** | **5.8** | **5.2** | **9.7** | **10.0** | **10.0** | **9.6** | **11.2** | **11.4** |
| PSBR | 7.1 | 8.7 | 6.5 | 5.5 | 5.1 | 4.5 | 4.0 | 3.6 | 3.2 |
| Purchases of public sector debt by U.K. private sector | -5.0 | -5.1 | -5.2 | -3.0 | -3.5 | -4.1 | -3.1 | -4.1 | -3.9 |
| Sterling lending to U.K. private sector | 4.8 | 4.0 | 7.9 | 10.5 | 10.9 | 10.5 | 9.6 | 10.4 | 10.9 |
| Personal sector | (3.8) | (4.2) | (4.4) | (3.9) | (4.1) | (4.1) | (4.4) | (4.6) | (4.8) |
| For house purchase | 3.7 | 4.0 | 3.5 | 2.9 | 3.0 | 2.9 | 3.2 | 3.3 | 3.4 |
| Other | 0.1 | 0.2 | 0.8 | 1.0 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 |
| Industrial and commercial companies | (0.4) | (1.6) | (0.7) | (1.0) | (1.6) | (1.5) | (1.4) | (1.3) | (1.1) |
| Other financial institutions | (0.6) | (-1.8) | (2.8) | (5.5) | (5.2) | (4.8) | (3.8) | (4.6) | (5.0) |
| External and foreign currency counterpart | -1.1 | 1.2 | -1.6 | -1.3 | -1.2 | 0.6 | 1.1 | 3.0 | 3.4 |
| Net non-deposit liabilities | -2.5 | -3.3 | -2.1 | -1.9 | -1.4 | -1.6 | -2.0 | -1.7 | -2.0 |

Sources: Bank of England; and staff calculations.

1/ Components may not add to totals due to rounding.

## United Kingdom: List of Staff Studies

### Background Papers for Article IV Consultations

Recent Economic Developments (SM/96/254, October 7, 1996)
I.      Savings and Investment
II.     Potential Growth and the Output Gap
III.    Fiscal Policy and Prospects
IV.     The Private Finance Initiative: Creating Incentives for Efficiency
V.      Gilt Market Reforms and Indexed Gilts
VI.     Income Distribution since the Labor Market Reforms of the 1980s
VII.    Attracting Foreign Direct Investment

Recent Economic Developments (SM/95/276, October 18, 1995)

I.      Developments in the Real Economy and the Balance of Payments
II.     Fiscal Consolidation: Developments and Prospects
III.    Inflation Targeting in the United Kingdom: Information Content of Financial Variables
IV.     Fixed Investment: Performance and Prospects
V.      The Output Gap and Inflation

Recent Economic Developments (SM/94/257, October 4, 1994)

I.      Overview of Recent Economic Developments
II.     Recession and Recovery in the 1990s
III.    Inflation Projections
IV.     Exchange Rate Fluctuations and Manufacturing Exports
V.      Fiscal Developments and Policies
VI.     The Monetary Policy Framework
VII.    Shocks and Structural Breaks: Labor Market Reforms

### Publications and Working Papers

Baumgartner, Josef, and Ramana Ramaswamy, 1996, "Inflation Targeting in the United
    Kingdom: Information Content of Financial and Monetary Variables," IMF Working
    Paper 96/44.

Catão, Luis and Ramana Ramaswamy, 1996, "Recession and Recovery in the United
    Kingdom in the 1990s: Identifying the Shocks," *National Institute Economic Review*
    No. 157 (July), pp. 97–106. (Previously appeared as IMF Working Paper 95/40).

Green, John, 1996, "Inflation Targeting: Theory and Policy Implications," *Staff Papers*, Vol. 43 (December), pp. 779–795. (Previously appeared as IMF Working Paper 96/65).

Lane, Timothy, and Hossein Samiei, 1997, "Does Public Disagreement on Monetary Policy Unsettle the Markets?," IMF Working Paper 97/63.

Prasad, Eswar, and Ramana Ramaswamy, 1994, "Shocks and Structural Breaks: Labor Market Reforms in the United Kingdom," IMF Working Paper 94/152.

Samiei, Hossein, 1994, "Exchange Rate Fluctuations and UK Manufacturing Exports," IMF Working Paper 94/132.

Stiehler, Ulrich, 1995, "The New Monetary Policy Framework of the United Kingdom," IMF Papers on Policy Analysis and Assessment 95/1.

VanHoudt, Patrick, 1997, "Do Labor Market Policies and Growth Fundamentals Matter for Income Inequality in OECD Countries?" IMF Working Paper 97/3, January 1997.