FOR AGENDA

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February 5, 1992

To: Members of the Executive Board

From: The Secretary

Subject: United Kingdom - Selected Background Issues

This paper provides background information to the staff report on the 1991 Article IV consultation discussions with the United Kingdom, which was circulated as SM/92/17 on January 28, 1992.

Mr. Lachman (ext. 6223) or Mr. Corker (ext. 7304) is available to answer technical or factual questions relating to this paper prior to the Board discussion.

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CONTAINS CONFIDENTIAL
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INTERNATIONAL MONETARY FUND

UNITED KINGDOM

Selected Background Issues

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Approved by the European Department

February 3, 1992

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I. Overview and Summary 1/

This background paper to the Staff Report for the 1991 Article IV consultation with the United Kingdom is in the form of a series of studies that examine issues that are particularly pertinent in light of the United Kingdom's recent entry into the ERM. These studies include a comparative evaluation of the most recent cyclical downturn, an examination of labor market reform and the functioning of the labor market over the past decade, an analysis of the United Kingdom's productivity performance during the 1980s, an examination of fiscal policy on a cyclically adjusted basis, and a review of trade performance and international competitiveness over the past ten years. The remainder of this chapter summarizes the main points that emerge from these studies.

The comparison of the 1990-91 recession with that in 1979-81, reveals that while both were induced by a severe policy tightening and while both were characterized by similar initial declines, there were a number of clear differences between the two cyclical episodes. First, consumption and investment declined more sharply in the most recent cyclical episode than in 1979-81, reflecting the relatively worse balance sheet position of both the corporate and the personal sectors prior to the 1990-91 recession that partly reflects the effects of the earlier financial market deregulation. Second, the recent downturn was more evenly spread between sectors and regions of the country than in 1980-81 when the recession was concentrated mainly on the externally exposed manufacturing sector. Third, it appears that the greater flexibility in labor markets that resulted from labor market reform over the past decade has led to a more immediate shakeout of employment in the 1990-91 recession than in the earlier recession and to a correspondingly better productivity performance.

The chapter on labor market policies and the NAIRU reviews the key policy initiatives in labor market reform during the 1980s and assesses their impact on recent labor market practices. The study concludes that there has been a significant change in the functioning of the labor market that is most clearly manifested in the relative decline in trade union power, the shift in the process of wage bargaining away from the industry toward the firm level, and the increased degree of job search associated with reforms to the unemployment insurance system and the various training and support programs. These changes appear to have resulted in a decline in the NAIRU in the second half of the 1980s as is reflected in a better trade off between unemployment and inflation during the economic boom towards the end of the decade.

1/ A full Recent Economic Developments Report on the United Kingdom was produced on the occasion of the 1990 Article IV consultation (SM/91/18). The staff proposes to produce a further such full Recent Economic Developments Report on the occasion of the next Article IV consultation.

A chapter on recent productivity growth in the United Kingdom reviews recent data and recent academic research on productivity performance during the 1980s, both in relation to earlier productivity performance in the United Kingdom as well as to that in other industrialized countries. The main conclusion of this chapter is that whereas productivity growth in the UK economy as a whole in the 1980s was better than that in the 1970s, it appeared to be no higher than that recorded in the post-war period up to 1973. However, it seems clear that the UK's relative productivity performance, with respect to other industrialized countries in the 1980s, and especially that in manufacturing, improved in relation to earlier post-war decades.

The review of the public sector accounts on a cyclically adjusted basis reveals that, while alternative measures may yield somewhat different results, there can be little doubt that during the 1980s there was a major adjustment in the public finances in an underlying sense. Moreover, it would appear that taking the decade as a whole, the overwhelming part of the adjustment occurred on the side of discretionary expenditure reductions rather than revenue increases. As to the timing of the adjustment, the main part of this adjustment occurred in the first part of the decade with these gains being consolidated in the latter part of the 1980s.

A chapter on recent monetary developments reviews the United Kingdom's monetary management experience within the ERM since joining that arrangement in October 1990. The main conclusion of this chapter is that the cautious manner with which interest rates were lowered within the new policy setting has considerably increased credibility in the chosen exchange rate band as indicated by a substantial narrowing in interest rate differentials with respect to Germany. The chapter also finds that while domestic interest rates in real terms towards the end of 1991 appeared high in relation to those prevailing in the 1979-81 recession, the growth of the monetary aggregates remained relatively more buoyant than the previous recession.

A final chapter reviews developments in the United Kingdom's external accounts and in its international competitive position over the past decade. This chapter focuses especially on the structural changes in the visible trade balance since the early 1980s accounted for by both a sustained increase in import penetration and by a loss in export market shares that has only recently been arrested. The chapter also analyzes the evolving structure of the United Kingdom's capital account in response to the elimination of capital controls in the early 1980s and to recent cyclical developments.

II. A Comparative Analysis of the 1990-91 Recession

Following a period of rapid expansion in the late 1980s, the U.K. economy turned down in the middle of 1990. The recession, which is assumed to have bottomed out in mid-1991, has several characteristics that distinguishes it from the previous major downturns. To a large extent,

these differences can be traced to the changed environment that accompanied the financial market deregulation initiated in the early 1980s as well as to the ongoing reform of the labor market. This chapter analyzes the current recession by comparing and contrasting the behavior of key economic variables with their behavior in the 1979-81 downturn. It first provides a brief discussion of postwar business cycles and then compares the two most recent downturns.

The comparison of the 1990-91 recession with that in 1979-81 reveals that, while both were induced by a severe policy tightening and while both were characterized by similar initial declines, there were a number of clear differences between the two. First, the balance sheet positions of both the corporate and personal sectors deteriorated much more markedly prior to the 1990-91 recession than they did in the previous recession owing partly to the effects of financial liberalization. As a result, investment and consumption declined relatively more in the most recent cyclical episode when allowance is made for the shallower overall depth of the recent recession. Second, the recent downturn has fallen more evenly across sectors than in 1979-81, which was concentrated mainly in the externally exposed manufacturing sector. As a result, exports have declined less and the regional effects of the recession have been more dispersed. Third, there is some evidence of greater flexibility in the labor market now than before, which has permitted a more immediate shakeout of employment than in 1979-81 and contributed to a more speedy turnaround in productivity growth in some sectors. As a result, unit labor cost have been kept more under control with consequences for future inflation developments.

1. Postwar business cycles

In the 1950s and 1960s, business cycles in the United Kingdom were of fairly short duration. Typically, a complete cycle (peak-to-peak) only lasted around 18 quarters, as the "stop-go" nature of macroeconomic policies resulted in short swings in activity. It is noteworthy that in this period the majority of slowdowns were "growth recessions," in which output grew at less than potential, rather than full blown recessions in which output would actually decline. 1/

In the 1970s business cycles became longer in duration and had more pronounced down phases. Over this period, the economy was characterized by slow underlying growth accompanied by a persistence of inflation that was partially the result of labor market unrest and commodity price increases (Chart 1). The most pronounced downturn of the 1970s occurred in 1973-75, following a very rapid burst of policy-induced expansion. As in other industrial countries, the recession was precipitated by the tripling of oil prices. A most notable feature of the 1973-75 recession was that, far from subsiding, the rate of inflation trebled to a postwar peak in excess of

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1/ A recession is typically defined as two or more consecutive quarters of negative growth.

25 percent in the second half of 1975. While the immediate recovery from the 1973-75 recession was reasonably robust, the performance of the economy in the remainder of the 1970s was disappointing.

In 1979, policymakers embarked on a course to substantially reduce the rate of price increase. Thus, financial policies were tightened sharply as manifested in a jump of short-term interest rates to a postwar high of 17 percent and in a bold start to correcting the public sector's finances. At the same time, boosted by the coming on stream of North Sea oil, sterling appreciated strongly--the real exchange rate rose by almost 50 percent from mid-1978 to 1981--which further imparted a contractionary impulse to the economy. As a result, activity turned down after the second quarter of 1979, signaling the beginning of a recession that was to last through the middle of 1981. In this period, non-oil GDP declined by a cumulative 6¼ percent, while the rate of unemployment rose from 4 percent at the end of 1979 to 9 percent at the end of 1981. The 1979-81 recession was associated with a particularly sharp decline in the manufacturing sector: only at the end of 1987 did manufacturing output recover to its pre-1979 recession level.

The recession opened up a wide gap between actual and potential output, which helped to reduce inflation to under 12 percent by end-1981. The pace of recovery during the next three years was relatively modest so that unemployment continued to rise, reaching 11 percent by the end of 1985. At the same time, the rising gap in the labor market contributed to a lowering of inflation and prices rose in the range of 4-6 percent per annum in the 1982-85 period.

Non-oil GDP accelerated markedly in the period 1986-89. The strong rise in demand and output, particularly in 1988 and 1989, was linked to a loosening of monetary policy beginning in 1987. Indeed, base interest rates were cut in steps from 11 percent at the end of 1986 to 7½ percent in mid-1988. The monetary loosening partly reflected the worldwide response to the stock market crash of October 1987, but it was also the result of an unofficial policy of shadowing the deutsche mark at around DM 3.00-3.20 = £1. Initially, while rapid growth worked to eliminate the gap in output and labor markets, inflation continued to moderate, falling to the 2-4 percent range for 1986-87, while the unemployment rate declined by 2 percentage points. Unemployment continued to fall sharply in 1988, but by the second half of that year inflation was nudging back up to over 6 percent and the economy was probably operating above its potential level.

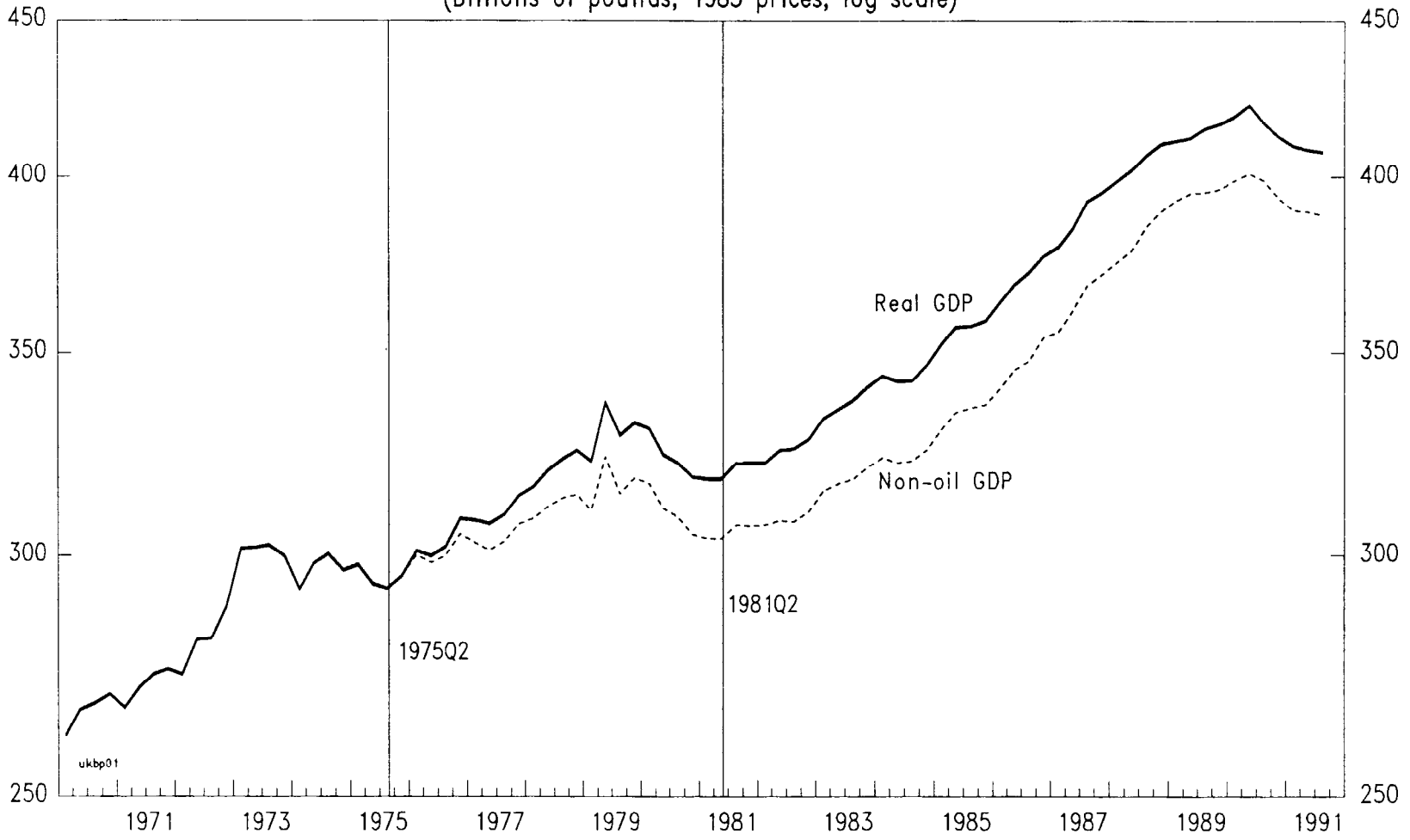
With inflation rising and capacity constraints beginning to bind in the latter half of 1988, the authorities moved to tighten monetary policy. From May 1988 to October 1989 base interest rates were raised from 7½ percent to 15 percent at which level they were maintained over the subsequent year. The impact of the rise in interest rates on activity was, however, mitigated by a depreciation in the external value of sterling, which fell by

CHART 1

UNITED KINGDOM

REAL GDP, 1970-91

(Billions of pounds, 1985 prices; log scale)



Source: CSO, Economic Trends.

11½ percent in effective terms over the course of 1989. 1/ In the first half of 1989, domestic demand was still expanding at a 5-6 percent rate, and, as capacity constraints tightened, domestic demand was increasingly satisfied by imports. As a result, the external current account deficit expanded to 4 percent of GDP in 1989. Nevertheless, toward the end of 1989, higher interest rates began to adversely affect asset prices and domestic demand. After a small up-tick in the first half of 1990, activity declined sharply in the second half of the year. The effect of high interest rates on demand was reinforced by an appreciation of sterling prior to ERM entry in October 1990.

2. The 1979-81 and 1990-91 recessions compared

A comparison of the recession that began in the second quarter of 1990 with that in the early 1980s is particularly pertinent since the earlier recession coincided with the end of the post-war macroeconomic consensus that had accorded a high priority to demand management. The more recent downturn, by contrast, follows a period in which the macroeconomic policy framework has had a more medium-term orientation, and there has been greater emphasis on improving the supply side functioning of the economy.

The onset of both the 1979-81 and the most recent downturn was brought about by the effects of high interest rates and an appreciating exchange rate on the interest sensitive components of demand and on the traded goods sector. The peak of the earlier cycle is estimated to have occurred in the second quarter of 1979. GDP declined sharply in the third quarter of the year, rebounded partially in the fourth quarter, but then declined rapidly during 1980. The recessionary phase had largely run its course by the end of 1980, and, although the trough can be technically identified as the second quarter of 1981, the economy was effectively "bumping along the bottom" during the first half of 1981. Indeed, with the exception of a sharp up-tick in the third quarter of 1981, the economy essentially remained stalled throughout most of 1982.

Based on quarterly movements of real non-oil GDP, the peak of activity in the most recent cycle would be dated in the second quarter of 1990. Non-oil GDP is estimated to have fallen sharply in the subsequent five quarters, with the declines in activity moderating in each subsequent quarter. Non-oil GDP in the third quarter of 1991 was only marginally below that in the preceding quarter. On the assumption that the trough of the current downturn was reached around the middle of 1991, the earlier recession was considerably deeper in intensity and longer in duration. Peak-to-trough, non-oil GDP declined by 6¼ percent over a period of eight

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1/ Throughout the period 1985-90, fiscal policy had a broadly neutral impact on demand. Although the PSBR (excluding privation receipts) declined rapidly, moving into surplus in 1988, most of the change reflected cyclical developments as explained in Chapter V below.

quarters in 1979-81, while non-oil GDP declined by about 3 percent in the four quarters to mid-1991.

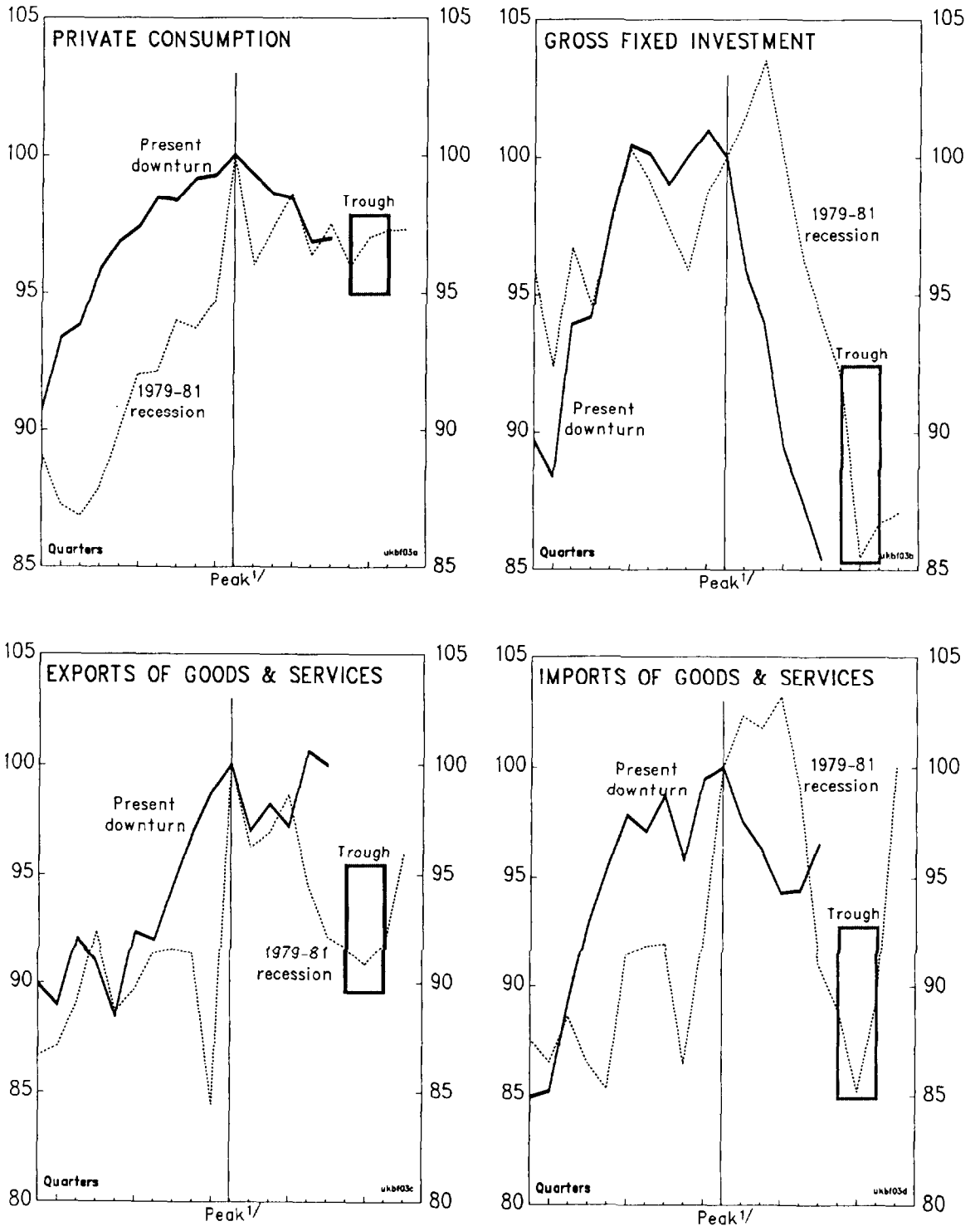
In both 1980-81 and the most recent downturn, the decline in output was largely accounted for by a sharp fall in fixed investment and by substantial destocking that was brought on by a tightening of monetary conditions. In the recent downturn, the collapse in investment predated the peak in output by one quarter and was of such a degree that, by mid-1991, the decline had almost matched that of the deeper 1979-81 recession (Chart 2). While weakness in investment was widespread across sectors, it was particularly severe in the private residential sector where by mid-1991 investment was about 30 percent below its average level in 1989. The decline in residential investment was substantially greater than that recorded in 1979-81 when the investment collapse was more concentrated in the business sector. De-stocking in the current recession has also been pronounced, although less so than during the 1979-81 recession due to technological improvements in inventory management that have dampened the stock cycle. It accounted for 1¼ percentage points of the decline in output in the four quarters to mid-1991 compared with a negative contribution of around 3 percentage points in 1979-81.

The severity of the decline in investment in 1990-91 relative to that of the previous downturn was, in part, a correction of the investment boom in the late 1980s that saw the ratio of investment to GDP rise to the previous postwar peak set in 1968. Moreover, it also reflected the fact that the investment boom in the late 1980s was financed mainly by borrowing, rather than by internal funds. The large amount of debt taken on by the corporate sector during 1986-88 made it more vulnerable to the tightening of monetary policy in 1988-89 than it had been in 1979 when gearing ratios were lower. Thus, rising interest rates led to a much larger squeeze on corporate profits and liquidity in 1989-90, prompting corporations to sharply scale back their investment and holding of stocks (Table 1). As the following tabulation shows, despite the sharp cutbacks in spending, the financial well-being of the corporate sector deteriorated to a greater extent in the recent recession than it did in 1979-81.

CHART 2
UNITED KINGDOM

COMPONENTS OF DEMAND DURING RECESSIONS

(Peak=100)



Sources: CSO tape; and staff estimates.

1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.

Table 1. United Kingdom: Selected Financial Statistics - Industrial and Commercial Companies

(In percent of GDP)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991 1/
Income	18.0	20.6	17.8	17.5	17.6	18.7	20.6	21.0	18.4	20.4	20.9	21.3	20.4	17.7
of which: gross trading profits 2/	(12.8)	(12.4)	(11.6)	(11.4)	(12.6)	(13.7)	(15.0)	(16.1)	(14.0)	(14.8)	(14.9)	(14.2)	(13.1)	(12.1)
Less: taxes, interests, and dividends	7.0	9.1	9.8	9.6	9.8	10.0	10.6	11.4	9.8	10.4	11.4	13.9	14.1	12.3
Undistributed income (=saving)	11.0	11.5	8.1	7.8	7.8	8.8	10.0	9.6	8.6	10.0	9.5	7.4	6.3	5.3
Less: investment	10.4	12.2	8.1	7.2	6.7	7.1	8.4	8.7	8.4	10.0	11.2	12.0	10.9	8.0
Financial balance	0.6	-0.7	-0.0	0.6	1.1	1.7	1.6	0.8	0.3	0.0	-1.7	-4.6	-4.6	-2.6
Financed by:														
Net borrowing 3/	0.8	2.6	1.8	0.9	2.3	-0.7	2.2	1.6	-0.2	1.9	7.0	6.4	3.7	-0.5
Other	-1.5	-1.9	-1.7	-1.5	-3.4	-1.0	-3.8	-2.4	-0.1	-1.9	-5.3	-1.8	0.9	3.1
Financial assets	56.9	56.9	54.2	59.0	61.2	64.3	73.1	69.9	74.7	74.9	75.5	87.3	82.1	...
Financial liabilities	97.3	94.8	93.1	95.7	103.5	110.9	122.0	125.6	145.3	149.8	156.1	179.8	165.2	...
Net financial assets	-40.4	-37.9	-39.0	-36.7	-42.3	-46.6	-48.9	-55.8	-70.6	-74.8	-80.6	-92.5	-83.1	...
						(In percent)								
Memorandum items:														
Liquidity ratio 4/	142.2	105.2	80.8	93.0	81.2	108.8	107.5	95.2	97.8	108.0	83.2	65.8	63.0	...
Income gearing 5/	16.6	17.6	25.5	24.9	24.8	20.5	19.9	20.7	20.1	17.1	18.8	27.5	31.9	33.1
Capital gearing 6/	7.7	7.4	8.1	6.8	9.3	9.0	10.0	10.7	12.9	13.4	16.9	20.0	19.3	...

Source: CSO, Financial Statistics; and data supplied by the Bank of England.

1/ First half of year.
2/ Net of stock appreciation.
3/ Bank borrowing and other loans less bank deposits.
4/ Large companies.
5/ Ratio of interest payments to post-tax income.
6/ Net debt at book value as a percentage of fixed capital at replacement cost.

Selected corporate sector statistics 1/

(Percent of GDP)

	1979-81 Recession				1990-91 Recession			
	1978	1979	1980	1981	1988	1989	1990	1991 2/
Gross profits	12.8	12.4	11.6	11.4	14.9	14.2	13.1	12.1
Financial balance	0.6	-0.7	--	0.6	-1.7	-4.6	-4.6	-2.6
Net borrowing	0.8	2.6	1.8	0.9	7.0	6.4	3.7	-0.5
Income gearing 3/	16.4	17.5	25.0	24.1	18.1	26.4	32.0	33.1
Capital gearing 4/	7.7	7.4	8.1	6.8	16.9	20.0	19.3	...
Liquidity ratio 5/	142	105	81	93	83	66	63	...

In both recessions, private consumption expenditures contributed substantially to the decline in activity. In the recent downturn, consumption fell by over 3 percent in the four quarters in mid-1991. As with the corporate sector, this decline reflected the reaction to a severe deterioration in financial positions (Chart 3). In particular, rapidly rising home prices, coupled with financial market deregulation that provided increased access to consumer credit, sparked massive household borrowing and helped to finance a consumer boom in the period 1986-89. As a result, the personal sector savings rate fell to a historically low level in the second half of the 1980s (Table 2). A decline in the savings rate in each of the years 1985-88 during a period of cyclical upswing was unprecedented in the previous 30 years.

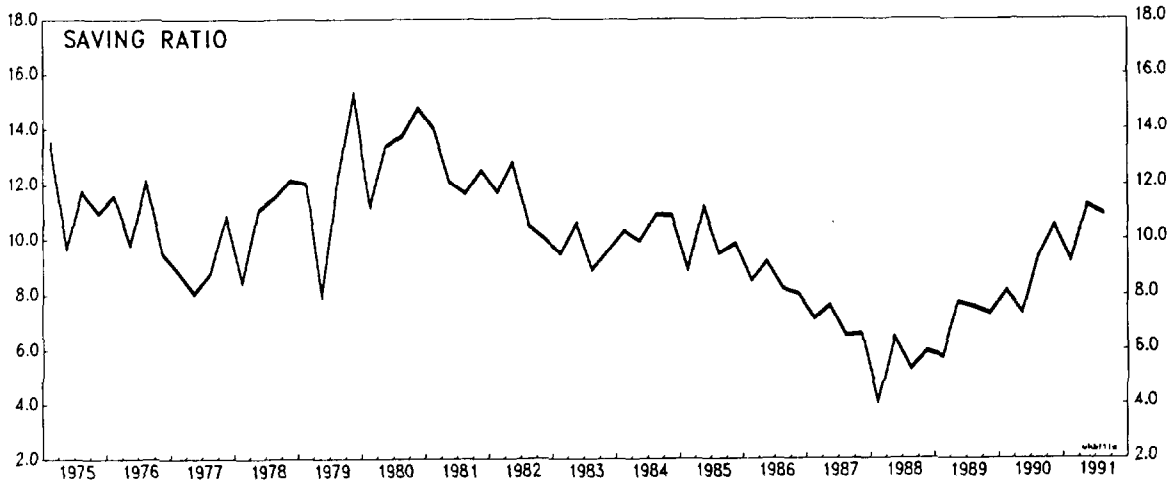
As high interest rates choked off the real estate boom and as activity slowed, beginning in 1989 households endeavored to improve their financial positions by curtailing consumption expenditure. Even though spending was eventually cut back, the financial balance of households remained weak relative to its position to the 1979-81 recession (see following tabulation). This weakness casts some doubt on the degree to which households might contribute to a recovery in activity.

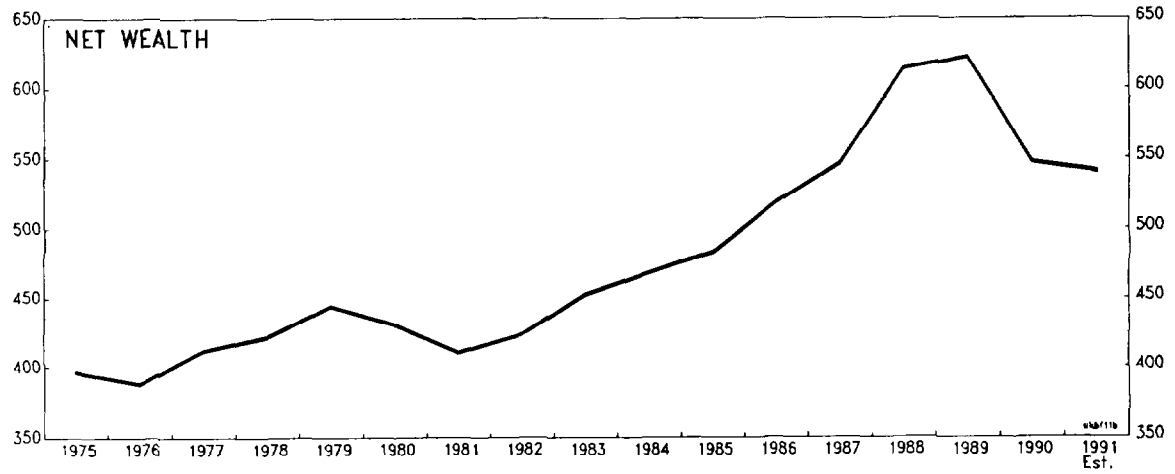
1/ Industrial and commercial companies.
2/ first half of year.
3/ Ratio of interest payments to post-tax income.
4/ Period average ratio of net debt to fixed capital at replacement cost. Source, Bank of England.
5/ Large companies, in percent.

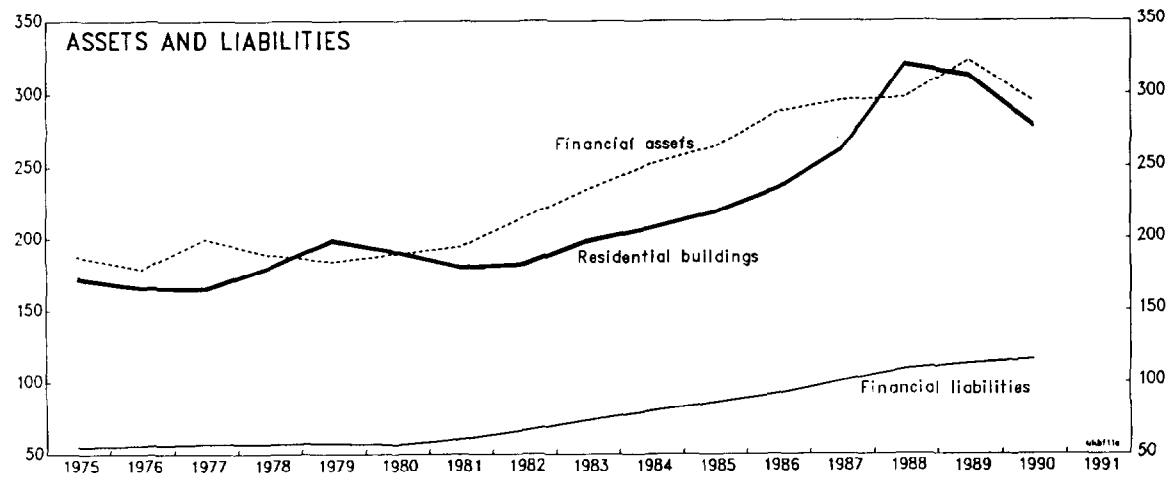
CHART 3
UNITED KINGDOM

PERSONAL SECTOR SAVING AND WEALTH

(In percent of disposable income)







Sources: CSO tape; and staff estimates.

Table 2. United Kingdom: Selected Personal Sector Data

(In percent of GDP)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991 1/
Disposable income	67.4	68.8	69.5	69.7	68.9	68.0	68.5	67.8	68.8	67.6	67.5	68.7	69.6	71.1
Consumption	60.1	60.5	60.2	61.0	61.2	61.5	61.3	61.1	63.0	62.9	63.9	63.8	63.4	63.8
Saving	7.3	8.2	9.2	8.8	7.7	6.5	7.2	6.7	5.8	4.7	3.7	4.9	6.2	7.3
(savings ratio)	(10.8)	(12.0)	(13.3)	(12.6)	(11.2)	(9.6)	(10.5)	(9.8)	(8.5)	(6.9)	(5.4)	(7.1)	(8.9)	(10.2)
Net capital transfers	0.2	0.1	0.1	0.0	0.1	0.3	0.4	0.1	-0.0	-0.1	-0.3	-0.1	-0.1	0.1
Investment	4.1	4.7	4.2	4.0	4.4	4.8	4.6	4.4	4.8	5.3	6.1	5.5	4.6	3.9
of which: Dwellings	(2.4)	(2.7)	(2.6)	(2.4)	(2.5)	(2.5)	(2.8)	(2.6)	(2.8)	(3.0)	(3.3)	(3.2)	(2.6)	(2.3)
Financial balance	3.3	3.6	5.1	4.8	3.4	2.1	2.9	2.3	0.9	-0.7	-2.9	-0.8	1.5	3.7
Financial assets	127.2	126.4	131.2	135.5	147.9	159.3	172.6	178.6	197.7	199.5	200.6	222.0	204.7	...
Financial liabilities	38.5	39.6	39.3	42.1	46.0	50.1	54.7	58.1	63.3	67.8	73.1	77.2	80.0	...
Net financial assets	88.6	86.8	91.9	93.3	101.9	109.2	117.9	120.5	134.4	131.7	127.4	144.8	124.7	...
Tangible assets	156.1	173.4	165.6	156.7	155.2	164.6	170.0	174.1	186.8	201.9	242.6	241.5	217.7	...
of which:														
Residential buildings	(121.2)	(136.5)	(132.3)	(125.5)	(125.4)	(134.8)	(141.9)	(148.1)	(161.5)	(176.7)	(215.9)	(214.5)	(193.3)	(...)
Net wealth	284.3	305.3	299.2	286.1	291.9	307.6	320.9	327.7	356.8	369.2	414.4	427.7	380.6	...
Memorandum items:														
Household savings ratio	2.5	3.0	4.2	3.1	2.1	0.4	0.8	0.4	-0.6	-2.0	-3.7	-3.7	-1.6	...
House prices 2/	19,550	25,036	27,986	26,717	29,604	31,704	34,840	39,831	46,219	56,806	71,153	78,844	81,060	77,759 3/
Equity withdrawal/disposable income	...	0.5	0.3	1.2	2.6	1.7	2.4	2.8	4.7	3.9	5.4	3.5	3.0	...

Sources: CSO, Financial Statistics, Economic Trends; and staff estimates.

1/ First half of the year.
2/ New dwellings, mortgage approved. Data for December of each year.
3/ October 1991.

Selected personal sector data

(Percent of disposable income)

	1979-81 Recession				1990-91 Recession			
	1978	1979	1980	1981	1988	1989	1990	1991 1/
Personal savings ratio	10.9	12.0	13.3	12.6	5.4	7.1	9.2	10.5
Financial balance	4.9	5.2	7.3	6.8	-4.3	-1.2	2.1	5.1
Net financial assets	132	126	132	134	189	211	178	...
Net wealth	423	445	431	410	614	622	544	...

In both recessions, the impact of declining investment and consumption on GDP was offset to some extent by a contribution from the external sector. However, in the 1979-81 recession, imports declined only in the second year of the downturn, whereas in the current recession, imports began to fall contemporaneously with the weakening of activity. To some extent, the early weakness of imports in the current recession can be traced to the severe decline in investment, which has a high import content. However, whereas imports declined more sharply in the early stages of the 1990-91 recession, import penetration ratios have, over the full course of the downturn, declined by less than in 1979-81 (see tabulation below).

Real import penetration ratios 2/

(Percent of total final expenditure)

	1979-81 Recession			1990-91 Recession		
	1979 Q2	1981 Q1	1981 Q4	1990 Q2	1991 Q1	1991 Q3
Imports of goods and services	20.0	18.3	20.3	25.1	24.5	25.1
Imports of goods	16.2	14.2	16.1	21.0	20.5	21.0
manufactures	9.4	8.3	9.6	14.5	14.0	14.1
capital goods	1.3	1.1	1.4	2.7	2.4	2.6

As they did in the 1979-81 recession, exports also declined in the early part of the recent downturn. The decline in exports in both episodes reflected to some degree a loss in competitiveness. In the current downturn, the loss in competitiveness was comparatively small--the real exchange rate appreciated by about 10 percent in the six-months preceding ERM entry in October 1990 which compares with the 47 percent loss of

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1/ Average in first half of the year.
2/ Imports of goods and services on a balance of payments basis. Other ratios based on trade statistics where imports are valued c.i.f.

competitiveness that occurred in 1979-81--and hence the drop in exports was relatively smaller than it had been previously (Chart 4). In the later stages of both recessions, the drop in exports also was due to the onset of a world slump. The recent slump in partner country economics has been somewhat shallower than in the 1979-81 recession.

The most recent recessionary phase is more evenly spread across sectors and regions of the economy than was the case in 1979-81. The earlier recession had been notable for a severe shakeout of employment and a particularly steep decline in manufacturing output that was largely due to the magnitude of the loss of competitiveness. In the 1990-91 downturn, the decline in output in manufacturing from its peak in the second quarter of 1990 has only been about one third of the peak-to-trough decline in 1979-81, while the decline in output in the service sector in 1990-91 has more closely matched that in the much deeper 1979-81 recession (Chart 5). 1/ It has still been the case that the recent decline in manufacturing output from its peak to its level in mid-1991 (6½ percent) has considerably exceeded that in services (2 percent). However, in view of the relative size of the service sector--it accounted for nearly 60 percent of GDP in 1990--the contribution of the service sector to the overall decline in output has roughly matched that of the manufacturing sector.

The more even sectoral pattern of the latest recession is reflected in a quite different distribution of the costs of the recession across regions than in 1979-81. In particular, because it is less dependent on manufacturing, the rise in unemployment in the south east of Britain during the 1979-81 recession was well below the increase in the national average, while more traditional industrial regions, such as the West Midlands and northern regions saw their unemployment rates rise by substantially more than the national average (see tabulation). The reverse has been true in the recent downturn during which the largest increases in unemployment have been in the South East.

1/ As Chart 5 illustrates, peak-to-trough comparisons in the services sector are distorted by the very sharp increase in services output in the quarter prior to the onset of the 1979-81 recession.

Selected Regional Unemployment Rates

	1978:Q4	1981:Q4	1989:Q4	1991:Q4
South East	2.9	6.0	3.6	7.7
North	6.4	12.5	9.2	10.6
North West	5.2	11.0	7.9	10.0
Yorkshire and Humberside	4.2	9.5	7.1	9.1
West Midlands	4.0	10.9	6.1	9.3
G.B. average	4.2	8.6	5.6	8.6

The shakeout of employment, that is normal in a recession, began earlier in the recent downturn than it did in 1979-81 and has proceeded at a similar pace to that in 1980 (Chart 6). The delay in the fall in employment in 1979-81 may have reflected the rather mixed economic performance in the second half of 1979--output declined sharply then recovered somewhat--that may have influenced expectations about the path of future labor needs. In the recent downturn, a large part of the early shakeout of employment has been in the relatively labor-intensive services sector. Furthermore, the labor market reforms adopted in the early 1980s may have contributed to relatively less labor hoarding in the current downswing.

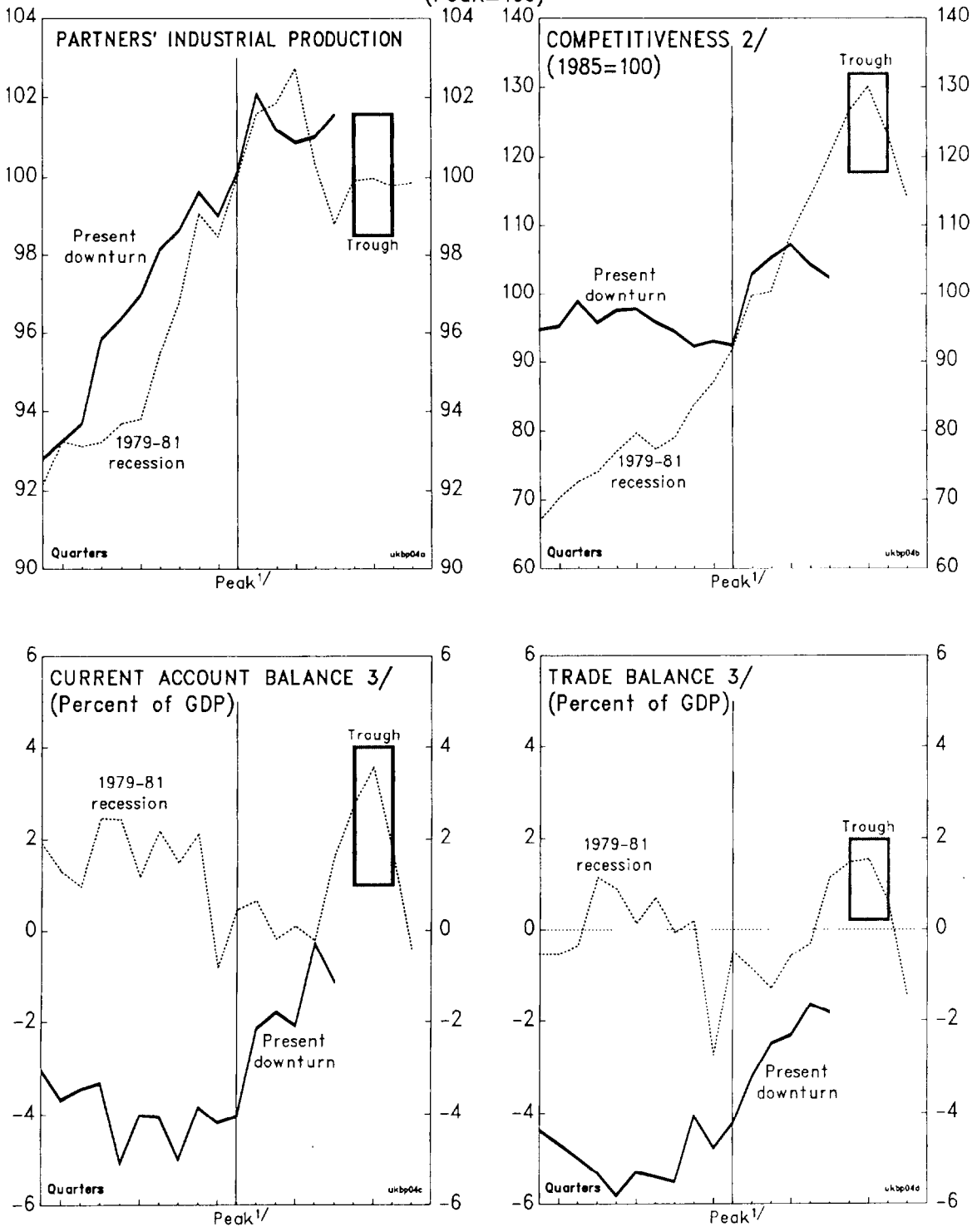
It is a normal feature of recessions for unemployment to lag the fall in output so that productivity is pro-cyclical. Productivity growth normally begins to revive close to the recession trough when the fall in output stalls but employment is still declining; this revival is then reinforced by the pick-up in output. This pattern was evident in the 1979-81 recession: whole economy productivity declined by over 4 percent from mid-1979 to the end of 1980, when the economy was close to its trough value, at which point a sharp rebound began (Chart 7). In the more recent downturn, however, whole economy productivity declined only for the two quarters in the second half of 1990, and by only 2 percent, before flattening out in the first half of 1991 when output was still falling fairly steeply. In the manufacturing sector, an early turnaround in productivity growth was a feature of both recessions: output per man hour in that sector rose at a 6 percent annual rate in the first three quarters of 1991. The relatively good performance of productivity in the recent recession may reflect a more flexible labor market than was the case in the late 1970s and early 1980s. For example, hiring and firing procedures may have become less restrictive and costly, owing, in part to weaker trade unions. In addition, more flexible work practices may have had a direct impact on worker productivity.

Rising unemployment has had the usual effect of slowing wage increases in the most recent cyclical episode. Thus, wage settlement rates which had continued to increase in the later stages of 1990 to around 10 percent by year end, slowed sharply during the course of 1991 to the 6-7 percent range by the fourth quarter. At the same time underlying earnings growth has slowed from a peak of over 10 percent in the middle of 1990 to around

CHART 4
UNITED KINGDOM

EXTERNAL SECTOR DURING RECESSIONS

(Peak=100)



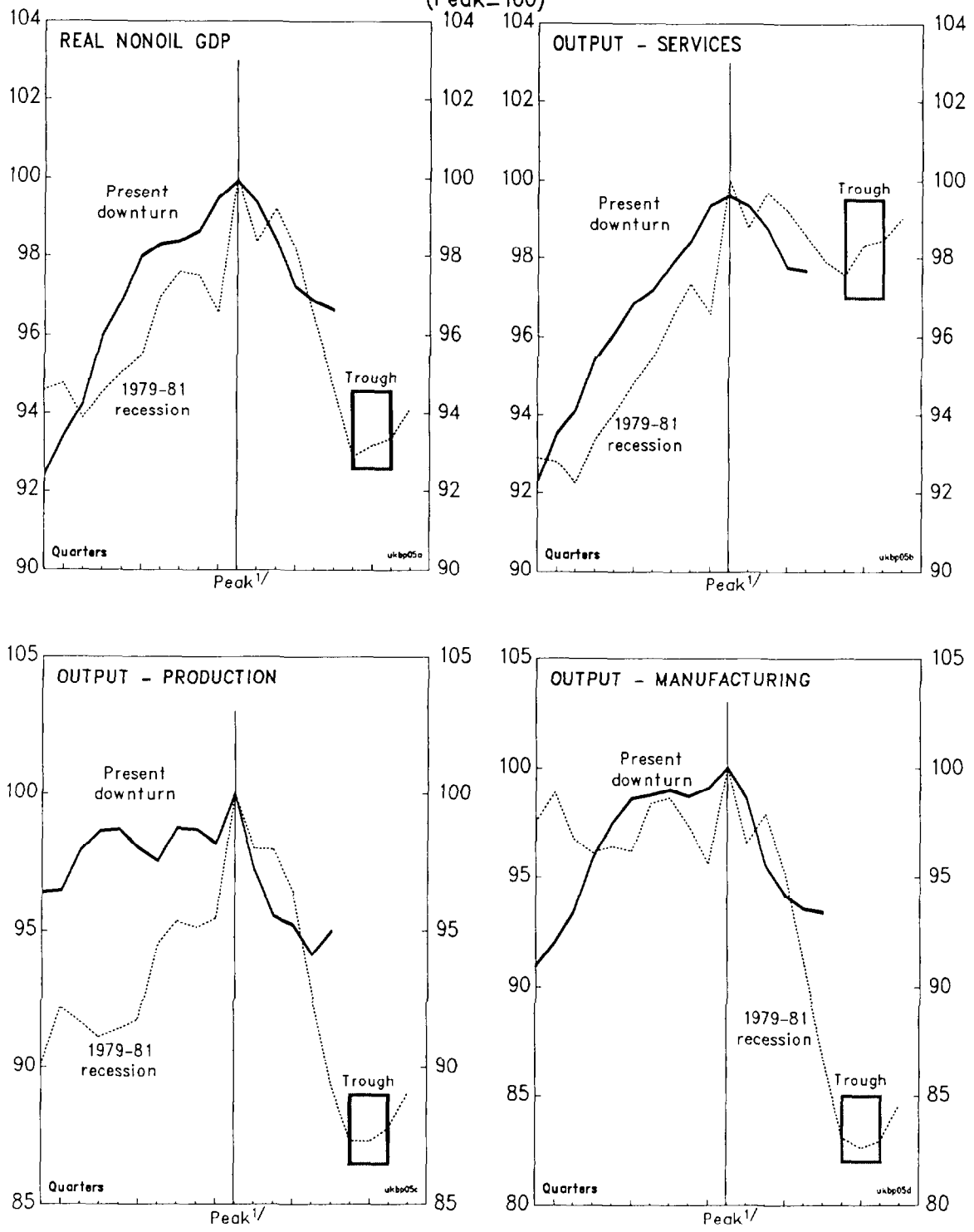
Sources: CSO tape; and staff estimates.

1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.
2/ Relative unit labor costs.
3/ Excluding trade in oil.

CHART 5
UNITED KINGDOM

GDP AND SECTORAL OUTPUT DURING RECESSIONS

(Peak=100)



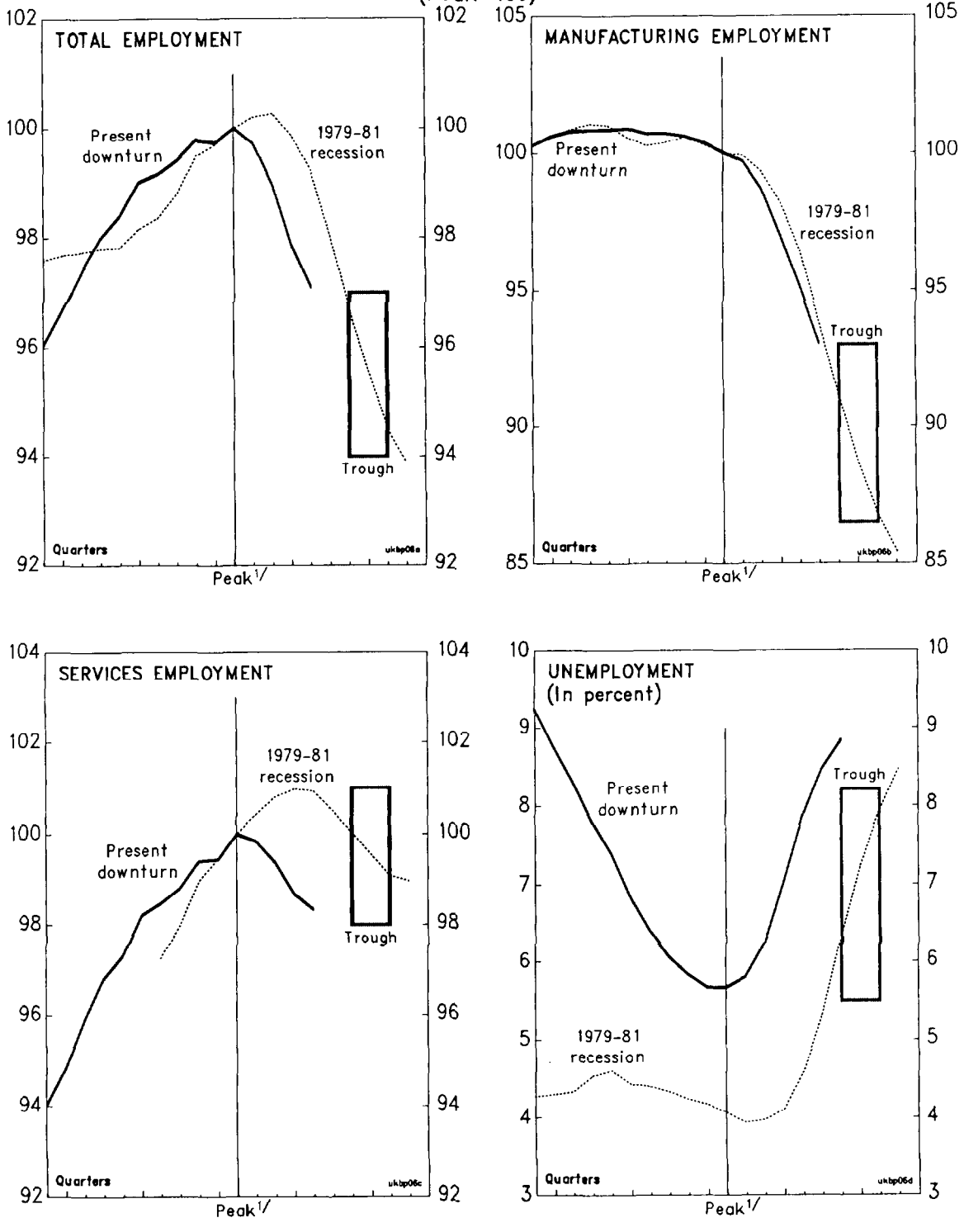
Sources: CSO tape; and staff estimates.

1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.

CHART 6
UNITED KINGDOM

EMPLOYMENT AND UNEMPLOYMENT DURING RECESSIONS

(Peak=100)



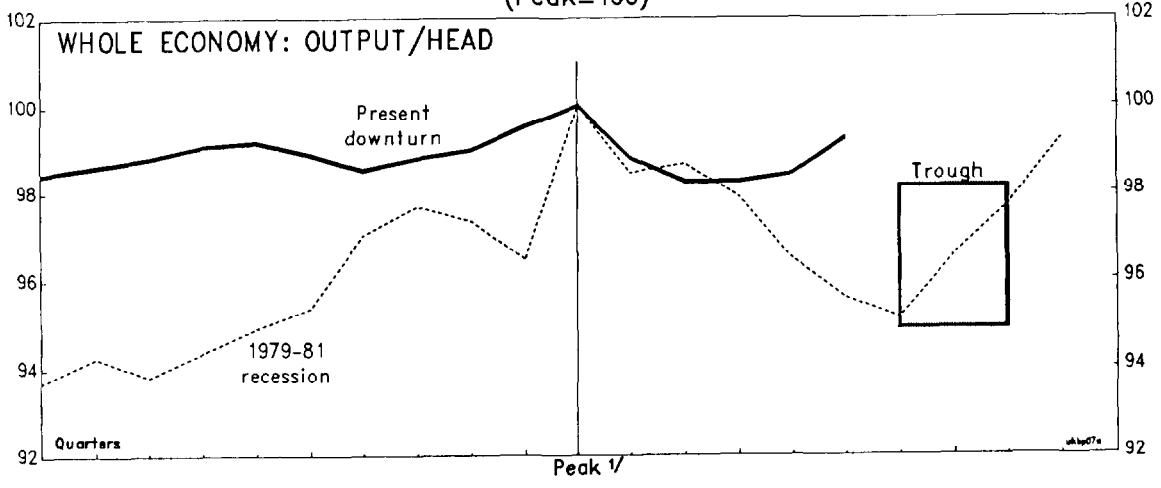
Sources: CSO tape; and staff estimates.

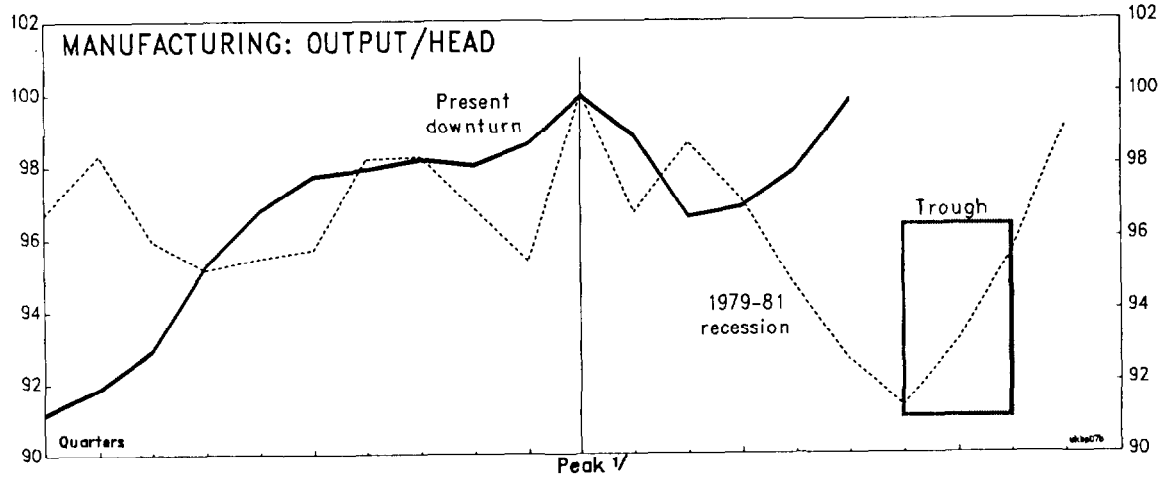
1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.

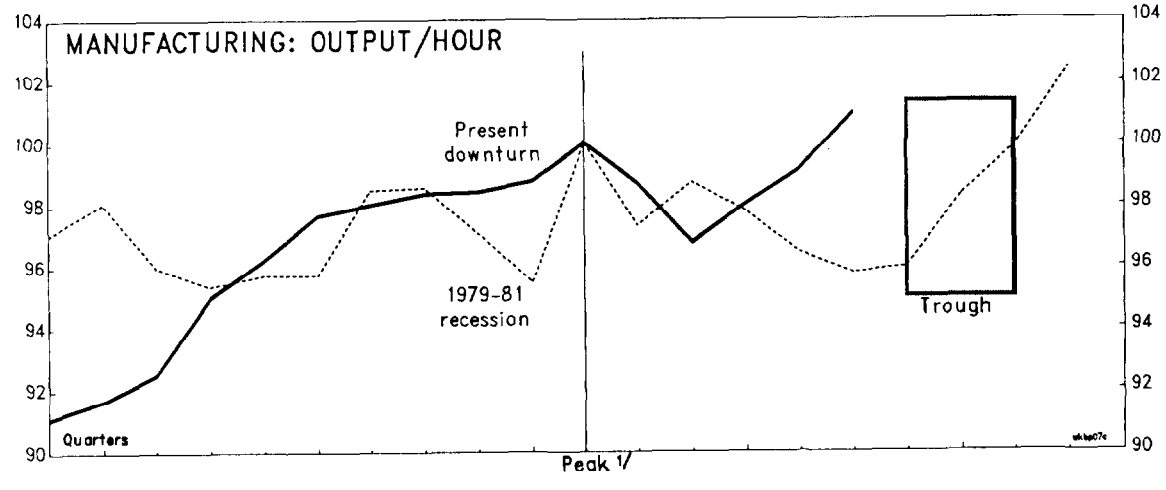
CHART 7
UNITED KINGDOM

PRODUCTIVITY DURING RECESSIONS

(Peak=100)







Sources: CSO tape; and staff estimates.

1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.

7¾ percent in the third quarter of 1991. In real terms, earnings growth has declined from about 4 percent to 2 percent (Chart 8).

Comparisons of the behavior of wages and earnings during the two recessions are hampered by a lack of consistent data, by the fact that in the earlier recession the U.K. was exiting from an incomes policy, and by the generally higher level of inflation in the earlier recession. In nominal terms, manufacturing earnings growth increased in 1979-80 partly because of the overhang of earlier incomes policies and because of the sharp rise in inflation owing to the twin effects of hikes in oil prices and VAT rates. However, as regards real increases, the behavior of earnings growth looks quite similar in both recessionary episodes.

The combination of similar real wage behavior but a better productivity performance has resulted in more favorable recent developments in unit labor costs relative to the 1979-81 recession. In the earlier episode, real unit labor cost growth increased to nearly 10 percent as the recession deepened and as productivity collapsed before dropping away as the trough approached (Chart 9). In the initial stages of the recent downturn, real unit labor cost growth more than matched that of the previous recession, but by mid-1991, had declined to around 4 percent.

The more favorable performance of unit labor costs has yet to have a marked impact on core inflation as measured by the retail price index (RPI) excluding mortgage interest rates. Nevertheless, core inflation has declined significantly from a peak of around 9 percent in October 1990 to 5¾ percent in December 1991. 1/ The decline has mainly reflected the appreciation of sterling prior to ERM entry, which reduced import costs, and the recessionary squeeze of profit margins. Other inflationary measures have adjusted less than core retail price inflation: producer prices of finished manufactures moderated from 6¼ percent in June 1990 to 5 percent in November 1991. 2/

III. Labor Market Policies and the NAIRU

During the 1980s the U.K. authorities carried out a number of basic reforms aimed at increasing the flexibility and improving the functioning of labor markets. These reforms included passage of legislation to curb the power of trade unions, deregulation of certain areas of the labor market, and the introduction of measures to improve incentives to work and the

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1/ As mortgage rate increases have been reversed, the actual fall in retail price inflation has been quite substantial, declining from 11 percent in October 1990 to 4½ percent in December 1991.

2/ Excluding food, drink, and tobacco, which are affected by excise duty changes in the March 1991 budget, manufacturing output price inflation fell to 4 percent in November 1991.

quality of the labor supply. This chapter presents a survey of the key policy initiatives and an evaluation of their economic effects.

The main conclusion of this chapter is that labor market policies in the 1980s resulted in a more atomistic structure of the labor market as manifested in both the reduced power of trade unions and the greater degree of wage bargaining at the firm rather than at the industry level. At the same time, job search was encouraged by a reform of the unemployment benefit system and by the introduction of special training measures directed at school leavers and at the long-term unemployed. During the second half of the 1980s, these changes helped to partially reverse earlier rises in the nonaccelerating inflation rate of unemployment (NAIRU) thereby contributing to a better trade-off between unemployment and inflation when the labor market tightened in the late 1980s.

The remainder of this chapter is organized as follows. Section 1 provides a description of the labor market policies pursued during the 1980s; section 2 describes the developments in the labor market in the 1980s at both the structural and aggregate levels; and section 3 presents a survey of empirical estimates of the equilibrium unemployment rate and its determinants.

1. Labor market policies 1/

The 1970s was a decade of poor industrial relations, record levels of wage and price inflation, low growth and rising unemployment. The weak economic performance occurred under a policy environment that favored incomes policy as a means of reducing the deflationary costs of lowering inflation. However, this policy approach proved unsuccessful. Any temporary gains from incomes policy tended to be rapidly eroded by a subsequent bout of competitive 'catch-up' pay demands backed by industrial action.

It was against the experience of the 1970s that a very different labor market policy approach was followed in the 1980s. The new approach eschewed the use of incomes policy and concentrated instead on reforming the labor market. The key elements of the policy included legislative curbs on the monopoly powers of trade unions; deregulation in some areas of the labor market; improvements in the incentives to work; and measures to improve the quality of the labor supply. The pervading philosophy was to shift the emphasis of the labor market away from the collective determination of the conditions of employment to a more atomistic focus.

The reform of trade unions took the form of a series of legislation aimed at making unions more responsible for their collective actions and at limiting certain union practices that had had particular distorting effects

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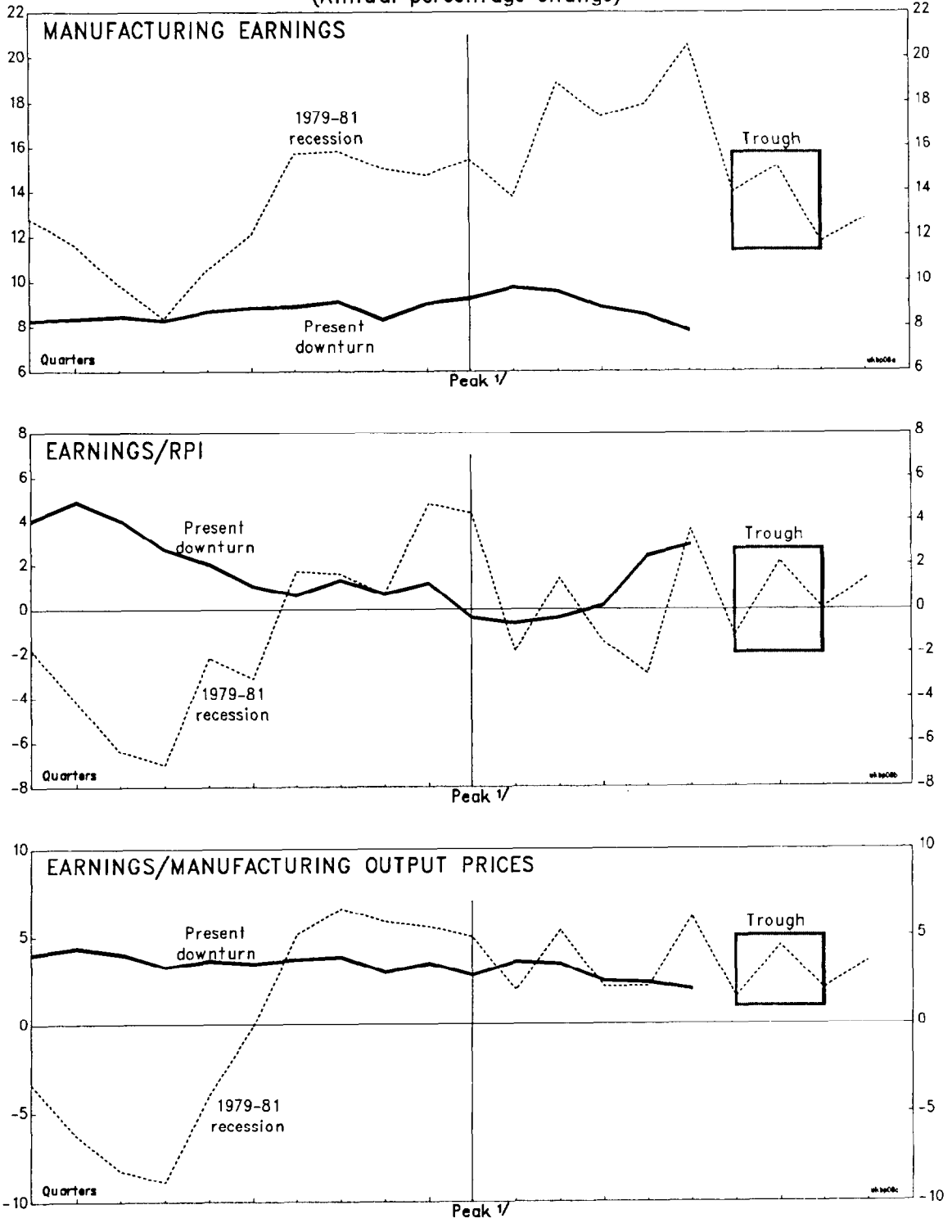
1/ See also SM/88/39, Supplement 1, Appendix I for an earlier description of labor market rigidities and policy initiatives in the 1980s.

CHART 8
UNITED KINGDOM

MANUFACTURING EARNINGS DURING RECESSIONS

(Annual percentage change)



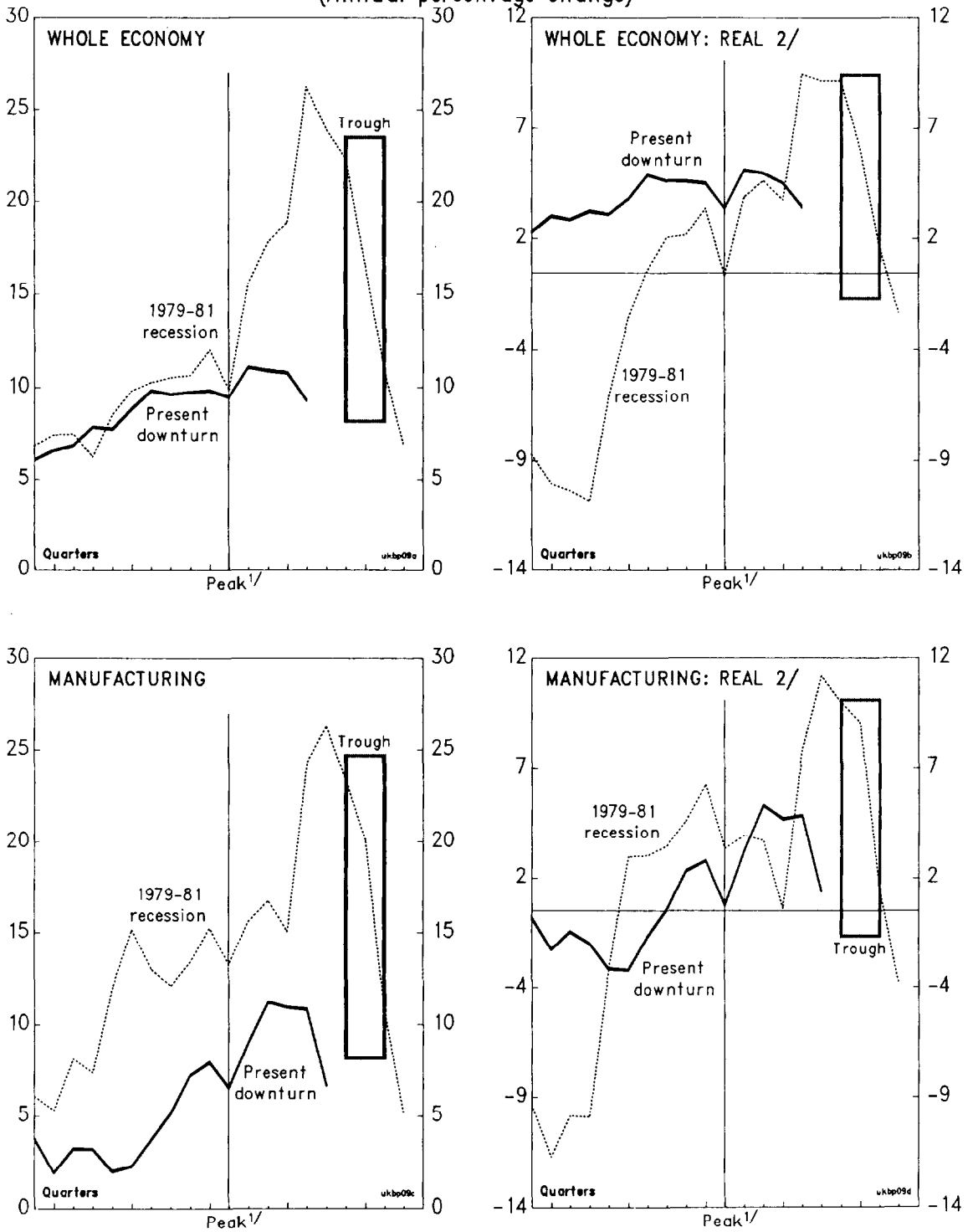
Sources: CSO tape; and staff estimates.

1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.

CHART 9
UNITED KINGDOM

UNIT LABOR COSTS DURING RECESSIONS

(Annual percentage change)



Sources: CSO tape; and staff estimates.

1/ 1979 quarter two for 1979-81 recession; 1990 quarter two for present downturn.
2/ Unit labor costs divided by the manufacturing producer price index.

on the labor market and on the industrial relations climate. 1/ The trade unions were made more responsible for their actions in part by removing many of the legal immunities they had previously enjoyed and by mandating rules--such as compulsory strike ballots--under which a union could initiate industrial action. At the same time, the laws provided for greater protection of the rights of individual union members and employers against irresponsible trade union actions and for greater trade union democracy.

Regarding the particular distortionary effects of unionism and the industrial relations system, the various Employment and Trade Union Acts of the 1980s targeted two main areas: closed shops and secondary picketing. The first of these referred to the practice of exclusive union employment in certain sectors, industries, or firms. The second, secondary picketing, had been a salient feature of the industrial unrest of the 1970s when trade unions had been effectively able to export industrial action to other sectors of the economy. During the 1980s, the incidence of secondary picketing was largely eliminated through the reduction in union legal immunities and through the tighter application of new and existing laws against this practice.

The deregulation of the labor market in the 1980s included a weakening of the scope for establishing minimum wages, a relaxation of certain conditions of employment, and attempts to improve labor mobility through the encouragement of more transferable pension schemes. The scope for establishing effective wage floors was weakened by the repeal of the 1946 Fair Wages Resolution and of Schedule 11 of the 1975 Employment Protection Act that had enabled employees to press for "recognized terms" in the public and private sectors. At the same time, the range and power of wages councils--responsible for setting the wages of certain low paid groups, mainly in the retail and catering trades--were curtailed. Regarding the conditions of employment, the qualifying period of employment before dismissal compensation could be sought was raised from 6 months to 2 years in 1985, regulations on maternity provisions were loosened, and legislation regulating the hours and conditions of employees under 21 and of women were repealed.

The improvement in work incentives focused on both reducing high marginal income tax rates, reducing taxes on labor, and on eliminating poverty and benefit traps. In the second half of the 1970s, income tax rates were steeply regressive, culminating in a top bracket marginal income tax rate of 83 percent. During the 1980s, the degree of progression was lessened considerably and the top rate lowered to 40 percent in the 1988 budget. In addition, the national insurance surcharge--a labor tax that stood at 3½ percent in 1979--was abolished in October 1984.

1/ Brown and Wadhwani (1990) and Lewis (1991) provide more details of the major pieces of legislation introduced in the 1980s.

At low income levels, wage earners faced very high effective marginal tax rates at the end of the 1970s owing to the operation of the benefits system for the unemployed. Thus, while unemployment benefit rates were not by themselves notably large in comparison to low wages, they were accompanied by an array of benefit entitlements, such as family income supplements, free school meals and medical prescriptions, etc., that depending on family circumstances raised remuneration from unemployment for some individuals above the return from working. Changes introduced in the 1986 Social Security Act eliminated effective marginal tax rates of over 100 percent, although many low income people still faced high effective tax rates.

In recognition of existing training and education deficiencies, particularly of school leavers and the longer-term unemployed, the authorities made an important start in improving the quality of the labor supply in the 1980s. Thus, a number of schemes were introduced in the 1980s--including the Youth Training Scheme (YTS), which provided training for some 2.7 million young people between 1983 and 1990 1/, the Community Program (CP), the Job Training Scheme (JTS), the Job Release Scheme (JRS), and Enterprise Allowance (EA)--to help provide training or vocational experience. Currently, the most important training measure for the unemployed is Employment Training (ET), launched in September 1988 as a rationalization of other government training schemes notably the Community Program and JTS. In 1990, ET provided training and work experience for about 200,000 participants on average (see tabulation below). For young people, the YTS was replaced in 1990 by a more flexible program, Youth Training (YT). Responsibility for running the ET and YT programs at the local level was transferred to newly established Training and Enterprise Councils (TECs) in 1990.

Participation in Principal Special Employment Measures 2/

(thousands)

End Year	YTS/YT	Community Program	Employment Training	Enterprise Allowance
1986	340	248	...	74
1987	417	221	...	96
1988	420	60	108	92
1989	386	--	208	75
1990	...	--	198	58
1991 (June)	...	--	172	50

1/ The YTS replaced the earlier Youth Opportunity Program (YOP).
2/ Sources: Gregg (1990 and 1991), and Trinder (1988).

A further important scheme for helping the longer-term unemployed has been The Restart Program, introduced in 1986. Under this program, the unemployed receive job counseling and help in obtaining a job or a place on a training or employment scheme. About 2 million people were interviewed under Restart in 1989-90 and attendance at Restart courses to improve job search became mandatory in 1991 for those unemployed for more than 6 months. Further job search advice and assistance was also provided by Job Clubs and the Job Interview Guarantee, both introduced in 1989.

2. Labor market developments in the 1980s

The changed labor market policy background was associated with marked changes in the labor market at both the structural and aggregate level. By the end of the 1980s, the structure of employment had shifted in favor of the less unionized service sectors, while wage settlements had become more variable among sectors of the economy. At the aggregate level, wage and earnings growth did not respond particularly strongly to the drop in the unemployment rate in the second half of the 1980s.

a. Structural developments

During the 1980s, there were major shifts in the structure of the labor market. These included (a) a surge in the labor force in the second half of the 1980s as a result of greater female participation; (b) a shift away from employment in the public and the manufacturing sectors towards the service sectors; (c) a considerable decline in trade union membership; and (d) an increased degree of variation in wage settlements between sectors. These developments reflected, in part, the effects of the labor market policies described above, but also some more secular cultural and economic trends.

The size of the labor force grew rapidly in the second half of the 1980s owing almost exclusively to a surge in female participation rates (see tabulation below). Participation rates for women in middle age categories (25-44 years) increased particularly notably, continuing a trend that had begun in the 1970s. While the increase in female participation reflected in part social developments, it was also helped by the more deregulated employment environment, particularly in the lower-paid service sectors.

Civilian labor force and participation rates 1/

	1971	1981	1985	1989	1990
Labor force, (in millions)	24.9	26.2	26.8	28.0	28.2
males	15.6	15.6	15.6	15.9	15.9
females	9.3	10.6	11.2	12.1	12.2
Age distribution (in percent)	100.0	100.0	100.0	100.0	100.0
16-24	20.4	22.2	23.0	21.6	20.7
25-44	39.1	43.3	45.4	47.7	48.4
45 and over	40.5	34.5	31.6	30.7	30.9
Participation rates (in percent) 2/					
all persons	61.3	61.4	61.3	63.0	63.1
male	80.5	76.5	74.4	74.2	74.2
female	43.9	47.6	49.2	52.5	52.8

Following the severe loss of competitiveness in 1979-80, the manufacturing sector's share of output declined sharply. This share was to dwindle further in the 1980s prompting a dramatic shift in the structure of employment in favor of service jobs. Thus, while for most of the 1970s manufacturing employment had accounted for nearly one third of total employment, by the end of the 1980s the share was under one quarter.

The structure of employment 3/
(in percent)

	1973	1979	1985	1989	1990	1991
Total employment	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	34.6	31.4	25.1	23.0	22.6	22.0
Services	54.5	58.6	65.8	68.9	69.4	70.3
Other	10.9	10.0	9.1	8.1	8.0	7.7
Total employment	100.0	100.0	100.0	100.0		
Public sector 4/	26.9 5/	28.1	27.8	24.6	...	...
Private sector 4/	73.1 5/	70.9	72.2	75.4	...	...

1/ Data for Great Britain from the labor force surveys, conducted in the Spring of each year; source Employment Gazette, May 1991. ILO definitions after 1984, GB Labor force definitions for earlier years. In 1984, the labor force was 0.6 percent larger on the ILO definition.

2/ Including workers older than the statutory retirement age.

3/ Data for Great Britain in June of the year; source, Employment Gazette.

4/ Data from Social Trends, 1991 edition, Table 4.14.

5/ Data for 1971.

The shrinkage in the traditionally organized manufacturing sector, together with the employment legislation of the 1980s, contributed to a sharp decline in trade union membership in the 1980s (see tabulation below). 1/ Union membership had risen in the 1960s and 1970s, reaching a peak of 13¼ million in 1979 or about 50 percent of the labor force. However, by 1989 membership stood at just over 10 million or around 35 percent of the labor force. Nevertheless, in comparison with the large European economies, Japan, and the United States, the degree of unionization remained high although it was well below Scandinavian levels. 2/ The main decline in membership occurred in the private sector--in the public sector, roughly two thirds of workers remained unionized.

Trade union membership 3/

	1970	1979	1985	1989
Membership, millions	11.2	13.3	10.8	10.2
(percent of labor force)	(44.2)	(49.9)	(39.0)	(35.6)
Number of unions	543	453	370	309
Average membership in thousands	20.6	29.3	29.2	32.9

The 1980s was characterized by relative industrial peace compared with the industrial unrest of the 1970s. Average working days lost through industrial action declined to under 4 million per annum in the second half of the 1980s compared to 13 million per annum in the 1970s. The better industrial relations partly reflected the effects of the union legislation, which has made official strike action a last resort requiring balloted membership support.

A salient feature of the 1980s has been a move away from collective bargaining at the industrial level to greater firm specific settlements in line with the philosophical shift in labor market policy. This has been accompanied by a stronger link between pay and performance and a widening of the dispersion of earnings. 4/ In general, the nature of the traditional "wage round" changed during the 1980s. According to an analysis of CBI settlements data, the notion of a "going rate" that coordinates settlements between sectors largely vanished in the 1980s and there has been considerable dispersion of settlements about the mean (see tabulation below). In general, settlements in the unionized sectors persistently fell behind those in nonunionized sectors suggesting a decline in the union-

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1/ Econometric studies provide ambiguous conclusions about the relative importance of these factors; see Metcalf (1991).
2/ See Layard, Nickell and Jackman (1991), Chapter 2, Table 1.
3/ Sources: Annual Abstract of Statistics; and Employment Gazette.
4/ Brown and Walsh (1991).

nonunion wage markup. 1/ In the public sector, earnings declined relative to those in the private sector by as much as 10 percent over the course of the 1980s (Brown and Walsh (1991), Table 6) and greater emphasis was placed at the local level on performance related pay.

Annual wage settlements 2/

(in percent)

	Mean settlement rate			Coefficient of
	Total	Bargainers	Others	variation
1979-80	16.3	16.4	15.2	23.9
1980-81	9.0	8.8	9.5	34.7
1981-82	7.0	6.9	7.2	36.1
1982-83	5.7	5.7	5.9	39.2
1983-84	6.0	5.9	6.2	33.3
1984-85	6.4	6.3	6.7	28.0
1985-86	6.1	6.0	6.4	28.2
1986-87	5.2	5.1	5.3	32.2
1987-88	6.0	5.9	6.2	30.0
1988-89	7.4	7.3	7.7	27.0

b. Aggregate developments

A key feature of labor market developments in the 1980s was the relative stability of earnings and price growth in the face of the relatively high variability of unemployment (Chart 10). Even so, movements in unemployment and inflation in the 1980s were, broadly speaking, negatively correlated, although the precise relationship varied considerably during the decade.

At the end of the 1970s, the economy entered a recession with inflation (at 20 percent) and unemployment (at 4 percent) initially at high levels by historical standards. As the recession deepened, unemployment rose steeply and inflation plummeted. By the end of 1982, unemployment had risen to 10 percent, while inflation had fallen to 6 percent. 3/ However, some of the decline in inflation reflected the unwinding of special factors including the one-time effects of the increase in oil prices and VAT rates

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1/ Ingram (1991) and Gregg and Machin (1990) both present evidence of a significant decline in the union-nonunion wage markup during the 1980s. However, this evidence is disputed in Oswald (1991).

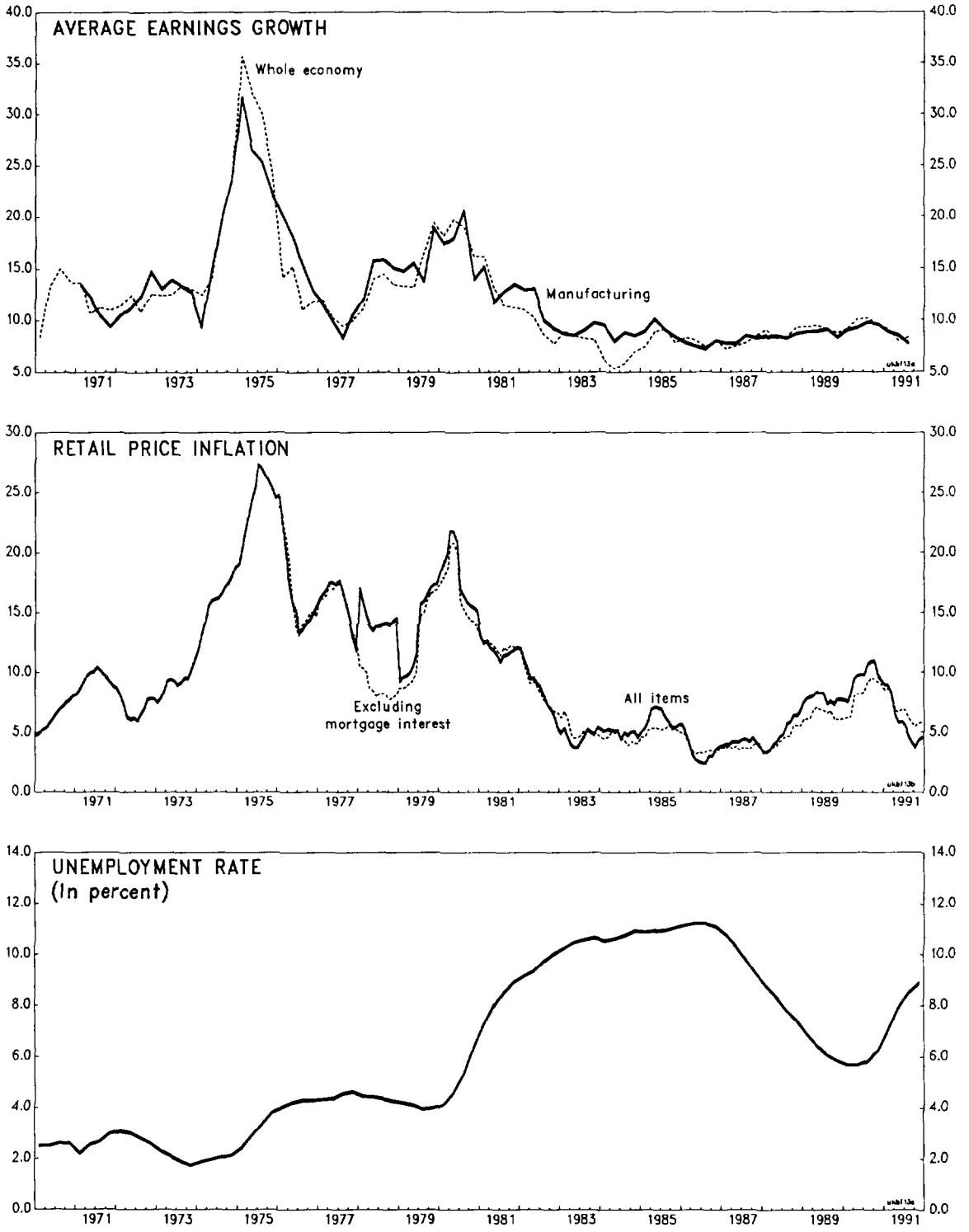
2/ Source: Ingram (1991), Tables 3 and 4. "Bargainers" refers to a settlement group where trade unions are recognized for the purpose of wage negotiation.

3/ Although the recession technically ended in the first half of 1981, output growth did not recover to the potential rate until 1983.

CHART 10
UNITED KINGDOM

INFLATION AND UNEMPLOYMENT, 1970-1991

(Annual percentage change)



Sources: CSO tape; and staff estimates.

in 1979-80 and the carry over of wage awards agreed under earlier incomes policy.

The economy continued to operate below potential for the next four years and unemployment rose further to just over 11 percent in 1986. At the same time, underlying earnings growth was remarkably constant--at around 7½ percent per annum--and inflation fluctuated within a 4-6 percent band. 1/ In 1987-89, output growth increased significantly, the output gap was more than closed, and the unemployment rate fell to under 6 percent. The tightening of the labor market, however, was accompanied by only a modest increase in earnings growth although inflation edged up to about 9 percent. The economy cooled during the course of 1990, entering recession in the second half of that year. The rate of unemployment began to increase at the end of 1990 and by end-1991 stood at 9 percent. As unemployment rose, wage settlements growth and price inflation declined considerably.

3. The NAIRU and its determinants

The NAIRU is an equilibrium concept defining the level of unemployment consistent with unchanging inflation. 2/ If the unemployment rate were below the NAIRU, upward pressure would be exerted on wage, and hence on price, inflation, and vice versa if the unemployment rate were above the NAIRU. Recent theoretical work based on imperfectly competitive product markets and the modelling of wage bargaining between unions and employers has shed light on the factors determining the NAIRU. These factors can be broadly categorized as either structural or endogenous.

The structural factors affecting the NAIRU would include union density, the degree of mismatch between employment supply and demand, wage resistance factors such as the level and structure of taxes, and factors influencing job search, notably the unemployment benefits system. Some of these factors, such as tax rates, might be expected to have only a temporary influence on the NAIRU. Endogenous factors would include the real exchange rate and terms of trade and, more generally, past values of unemployment. The latter arises from persistence or so-called hysteresis effects in unemployment. 3/ If persistence effects were very strong, the NAIRU would appear to behave like a random walk, rendering it redundant for practical analysis.

1/ Measured inflation dropped temporarily below this band in 1986 due to falling oil prices.

2/ See Annex I for a simple model of the NAIRU.

3/ One explanation for hysteresis would be that the threat of redundancy to the average worker, that feeds into wage demands, is more affected by the change as opposed to the level of unemployment (Blanchard (1991)). There is also evidence that unemployment duration reduces search activity and lowers human capital thereby giving unemployment a self-perpetuating element.

With partial hysteresis, it is convenient to distinguish between the long-run NAIRU, which depends only on structural factors, and the effective NAIRU which takes into account the past path of unemployment. An upshot of the theoretical analysis is that the NAIRU would be expected to be a more variable concept than the earlier idea of a fixed natural rate of unemployment. The theoretical variability of the NAIRU is reflected in the wide range of estimates of the NAIRU both between researchers and across different time periods (see tabulation below).

Recent Estimates of the NAIRU

(in percent)

Source	Time period	NAIRU	Comments
1. Layard and Nickell (1986)	1956-55	2.0	Estimates conditional on trade balance; male unemployment rate.
	1967-74	4.2	
	1975-79	7.6	
	1980-83	9.1	
2. Layard, Nickell and Jackman (1991)	1956-59	2.2	Estimates conditional on trade balance; OECD standardized definition of unemployment.
	1960-68	2.5	
	1969-73	3.6	
	1974-80	7.3	
	1981-87	8.7	
	1988-90	8.7	
3. Poret (1990)	1970	2.0	Values estimated from Chart 3.
	1980	8.0	
	1985	9.0	
	1989	8.5	
4. Liverpool model	1980	7.3	Estimates taken from an unpublished Treasury survey of the NAIRU.
	1984	7.0	
	1989	3.5	

The estimates place the NAIRU at the end of the 1980s in a wide range from 3½-9 percent. 1/ While there is considerable uncertainty about the level of the NAIRU, there is more agreement about how the NAIRU changed over the course of the 1970s and 1980s. Most estimates suggest that the NAIRU

1/ The very low estimate of the NAIRU in 1989 by the Liverpool model is difficult to reconcile with inflationary pressures in the late 1980s when the actual unemployment rate at no time declined below 5½ percent. Thus, while it remains possible that in the very long-run the NAIRU is relatively small, it seems certain that the effective NAIRU was much larger in the late 1980s than indicated by the low long-run NAIRU estimates.

rose during the 1970s and early 1980s, reaching its peak value around 1985. Thereafter, the NAIRU is generally estimated to have declined. 1/

A large part of the difference between estimates of the long run NAIRU and its effective value reflects hysteresis effects which research suggests are quite powerful in the U.K. labor market. 2/ Research by Nickell (1987) suggests that the duration effects of unemployment provide one plausible explanation for this hysteresis: empirically, it appears that the long-term unemployed exert little downward pressure on wage settlements. This explanation of hysteresis is corroborated by the IMF staff estimates presented in SM/90/41. Taking account of the composition of the unemployed, the staff estimate of the effective NAIRU at the end of 1988 was around 7 percent.

In accounting for the evolution of the NAIRU over time, the empirical literature has stressed several explanatory factors. These include the effects of trade unions on wage bargaining, taxes and unemployment benefits, and skills mismatches. Some notable studies have also stressed open economy factors such as changes in the real exchange rate or the relaxation of the external constraint due to North Sea oil.

Studies generally find that the NAIRU is positively related to trade union strength, the generosity of the benefits system, and the degree of mismatch in the economy. There is also evidence, particularly implicit in the wage equations used in large scale econometric models of the U.K. economy, of significant wage resistance factors: that is, tax rates are an important consideration of the real target earnings of wage bargainers and changes in taxes tend to be passed on to nominal wages thereby raising the NAIRU. Movements in these variables during the 1980s all tended to be in the direction of reducing the NAIRU. Nevertheless, there is considerable divergence of opinion about the relative empirical importance of various influences on the NAIRU. The divergence reflects the low statistical significance of many of the measured effects and their sensitivity to even minor changes in definitions for the explanatory variables.

The most up-to-date estimates of the NAIRU are those by Layard et al (1991), which summarize a substantial body of research by these economists

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1/ The period averaging used in Layard et al (1991) hides an estimated decline in the NAIRU in the second half of the 1980s from around 10 percent in the middle of the decade to a little over 8 percent on an OECD standardized definition of unemployment (op. cit., page 445).

2/ Some of the dispersion of the estimates of the NAIRU can also be explained by different theoretical approaches. For example, Layard et al (1991) condition their estimate of the NAIRU on a notion of external balance sustainability taken to be trade balance. If the constraint of a zero trade balance were relaxed, the NAIRU would be lower--a 1 percent of GDP increase in the equilibrium trade deficit is consistent with a ¾ percentage point reduction in the NAIRU from an unemployment base of around 6 percent.

during the 1980s. This study is also one of the few to provide a detailed explanation of the movements in the NAIRU over the past. In keeping with other estimates, Layard finds that, after having fluctuated around a reasonably low level in the 1960s and early 1970s, the NAIRU began to rise steeply in the second half of the 1970s, reaching a peak in the mid-1980s. The main factors accounting for the rise in the NAIRU were the rising power of unions, a worsening of the terms of trade following oil price rises and the associated increase in jobs and skills mismatch. Layard estimates that after 1987 the NAIRU fell by around 2 percent, which he considers may in large measure reflect the effects of a tighter administration of benefits and the Restart Program initiated in 1986.

In summary, while NAIRU estimates are subject to a wide margin of measurement error, there is some consensus about the pattern of change in equilibrium unemployment during recent decades. In particular, rising unionization and increased industrial mismatch along with the effects of the oil price shocks, helped to significantly raise the NAIRU in the 1970s. In the early part of the 1980s, the NAIRU continued to rise--reaching, perhaps, double figures--before declining in the later stages of that decade owing to policy induced improvements in job search incentives, lower tax rates, and the weakening of union power. An initial outward shift in the NAIRU in the early 1980s followed by a decline in the second half of the decade would help to explain aggregate developments in unemployment and earnings growth in the 1980s.

The NAIRU in an open economy

The NAIRU model is derived from microeconomic considerations that focus on the behavior of unionized workers and firms operating under monopolistic competition. The key features of the model can be summarized in two equations: one representing the price-setting behavior of firms, the other the wage bargaining demands of workers. The first of these can be written as a simple markup of prices on domestic wage and imported intermediate goods costs:

$$(1) \quad p = \alpha_1(w + t_l - q) + (1 - \alpha_1)pm + z_p'\alpha$$

where p represents output prices, w, wages, t_l, taxes on labor, q, labor productivity, pm, import prices, and z_p a vector of structural factors affecting price markup, such as the degree of industrial concentration. The parameter α_1 reflects the structure of production costs and is related to technological parameters. Small case letters denote that the variable is expressed in logarithms, except for tax variables which are represented as rates. 1/ To the extent that the markup depends on the cyclical position of the economy, terms in the unemployment rate could also be included in equation (1) without affecting the qualitative analysis.

Workers are assumed to bargain for an expected target real consumer's post-tax wage. The size of this target is affected by current and lagged values of unemployment, denoted by u: 2/

$$(2) \quad w - t_d - pc^e = \beta_o - \beta_1 u + \beta_2 \Delta u + \beta_3 q + z_w'\beta$$

where t_d represents the direct tax rate, pc^e, expected consumer prices, and z_w a vector of structural factors (such as the degree of unionization, structure of wage bargaining, and job search determinants) that affect the target wage demands of workers. Consumer prices are related to output prices as follows:

$$(3) \quad pc = t_i + (1 - m).p + m.pm$$

where t_i is the indirect tax rate and m the share of imported goods in the consumption basket.

1/ The use of actual tax rates reflects the approximation log(1+t)=t. This approximation holds good for (small) labor and indirect tax rates, but is less accurate for (larger) direct tax rates.

2/ The current level of unemployment and its first difference (Δu) enter equation (2). This is equivalent to entering current and lagged values of unemployment because:

$$\beta_1 u + \beta_2 \Delta u = (\beta_1 + \beta_2)u - \beta_2 u_{-1}$$

From equations (1)-(3), deviations of actual prices from the values expected by workers can be written as:

$$(4) \quad p - p^e = tw - m.tt + (1 - \alpha_1)c + (\beta_3 - 1)q + \beta_o - \beta_1 u - \beta_2 \Delta u + z_p'\alpha + z_w'\beta$$

where tw is the tax wedge given by the sum of the three tax rates, tt a measure of the terms of trade (p - pm), and c a measure of the real exchange rate (pm - w - t_1 +q).

In equation (4), unemployment plays the role of reconciling the real wage requirements of both workers and firms. Equilibrium is reached when the ex-ante expectations about prices by workers are fully realized. The steady state level of unemployment at which this no-surprise equilibrium is reached can be written from (4) as:

$$(5) \quad u^* = (1/\beta_1).[tw - m.tt + (1 - \alpha_1)c + (\beta_3 - 1)q + \beta_o + z_p'\alpha + z_w'\beta]$$

This value (u^*) is referred to as the NAIRU. In an open economy, it depends on a number of non-structural factors--the terms of trade, competitiveness, and productivity--as well as on structural factors (the z's). However, from a longer-term perspective, the non-structural factors probably have no impact on the NAIRU. For example, Nickell (1987) argues that since unemployment has shown no trend over very long periods, the long-run effect of a trended variable such as productivity is zero--i.e., $\beta_3 = 1$, or productivity increases are eventually passed on in full to real wages. 1/ And if purchasing power parity were to hold in the long run, the variables c and tt would tend to constant values. As a result, the NAIRU would depend only on structural factors in the long run.

However, because of persistence effects (picked up by the term in Δu in equation (2)), the NAIRU is not the only level of unemployment that is consistent with fulfilled expectations. For example, setting $p^e = p$ in equation (4) but not setting $\Delta u = 0$, and rearranging, a non-steady state no-surprise level of unemployment (u^+) can be written as:

$$(6) \quad u^+ = (1/(\beta_1 + \beta_2).(\beta_1 u^* + \beta_2 u_{-1})$$

This 'short-run NAIRU' has the property of eventually converging to the long-run NAIRU (u^*) with the speed of convergence determined by the size of the coefficient on Δu in equation (4). In other words, persistence effects imply the existence of a no-surprise path for unemployment that is dependent on the past history of actual unemployment.

1/ Nickell (1987) and Dreze and Bean (1990) also cite empirical support for this proposition.

Considerations about how price expectations are formed allow equation (4) to be converted into a dynamic relationship between unemployment and inflation--i.e., the Phillips Curve. For example, if inflation were to follow a random walk, price level surprises would be associated with changes in the inflation rate. 1/ Other expectational assumptions would produce different dynamics for the Phillips Curve while the presence of overlapping contracts and costs of adjusting prices would further enrich the dynamic structure.

The Phillips Curve implies a negative trade off between unemployment and inflation: if unemployment were below the short-run NAIRU, for example, there would be pressure for the rate of inflation to increase, and vice versa. It should be noted, however, that since factors such as the terms of trade, productivity and competitiveness can alter the NAIRU, the observed relationship between unemployment and inflation need not exhibit the expected trade off. For example, a negative terms of trade shock could work to simultaneously raise the NAIRU (at least temporarily) and the price level. Alternatively, a real appreciation (decline in c) could simultaneously lower the NAIRU and price pressures.

In the last example, however, the scope for improving the inflation-unemployment trade off would likely be a temporary phenomenon, regardless of whether purchasing power parity were to hold in the long run. This is because a real appreciation would tend to weaken the external current account position and put a strain on the sustainability of the balance of payments. Indeed, it is possible to define a unique level of competitiveness and unemployment for an open economy that reconciles both the internal balance of the labor market with a sustainable external position. This can be done by specifying the external current account balance (CA) as a function of competitiveness and the pressure of domestic demand, proxied by unemployment. That is:

(7) $CA = \delta_o + \delta_1 c + \delta_2 u$

Equations (5), (6) and (7) determine jointly the rate of unemployment and competitiveness consistent with both internal labor market balance and a given sustainable path for the external current account.

1/ That is,

$$p^e = p_{-1} + \Delta p_{-1}$$

So that,

$$p - p^e = \Delta p - \Delta p_{-1} = \Delta^2 p$$

This model of expectations is the origin of the 'non-accelerating inflation' part of the NAIRU acronym, although strictly speaking it goes one derivative too far.

IV. Recent Productivity Growth in the United Kingdom

During the 1980s a number of observers argued that there had been a favorable shift in U.K. productivity growth in the course of the decade. This chapter re-assesses the evidence of such a shift in the light of data on labor and multifactor productivity extending through the 1990-91 recession. Recent productivity developments are examined in relation both to the United Kingdom's earlier productivity performance and to that of other industrialized countries.

One conclusion that emerges from the analysis is that whereas productivity growth in the U.K. economy as a whole in the 1980s was clearly higher than in the 1970s, it was lower than in the post-war period up to 1973. In contrast, productivity growth in manufacturing during the 1980s appears to have at least matched previous best performance. The data available for 1990 and 1991 appear to indicate that the improvements in performance observed in the 1980s have been maintained during the recent recession. The degree to which the underlying growth rate of productivity has risen nevertheless remains subject to question. What seems beyond dispute, however, is that relative to growth in the other industrialized countries, the U.K.'s productivity performance in the 1980s, particularly in manufacturing, represents a marked improvement on earlier post-war decades.

The remainder of this chapter is organized as follows: Section 1 reviews the basic conceptual framework used for the estimation of movements in multifactor productivity and describes some of the major problems that have arisen in its application. Section 2 describes the evidence on recent productivity growth in the United Kingdom, both for the economy as a whole and for the manufacturing sector, while Section 3 reviews the various interpretations offered of this evidence.

1. Estimating productivity trends--methods and problems

In most productivity studies, it is assumed that there is an aggregate production function describing the dependence of output on inputs of the services of two homogenous factors of production, capital and labor, and on time, which represents disembodied technical progress at an exogenous rate. Such a relationship implies that the growth rate of output can be expressed as the sum of three terms--the contribution of the growth of capital services, the contribution of the growth of labor services, and the rate of technical progress:

$$\hat{Q} = e_K\hat{K} + e_L\hat{L} + r \qquad (1)$$

where ^ represents a proportional rate of growth; Q measures output (value-added), and K and L measure the inputs of the services of capital and labor respectively; e_K and e_L represent the partial

elasticities of output with respect to K and L; and r is a measure of the rate of technical progress.

On the assumption of perfectly competitive markets, the two factors will be paid their marginal products, so that the elasticities e_K and e_L will equal the shares of the respective factors in total income. This implies that e_K and e_L must sum to unity, which in turn implies that the production function must exhibit constant returns to scale. Then the growth rate of labor productivity, $\hat{q}$ can be expressed in terms of the growth rate of the capital-labor ratio, $\hat{k}$, capital's share in income, π, and the rate of technical progress, r:

$$\hat{q} = \hat{Q} - \hat{L} = \pi (\hat{K} - \hat{L}) + r = \pi\hat{k} + r \qquad (2)$$

Given data for $\hat{q}$, π, and $\hat{k}$, (2) shows a simple method for estimating r, the rate of technical progress. This was first shown by Solow (1957). In empirical studies based on this methodology, which are sometimes referred to as growth accounting exercises, r has also been referred to as the rate of increase in total factor productivity (or multi-factor productivity), and also as the "residual".

A number of problems arise in the empirical application of this simple framework. The validity of the assumptions about competitive factor pricing and constant returns to scale are questionable, as is the assumption that technical progress occurs at an exogenous rate and that it is not embodied in new units of the factors of production. This is to say nothing about the conceptual problems that arise in the measurement of the factor inputs. Nevertheless, and in spite of the development of models which allow for embodied technical change and for technical progress at an endogenous rate, the above crude framework has continued to be considered useful for the analysis of productivity growth, and perhaps the framework most commonly used for this purpose.

At least two major problems, however, cannot be ignored, and they have both proved important in the interpretation of recent productivity developments in the United Kingdom. First, a production function such as (1) incorporates an assumption that output cannot vary merely on account of changes in the intensity of utilization of the factors, which are not taken into account in the measurement of K and L: implicitly, K and L measure fully-utilized inputs of capital and labor. In practice, however, the utilization of the factors is of course strongly pro-cyclical and this underlies a general tendency for measured productivity growth to be strongly pro-cyclical.

The second problem relates to shortcomings in the data for capital and output. With regard to capital, in the absence of data in the U.K. for capital services, K in the production function is generally represented by data for the value of the capital stock in real terms (i.e., at constant replacement cost), which are constructed from data on fixed investment and

assumptions about the service lives of assets which take no account of the dependence of service lives on economic conditions. This may, for example, lead to a significant overestimation of the capital stock, and thus an underestimation of total factor productivity, if economic developments cause an unusual acceleration in the scrapping of plant and equipment.

With regard to output data, a relevant problem is that while these purport to measure value-added, they are in practice constructed from disaggregated gross output data, using assumed value-added weights derived from less frequently conducted production censuses. As pointed out by Bruno and Sachs (1982), measures of output so constructed will tend to deviate from actual value-added when the relative prices of raw materials and other factors change, possibly leading to distortions in the measurement of productivity.

2. Evidence on recent U.K. productivity growth

a. An examination of the data

Charts 11-13 depict movements in output, capital and labor for the whole U.K. economy and the manufacturing sector since 1960. A cursory examination of these charts suggests the following three features: (a) labor productivity growth appears to be strongly procyclical in reflection of the relatively damped movements in employment in relation to output; (b) there is a faster trend growth of labor productivity in manufacturing than in the economy as a whole, associated since around the early 1970s with a relative decline in output and an absolute decline in employment in the manufacturing sector; and (c) there appears to be a distinct acceleration of productivity growth in the 1980s, relative to the 1970s, especially in manufacturing, although differences between average productivity growth in the 1980s and the 1960s are less clear.

In order to identify more precisely recent developments in the trend growth of productivity, it is first necessary, as indicated in the previous section, to allow for variations in the intensity of factor utilization associated with the cycle. A commonly used, and perhaps the simplest, method of doing so is to compare productivity movements over full cycles, either from peak to peak or from trough to trough. 1/ The following

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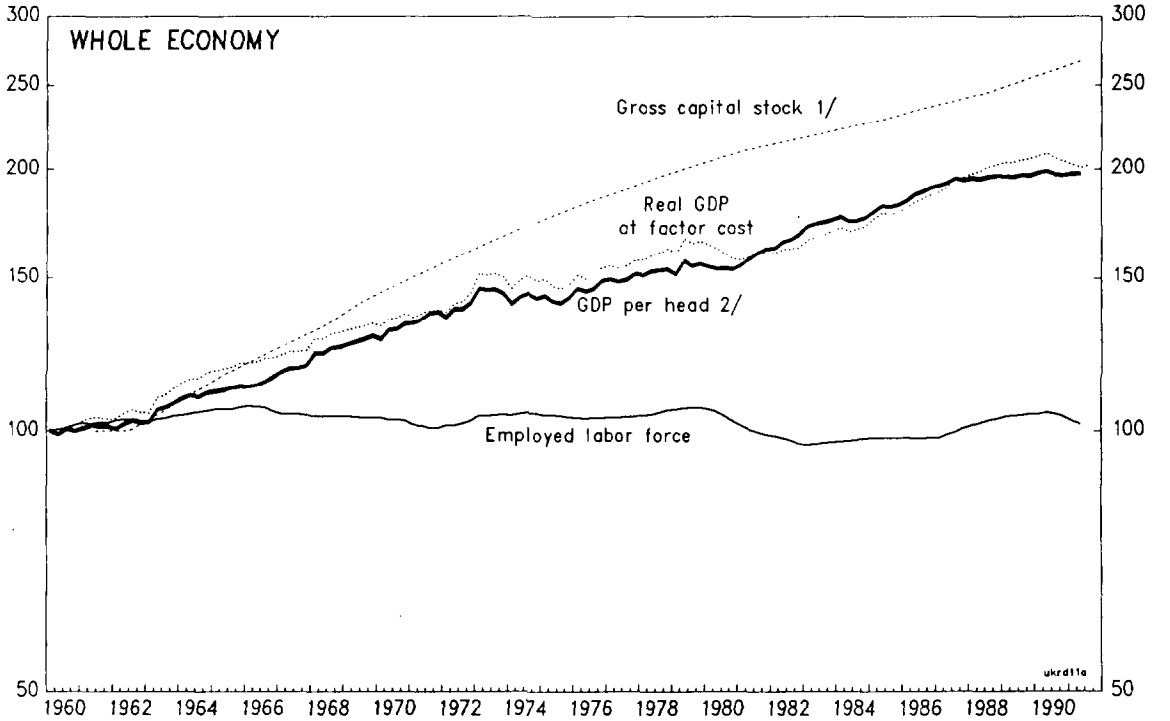
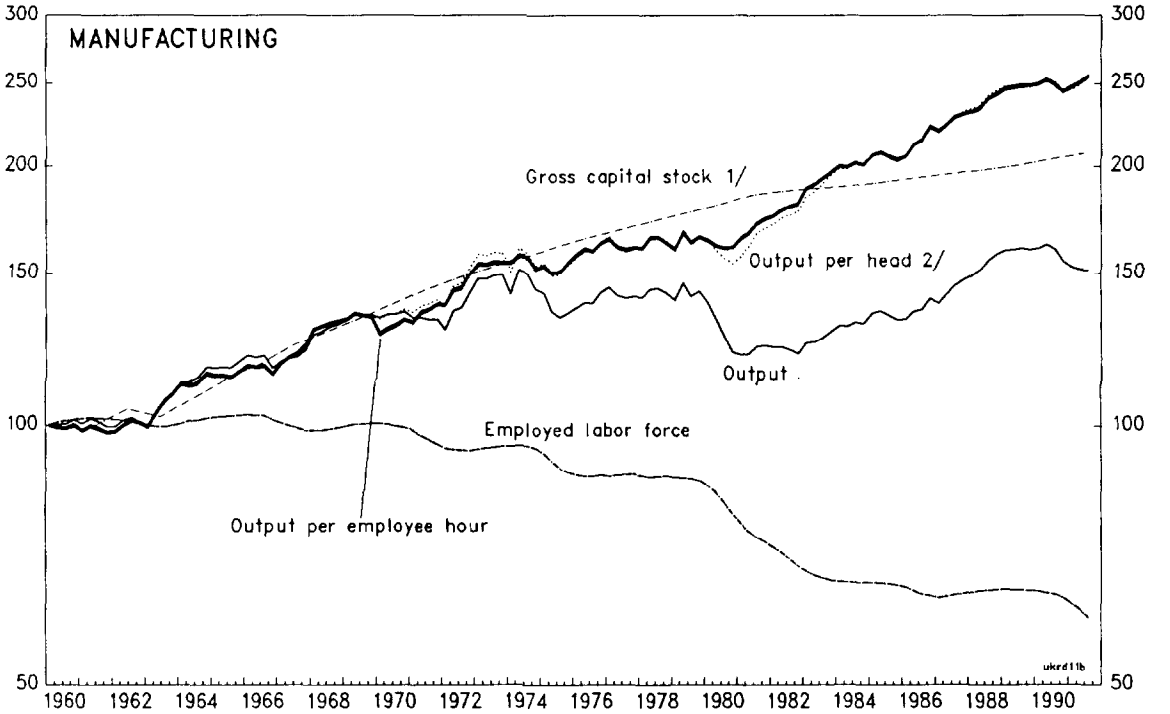
1/ See, for example, Matthews et al (1982), especially Chapter 2, and Feinstein and Matthews (1990). One problem with this approach is, of course, that not all cycles are the same. In particular, different peaks (and troughs) might be associated with different degrees of factor utilization.

CHART 11
UNITED KINGDOM

PRODUCTIVITY TRENDS, 1960-1991

(1960 Q1=100; logarithmic scale)





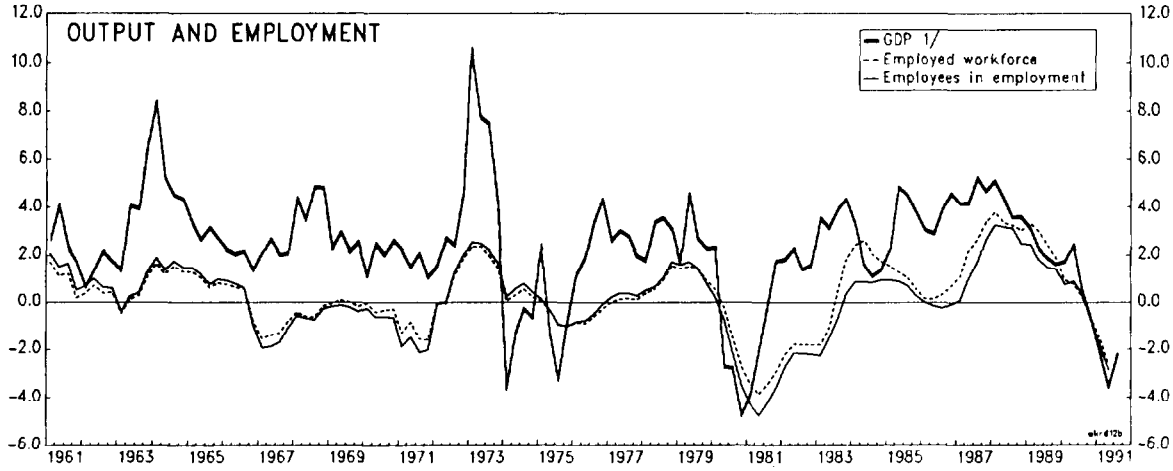
Sources: CSO, Economic Trends, United Kingdom National Accounts.

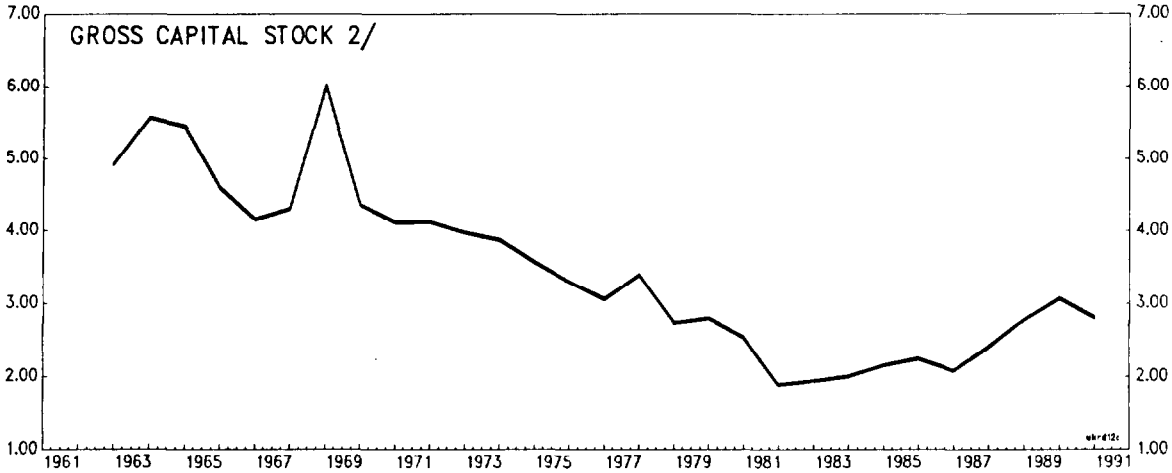
1/ At 1985 replacement cost.
2/ Per person in employed workforce.

CHART 12
UNITED KINGDOM

PRODUCTIVITY AND OUTPUT GROWTH, 1961-1991

(Annual percentage change)





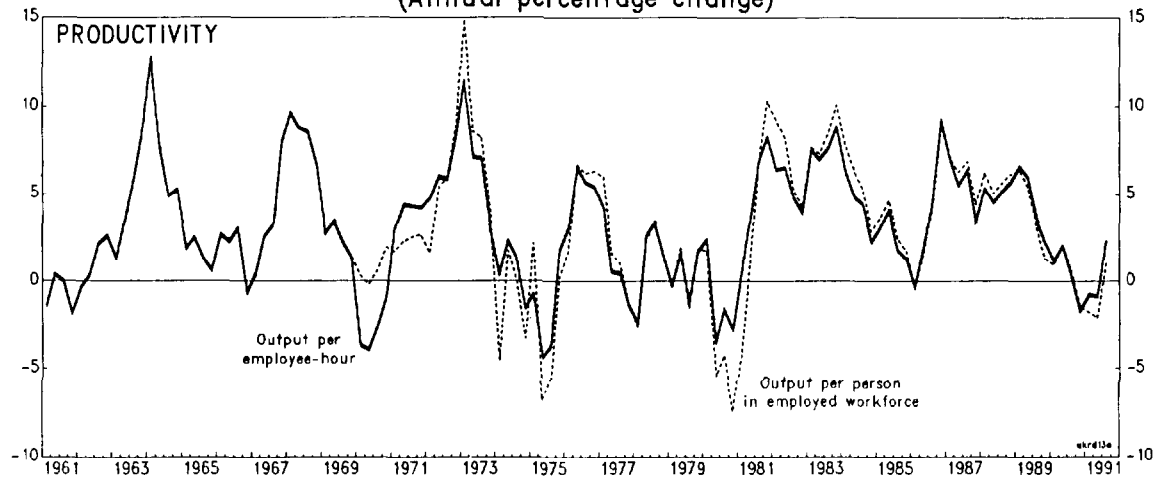
Sources: CSO, Economic Trends, United Kingdom National Accounts.

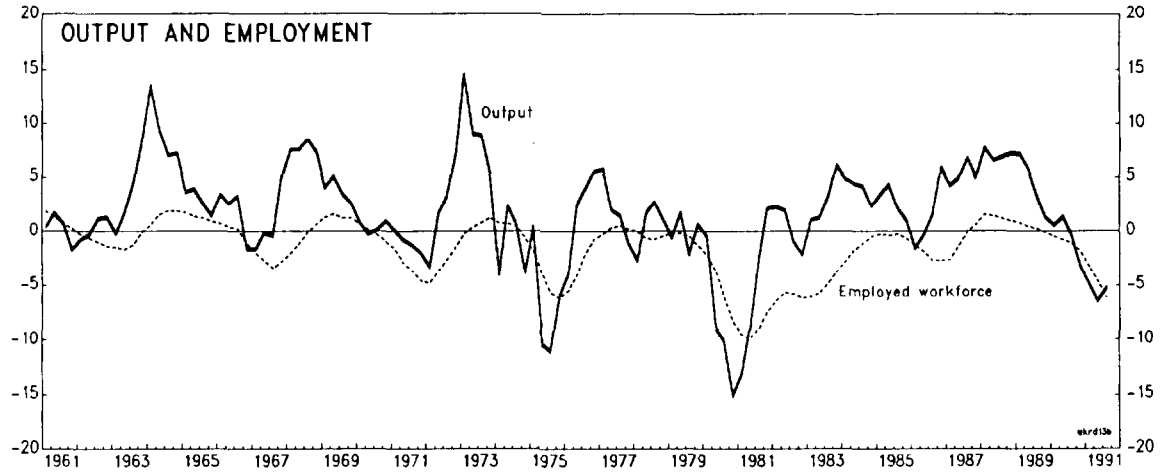
1/ At 1985 factor cost.
2/ At 1985 replacement cost.

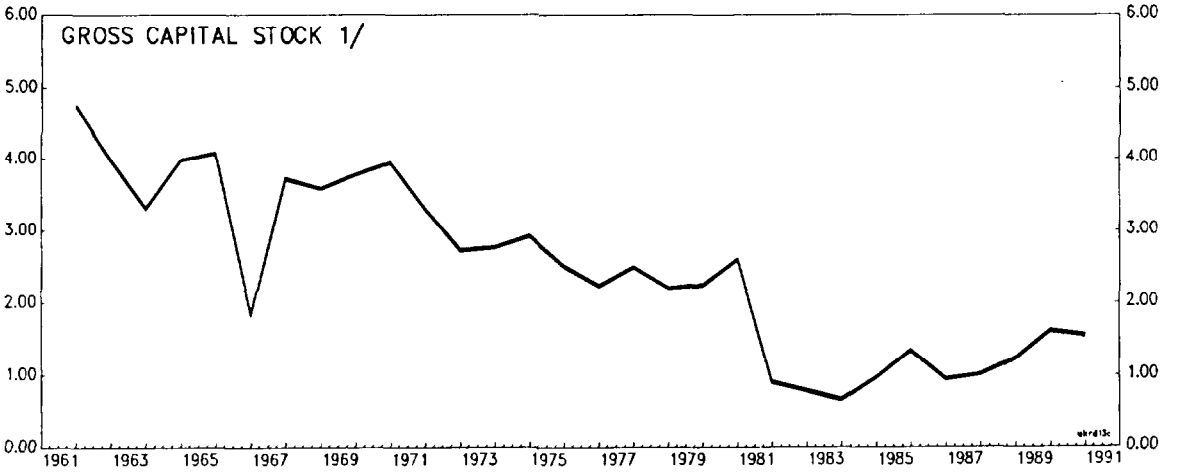
CHART 13
UNITED KINGDOM

PRODUCTIVITY AND OUTPUT GROWTH IN MANUFACTURING SECTOR, 1961-1991

(Annual percentage change)







Sources: CSO, Economic Trends, United Kingdom National Accounts.

1/ At 1985 replacement cost.

tabulation summarizes productivity developments for the economy as a whole on a peak-to-peak basis since 1951 1/:

Whole Economy Productivity Growth
on a Peak to Peak Basis, 1951-1990

(annual percentage growth)

	Real GDP	Employed Labor Force	Capital Stock	Capital per Head	Output per Head	Total Factor Productivity
Peak to Peak Cycles						
1951-1955	3.1	0.8	2.3	1.5	2.0	1.6
1955-1960	2.5	0.4	2.6	2.2	2.0	1.4
1960-1965	3.3	0.8	4.1	3.3	2.5	1.6
1965-1969	2.7	-0.4	4.7	5.1	3.1	1.8
1969-1973	3.5	0.2	4.1	3.9	3.3	2.4
1973-1979	1.4	0.2	3.1	2.9	1.2	0.5
1979-1989	2.2	0.3	2.3	2.0	1.8	1.3
Memorandum items						
1969:4-1973:1	4.1	0.2	...	...	3.9	...
1973:1-1979:2	1.6	0.3	...	...	1.3	...
1979:2-1990:2	2.1	0.4	...	...	1.7	...

Source: Feinstein and Matthews (1990) and Fund staff estimates.

From the tabulation above, it would appear that the growth of output and labor productivity in the economy as a whole in the 1980s was substantially faster than in the 1973-79 cycle--faster by as much as one half. Furthermore, on account of the slower rate of capital accumulation, the growth of total factor productivity was about three times as fast during 1979-89 as during 1973-79. However, it would appear that the pick up in productivity growth from the 1970s to the 1980s entailed only a partial return toward the growth rates seen in the 1950s and 1960s.

A rather different picture emerges from peak to peak estimates of productivity growth in manufacturing, summarized in the tabulation below. As for the economy as a whole, the growth of manufacturing output in the 1979-89 cycle, while faster than the 1973-79 cycle, was slower than in any cycle between 1951 and 1973. However, reflecting the substantial shedding of labor in manufacturing during the 1980s, the growth of both labor

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1/ The growth rate of total factor productivity is calculated on the basis of equation (2) above, with capital's share in income defined as the share of gross trading profits and rent in GDP excluding income from self-employment over the period described.

productivity and total factor productivity in the 1979-89 cycle appears roughly to have matched the fastest post-war growth rates, which were seen in the late 1960s and early 1970s.

Manufacturing Productivity Growth
on a Peak to Peak Basis

(annual percentage growth)

	Manu-facturing Output Growth	Employed Labor Force	Capital Stock	Capital per Head	Output per Head	Total Factor Productivity
Peak to Peak Cycles						
1951-1955	3.3	1.3	3.4	2.1	2.0	1.5
1955-1960	3.0	0.5	2.7	2.1	2.5	2.0
1960-1965	3.1	0.3	3.8	3.5	2.8	1.9
1965-1969	3.4	-0.6	3.7	4.3	4.0	2.9
1969-1973	2.6	-1.5	3.3	4.8	4.2	3.0
1973-1979	-0.7	-1.4	2.5	3.9	0.7	-0.3
1979-1989	1.2	-2.9	1.3	4.2	4.2	3.1
Memorandum items						
1969:2-1973:4	2.3	-1.2	...	...	3.5	...
1973:4-1979:2	-0.4	-1.6	...	...	1.2	...
1979:2-1989:3	0.9	-3.0	...	...	3.9	...

Source: Feinstein and Matthews (1990) and Fund staff estimates.

In order to extend the analysis beyond 1989 and to take account of the latest available data, the following tabulation summarizes productivity developments both for the economy as a whole and for the manufacturing sector on a trough to trough basis since 1962, using quarterly data. Here 1991:2 is assumed to have been a cyclical trough for the whole economy, while 1991:3 is assumed to have been a trough for the manufacturing sector. The tabulation provides additional evidence of acceleration in the 1980s when compared with the 1970s; and in the case of the manufacturing sector it suggests that the performance of labor productivity in 1981-91 may have been the best in the post-war period.

Productivity Growth on a Trough-to-Trough Basis, 1962-1991

	Whole Economy		Manufacturing		
	Real GDP	Real GDP per head	Output	Output per head	Output per hour
1962:1-1966:4	3.4	2.9	3.3	3.3	...
1966:4-1972:1	2.3	2.1	2.0	3.6	...
1972:1-1975:3	1.8	1.2	0.9	2.5	2.6
1975:3-1981:1	1.4	1.7	-1.8	0.9	1.6
1981:1-1991:2/3	2.4	2.0	2.2	4.7	4.3

Source: Fund staff estimates

With regard to productivity performance during the late stages of the recent recession, it may be noted that as in the earlier recession, there appears to have been a sharp pick-up in labor productivity in manufacturing associated with relatively rapid labor-shedding. Thus, between November 1990 and September 1991, output per hour in manufacturing rose at an annual rate of 6 percent, even though at the same time output fell at an annual rate of 2 percent. Similarly, between August 1980 and June 1981, output per hour in manufacturing rose at an annual rate of 7 percent, in spite of a concurrent fall in output of 5 percent.

It is also interesting to compare recent productivity developments in the U.K. with corresponding developments in other industrial countries. Such an international comparison is provided in the tabulation below, which refers to peak-to-peak cycles between 1960 and 1989. 1/ From this tabulation, it would appear that for the economy as a whole, and to a lesser degree for the manufacturing sector, productivity growth in the United Kingdom tended to lag behind that in the other industrialized countries until the 1980s. Thus, up until the first oil crisis in 1973, the growth of labor productivity in the U.K. fell well short of that in the other industrialized countries, with the exception of the United States, while following the oil crisis the deceleration in productivity growth in the United Kingdom appears to have been more marked than that in the other industrialized countries. By contrast, during the 1980s, productivity growth in the United Kingdom for the economy as a whole did not diverge very much from that in the other industrialized countries, while productivity

1/ The dates shown refer to the U.K. and the U.S. The adjacent benchmark years for other countries between which growth rates are calculated, where different, are as follows: Japan--1964, 1970, 1990; Germany--1970, 1990; France--1964, 1970.

growth in the manufacturing sector placed the United Kingdom at around the top of the league table. 1/

International Comparison of Selected
Productivity Growth on a Peak to Peak Basis, 1960-89

(Annual percentage growth)

	United Kingdom	U.S.A.	Japan	Germany	France
Real GDP per head					
1960-1965	2.5	3.0	8.8	4.2	5.5
1965-1969	3.1	1.4	9.0	4.6	4.6
1969-1973	3.3	0.9	5.7	3.8	4.0
1973-1979	1.2	--	2.9	2.8	2.5
1979-1989	1.8	1.1	3.0	1.3	2.1
Total Factor Productivity in Business Sector					
1965-1969	2.3	0.9	4.5	2.5	...
1969-1973	3.0	0.7	1.5	1.9	3.1
1973-1979	0.9	-0.3	1.0	1.6	1.9
1979-1989	1.2	0.2	1.5	0.6	1.8
Output per Head in Manufacturing					
1960-1965	2.8	4.8	6.4	4.2	...
1965-1969	4.0	2.3	10.5	3.9	...
1969-1973	4.2	3.9	8.7	4.3	5.3
1973-1979	0.7	2.0	3.9	3.3	2.5
1979-1989	4.2	3.9	2.9	2.0	2.5

Source: OECD, and Fund staff estimates.

b. A survey of recent research

Econometric research on recent U.K. productivity growth has focused almost exclusively on the manufacturing sector. 2/ A notable early paper to examine whether productivity in manufacturing had accelerated during the 1980s was Mendis and Muellbauer (1983): their basic methodology has subsequently been applied in a number of other studies, including most recently Muellbauer (1991). The approach has been to estimate an aggregate production function in a way which would take account of the difficulties

1/ Crafts (1991), using data for a larger sample of countries, reaches similar conclusions.

2/ Developments in the whole economy are examined by Feinstein and Matthews (1990) using the peak-to-peak method discussed above.

referred to in section (1) above of allowing for variations in capacity utilization and problems in the measurement of capital and output, and which would allow for shifting time trends in total factor productivity. A feature of the approach is that capacity utilization is represented by a particular non-linear function of the ratio of overtime hours to normal hours, which Mendis and Muellbauer showed to be a valid measure of the average utilization rate on the assumption that the frequency distribution of utilization rates across firms is stable over time. Other explanatory variables used and found significant have included cumulative gross investment (purporting to be a proxy for changes in the pace of scrapping not reflected in the capital stock data) and the relative price of raw materials (intended to take account of the problem of unmeasured variations in the relationship between value-added and gross output).

After these effects were taken into account, Mendis and Muellbauer found that the evidence up to the end of 1982 indicated a temporary spurt in cyclically-corrected labor productivity during the 1980-81 recession, followed by a relapse to a growth rate actually lower than that seen in the 1970s. 1/ However, Muellbauer (1986) re-estimated the model on the longer data set 1956:1-1986:1 and found a distinct upward shift in the trend rate of growth of total factor productivity at the beginning of the 1980s. This result was supported by the findings of Spencer (1987), using data up to 1986:4, and the Bank of England (1989), using data up to 1987:4. Muellbauer (1991) has recently reported results for the period 1956:1 to 1990:4 which show stable parameter estimates compared with his 1986 results, and shifting time trends which imply the following annualized rates of total factor productivity growth (after allowing for variations in factor utilization and biases in the measurement of output, but before allowing for errors in the measurement of the capital stock).

Trend Growth in Manufacturing
Total Factor Productivity

(annualized percentage change)

1956:1-1959:3	1.8
1959:4-1972:4	2.9
1973:1-1979:2	0.7
1979:3-1980:2	-1.6
1980:3-1990:4	3.3

Source: Muellbauer (1991).

1/ In another study of production function parameters undertaken in the early 1980s on data up to 1982, Artus (1984) found that "An examination of the regression residuals for 1981 and 1982 suggests that productivity growth may have picked up again in the United Kingdom in recent years, but it is still too early to say."

Muellbauer infers that total factor productivity growth in the 1980s was substantially faster than in the 1970s, and that it also compares favorably with the 1960s. This is consistent with the inference drawn from the raw data on productivity performance in the manufacturing sector reported above. Muellbauer also infers that the new, steeper trend established at the beginning of the 1980s remained steady in the second half of the decade.

An alternative method of allowing for changes in factor utilization introduced by Harvey and others (1986), however, has led to rather different results. The method involves the estimation of stochastic time trends in an employment equation, which describes employment as adjusting gradually to an "expected labor requirement" related to expected output. Using this method, Darby and Wren-Lewis (1988, 1990) and Wren-Lewis (1988) report results for the period 1965-87 which indicate that the data are consistent with a constant underlying rate of growth of total factor productivity of about 3 percent throughout, when two influences are taken into account. The first is movements in relative factor prices: it is argued that following more rapid growth in real labor costs in the 1980s than in the 1970s, producers substituted capital for labor by installing more labor-saving capital equipment. The second is that during the late 1970s producers appeared to hold persistently over-optimistic views about prospective output growth--as evidenced by CBI survey data--which led them to hoard labor. When this expectations "bubble" was burst by the 1980 recession, productivity growth accelerated as firms caught up the ground lost earlier through a labor shake-out. The results obtained after taking these two factors into account suggest that there may have been no significant absolute improvement in the U.K.'s underlying rate of productivity growth in manufacturing in the 1980s.

With regard to international comparisons, however, the results obtained by Darby and Wren-Lewis (1990) support the conclusions the relative productivity performance of the United Kingdom in the 1980s, in relation to other major industrial countries, was superior to its relative performance in both the 1970s and the earlier decades of the post-war period. Feinstein and Matthews (1990) and Crafts (1991, 1991a) also present evidence of this relative improvement in performance, for the whole economy as well as the manufacturing sector, similar to that described in the preceding sub-section, but with reference to a broader sample of countries.

As indicated in the preceding sub-section, the improvement in productivity performance observed in the U.K.manufacturing sector in the 1980s has exceeded the improvement in the economy as a whole. The difference may be accounted for partly by the statistical effect of the relative contraction of the manufacturing sector, where productivity growth has generally been faster than in the economy as a whole. 1/ There may

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1/ The share of manufacturing in (constant-price) GDP fell from 38 percent in 1973 to 27 percent in 1979, to 24 percent in 1989.

also, however, have been a deterioration in productivity performance outside manufacturing. This question is addressed by both Feinstein and Matthews (1990) and Muellbauer (1991), with differing results. On the basis of a sectoral decomposition of labor productivity growth outside manufacturing up to 1988, Feinstein and Matthews find the main part of the explanation in an absolute decline in productivity in "other services" in the 1980s, contrasting with growth in this sector at around the economy's average rate in the earlier part of the post-war period. This deterioration was accounted for, in turn, by an expansion of employment in the sub-category, "miscellaneous services" where the level of productivity (and pay) is relatively low.

Muellbauer, in contrast, applying the methodology described earlier to data for the whole economy excluding the industrial sector, estimated shifting time trends suggesting a 2.0 percent rate of total factor productivity growth in 1959-72, falling to 0.1 percent in 1973-79, and then picking up, but only to about 1.2 percent per annum in 1980-90. These estimates are not very different from the growth rates for the whole economy derived in the preceding sub-section. However, Muellbauer expresses the suspicion that quality improvements in service outputs in the 1980s have been significantly undercounted, so that productivity growth outside the production sector and hence in the economy as a whole may have been underestimated.

3. Interpretations of recent productivity performance

It is clear that U.K. productivity growth in the 1980s was faster than in the 1970s, that in relation to other industrial countries it compares favorably with earlier parts of the post-war period, and that these improvements in performance have been particularly pronounced in the manufacturing sector. It appears also, from data for the late 1980s and the 1990-91 recession, that the improvement in domestic growth performance relative to the 1970s has been maintained. What remains more questionable is first, whether domestic productivity growth in the past decade has been significantly greater than before the 1973 oil shock; and second, whether the improvement in growth performance reflects a shift to a steeper trend path (a possible interpretation of Muellbauer's results), or a transitory departure from an unchanged trend path (Darby and Wren-Lewis's interpretation), or a transition to a higher trend path the growth rate along which may be unchanged. These different interpretations obviously carry different implications for prospective productivity growth. The choice among them depends partly on the analysis of underlying influences, and a number of possibilities have been proposed.

It is worth noting first, that Feinstein and Matthews (1990) considered whether the acceleration of productivity growth in the 1980s might be a statistical illusion because of inadequate allowance for differences between cycles. Thus, they argue that there is reason to suppose that the 1979 cyclical peak was significantly lower relative to productive potential than the peaks of 1973 and 1988, so that unadjusted peak-to-peak comparisons

would tend to bias downwards the estimated trend of the 1970s, and bias upwards the estimated trend of the following decade. 1/ However, when Feinstein and Matthews make adjustments for such biases, the comparison between the 1970s and the 1980s does not change qualitatively. Moreover, it is worth noting that the build-up of North Sea oil production in the 1970s boosted whole-economy productivity growth in the 1970s relative to the 1980s, so that in this respect unadjusted data understate the increase in productivity growth between the two decades. 2/

Another possible source of statistical illusion, which has been referred to earlier, is distortions in the measurement of the capital stock. Thus, Muellbauer suggests that the apparent slowdown in total factor productivity in the 1970s may have reflected an over-estimation of the capital stock that overlooked the premature scrapping of capital following the first oil shock. 3/ Muellbauer draws the corollary that the growth of the capital stock recorded in the data for the 1980s may have been underestimated because the stock at the beginning of the period was smaller than estimated thereby resulting in an upward bias in the estimated trend for total factor productivity growth in the 1980s. However, he considers that this bias accounts for only part of the apparent acceleration from the 1970s. Bean and Symons go further, and report results for manufacturing in the period 1973-86 which show that with allowance for premature scrapping, "the attenuation in the estimated acceleration in total factor productivity growth is really very modest."

It therefore seems that after allowing for these statistical problems, there was an increase in productivity growth in the 1980s which remains to be explained. One possible explanation referred to by Muellbauer (1986) and Bean and Symons (1989) is that there may have been a quasi-exogenous wave of innovation in the 1980s giving rise to an acceleration of technical progress, computerization being one plausible candidate. If true, this would tend to imply a temporary increase in the rate of productivity growth. The main problem with this conjecture is that it fails to explain the improvement in U.K. performance relative to other countries. A possibly complementary argument put forward by some observers is that the U.K. may have gained from its relative success in attracting inward direct investment

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1/ The unemployment rate in the U.K. in 1988 was about 8 percent, twice the level of 1979. But in 1988, 68 percent of firms reported to the CBI than they were working at capacity, compared with 43 percent in 1979.

2/ Feinstein and Matthews (1990), estimate that North Sea oil production raised the average growth rate of GDP by 0.5 percent in the 1973-79 period, but that it made little difference in the 1980s.

3/ The effect of the first oil shock in accelerating scrapping in the United States was discussed by Baily (1981). Artus (1984), in his study of real wages and employment in manufacturing in seven major industrial countries, assumed that 10 percent of the existing capital stock was retired during 1974-76 in response to the first oil shock and that the same proportion was retired during 1980-82.

from Japan, with its accompanying benefits in technology and work practices. While this argument may have some validity, it does not appear that the boost to productivity growth has been limited to, or even particularly concentrated in, those industries where such investment has been most prevalent. 1/ It is also interesting to note, in the context of technical progress and innovation, that the share of expenditures on research and development in the U.K. was roughly constant at about 2.2 percent through the 1970s and the 1980s, while in other industrialized countries on average this share grew substantially. 2/

A factor that seems to have more plausibility at least as a partial explanation of the acceleration of U.K. productivity is suggested by the hypothesis of international convergence of productivity levels associated particularly with Gerschenkron (1962). This hypothesis states that productivity growth rates will tend to be negatively correlated internationally with current productivity levels, at least across countries that have attained a certain threshold level of capability to innovate. This is essentially because the diffusion of technical knowledge causes productivity levels to tend to converge (over the long run) on productivity in the "leading" country. Feinstein (1988) provides graphic evidence of the operation of this process over the period 1870-1984, showing that the relatively slow rate of British productivity growth, by international standards, through most of this period was associated, up to the late 1960s, with a productivity level that was higher than in most other industrial countries except the United States. By the 1970s, however, labor productivity in the U.K. was lower than in most other major industrial countries. According to the convergence hypothesis, as British productivity fell in relation to that of its peers, so the potential increased for an acceleration which would make it possible for the U.K. to narrow the gap below the new leaders. Bean and Symons cite econometric evidence supporting the convergence hypothesis for 19 countries over the period 1950-80, even though the equation for the U.K. left unexplained a large part of the shortfall in the U.K.'s productivity level relative to the leading country.

The convergence hypothesis explains why there may have been a greater potential then before for acceleration in U.K. productivity growth in the 1980s. However, it fails to provide a convincing explanation of why the acceleration actually occurred at that time. Three main factors have been invoked in effect to complete the explanation. First, it has been argued by some that the unusually severe recession of 1979-81, by inducing an unusually large shake-out of marginal firms and marginal workers, improved productivity performance through a "batting-average" effect. This argument is supported, for example, by the results of Darby and Wren-Lewis, and it is also consistent with the particular acceleration of productivity in the manufacturing sector, since manufactures (and other traded goods) were hit particularly hard by the real appreciation of sterling at the time. It does

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1/ See, e.g., Bean and Symons, Table 7.
2/ See, e.g., Crafts (1991), Table 7(a).

not, however, seem to help explain the apparently sustained effect on productivity growth rates through the 1980s.

Second, some have referred to the effects of the strategic change in the conduct of macroeconomic policy that occurred with the coming into office in 1979 of the new government. For example, Budd (1989) cites the fact that the maintenance of full employment has ceased to be an objective of economic policy, and argues that this led to improved economic performance. This can probably be interpreted as a possible once-and-for-all effect on the level of productivity through more disciplined economic behavior.

A third and broader explanation is associated with the various supply-side reforms introduced since 1979. Thus, for example, data show sharp improvements in efficiency in nationalized industries, some of which were subsequently privatized. Moreover, direct tax rates were lowered substantially to improve incentives. More important still may have been the radical shift from former interventionist industrial policies, to policies of deregulation and relatively unrestrained market forces, and the effects of this shift on productivity through management decision-making. This again would presumably consist of a once-and-for-all effect on productivity levels. The supposed effects of many of these supply-side reforms are obviously difficult to test. One influence which has been tested, however, relates to industrial relations and trade union reform.

There is no question that there was a substantial decline in the power of trade unions in the 1980s not only as a result of the government's abandonment of the full-employment objective, but also owing to the government's success in certain strategic industrial relations confrontations, and industrial relations legislation restricting the rights of trade unions. This has no doubt led to a decline in restrictive practices, and it may well have also resulted in a greater freedom to innovate on the part of management. The argument that these changes may have been important is appealing for at least two reasons: first, it is consistent with the particular acceleration of productivity in manufacturing, because the manufacturing sector is relatively highly unionized; and second, it can help to explain the observed sustained increase in the rate of productivity growth. Industrial relations evidence quoted by Metcalf (1988) suggests that a major ingredient of the productivity revival has been a decline in overmanning, demarcation, and other restrictive practices. And Bean and Symons (1989) describe the results of an industrial cross-section econometric study showing that improvements in productivity growth between 1974-79 and 1980-86 were positively correlated with plant size (used as a proxy for the presence of multiple trade union bargaining units) and with the proportion of workers covered by collective agreements. They conclude that the reduction in union power has had powerful effects on productivity, especially where the influence of trade unions on the wage bargaining outcome had been greatest.

The possibility that the improvement in U.K. productivity growth observed in the past decade may be sustained further is therefore given credence not only by the convergence hypothesis and the gap that continues to exist between productivity levels in the U.K. and in many other industrial countries, but also by the possible dynamic effects of supply-side reforms. Moreover, the less impressive performance of productivity growth outside manufacturing in the 1980s may indicate a potential for catch-up within the domestic economy which would boost future growth. There are other considerations, however, which tend to justify a less sanguine expectation. Thus, the fact that the improvement in performance has been concentrated in manufacturing leaves open the possibility that it has been largely a once-and-for-all occurrence, related to the contraction in employment in that sector, and that with more balanced sectoral growth, rates of productivity growth may fall back. Furthermore, some recent studies have emphasized the importance of human capital accumulation in productivity growth, and have found that the gap between levels of skill and training in the U.K. and in other industrial countries has been widening in favor of the latter. 1/ These and other considerations suggest that there can be no safe presumption about the durability of the improvement in productivity growth observed in the past decade.

V. Fiscal Developments on a Cyclically Adjusted Basis

1. Introduction

An important goal of the Medium Term Financial Strategy since its inception in 1980/81 has been to reduce both the size of the public sector and the Public Sector Borrowing Requirement (PSBR). 2/ A cursory examination of Table 3 and Chart 14 would suggest that considerable success has been achieved in this endeavor. Thus, for example, between 1980/81 and 1990/91, overall government expenditure was reduced from 45¾ percent of GDP to 40 percent of GDP, while over the same period, the PSBR (excluding privatization receipts) was reduced from 5¼ percent of GDP to around 1 percent of GDP. 3/ These gains are particularly striking in an international context as suggested by the data summarized in Table 4. This table shows that over the past decade the United Kingdom's fiscal consolidation has allowed it to move from a situation where its public debt

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1/ Prais and Wagner (1988).

2/ A review of the Medium Term Financial Strategy during the 1980s was presented in Supplement 1 to the Report on Recent Developments in the United Kingdom (February 22, 1989, SM/89/38).

3/ In the United Kingdom public accounts, privatization receipts are treated as a negative expenditure. The ratios of general government expenditure to GDP mentioned in this chapter refer to the ratio of those expenditures before deducting privatization proceeds.

Table 3. United Kingdom: Selected Indicators of the Public Sector's Finances

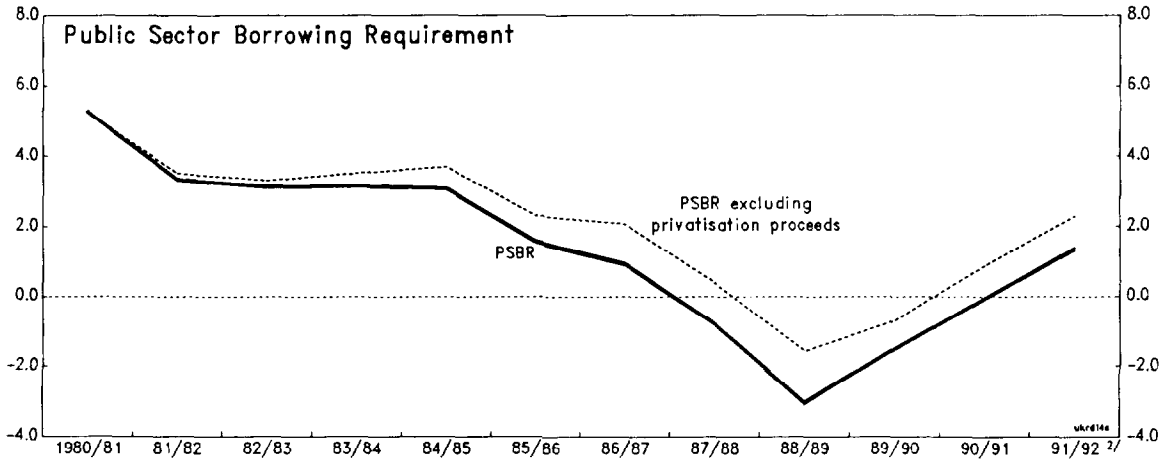
	Government Expenditures (Excluding Privatization Receipts)	Government Revenues	PSBR (Including Privatization Receipts)	Privatization Receipts	PSBR (Excluding Privatization Receipts)
		(In billions of pounds sterling)			
1979/80	90.0	80.9	9.9	--	9.9
1980/81	108.6	95.6	12.5	--	12.5
1981/82	121.0	112.7	8.6	-0.5	9.1
1982/83	133.2	121.6	8.9	-0.5	9.4
1983/84	141.7	129.1	9.7	-1.1	10.8
1984/85	152.9	140.0	10.1	-2.0	12.2
1985/86	161.1	151.7	5.6	-2.7	8.3
1986/87	169.1	159.5	3.6	-4.5	8.0
1987/88	178.4	175.7	-3.4	-5.1	1.7
1988/89	186.6	192.3	-14.7	-7.1	-7.6
1989/90	204.6	207.6	-7.9	-4.2	-3.8
1990/91	221.3	220.9	-0.5	-5.3	4.8
1991/92	240.5	226.0	8.0	-5.5	13.5
		(As percent of GDP)			
1979/80	43.1	38.8	4.8	--	4.8
1980/81	45.7	40.2	5.3	--	5.3
1981/82	46.4	43.2	3.3	-0.2	3.5
1982/83	46.6	42.6	3.1	-0.2	3.3
1983/84	45.8	41.7	3.1	-0.4	3.5
1984/85	46.1	42.2	3.1	-0.6	3.7
1985/86	44.4	41.8	1.5	-0.7	2.3
1986/87	43.3	40.8	0.9	-1.1	2.1
1987/88	41.3	40.6	-0.8	-1.2	0.4
1988/89	38.8	40.0	-3.0	-1.5	-1.6
1989/90	39.2	39.8	-1.5	-0.8	-0.7
1990/91	39.9	39.8	-0.1	-1.0	0.9
1991/92	40.7	38.2	1.4	-0.9	2.3

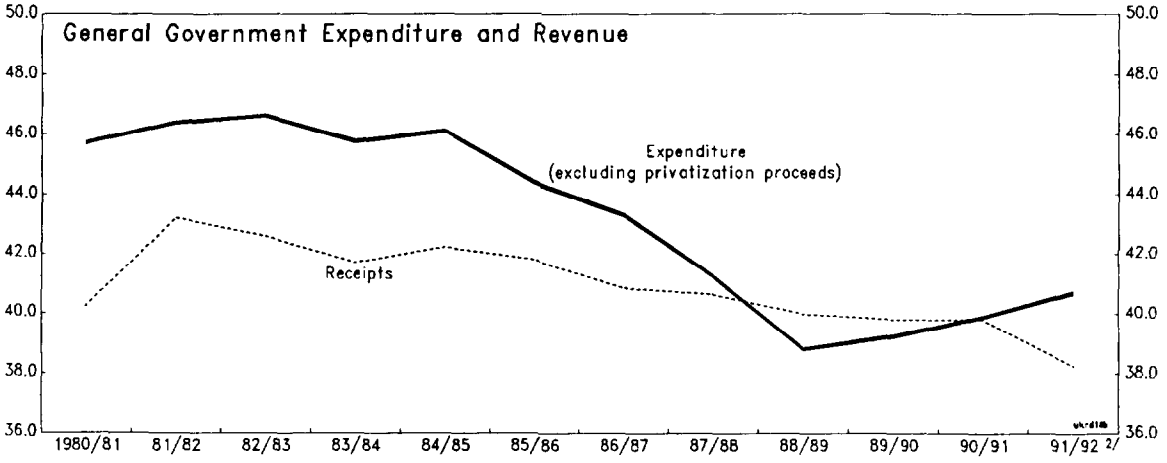
Source: CSO, Financial Statistics; and Autumn Statement.

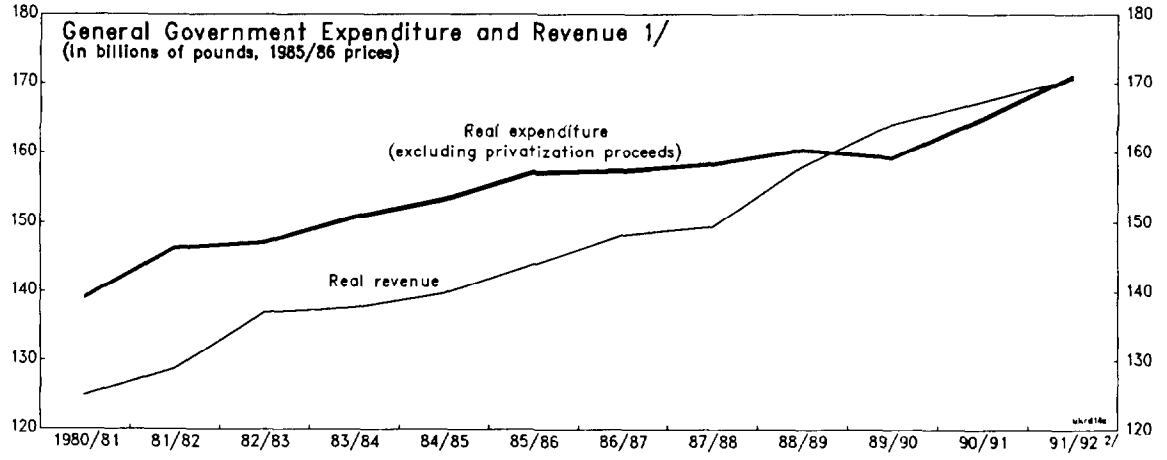
CHART 14
UNITED KINGDOM

THE GOVERNMENT'S FISCAL POSITION

(In percent of GDP)







Source: CSO, Financial Statistics.

1/ Nominal expenditure and revenue divided by consumption expenditure deflator.
2/ Autumn Statement.

Table 4. United Kingdom: Fiscal Data for a Selected Group of OECD Countries

(In percent of GDP)

	1974-82			1990 2/		
	Debt 1/	Net Borrowing	Interest Payments	Debt 1/	Net Borrowing	Interest Payments
EC	39.8	3.7	2.8	58.9	4.0	5.0
Belgium	71.9	7.2	5.4	129.4	5.8	11.1
Denmark	27.6	2.3	3.0	62.8	1.4	7.6
Germany	29.9	3.1	1.8	43.7	3.2	2.6
Greece	28.1	--	2.0	89.5	18.4	11.1
Spain	17.1	1.8	0.7	44.7	3.1	3.6
France	23.9	1.2	1.4	36.1	1.2	3.0
Ireland	72.7	10.9	6.0	101.4	3.4	8.5
Italy	60.7	8.9	4.9	100.9	10.1	9.7
Luxembourg	15.6	-1.4	0.9	7.8	-3.3	0.7
Netherlands	44.2	3.4	3.5	77.8	5.4	5.9
Portugal	35.4	--	--	67.8	6.0	8.6
U.S.A. 3/	28.4	2.7	2.7	44.7	4.1	3.6 4/
Japan 3/	43.8	6.5	2.7	59.9	2.6	3.2
United Kingdom	58.4	3.6	4.4	43.0	0.3	3.4

Source: Commission of the European Communities and IMF Government Finance Statistics.

1/ General government gross debt.
2/ Estimated on the basis of May/June 1990 data.
3/ Consolidated central government (SFS data).
4/ 1989 figure

to GDP ratio was relatively high by the standards of other industrialized countries to one where this ratio was well below the average.

While the underlying trend in the public finances since the early 1980s has been rather well defined, recent years have seen very large swings in the PSBR. In this respect, a PSBR (excluding privatization receipts) of 3¾ percent of GDP in 1984/85, became a debt repayment of 1½ percent of GDP by 1988/89, since when there has been a significant move back towards a public sector borrowing requirement. Movements in economic activity over this period have clearly played a large role in these developments. The purpose of this chapter is to report on work by both the U.K. Treasury and the staff on the relationship between the public finances and the cycle in economic activity, focusing especially on the behavior of aggregate tax and expenditure ratios.

The following two sections of this chapter summarize recent Treasury and staff work on this matter. The main conclusion to be drawn from this work is that it would appear that the major part of the fiscal adjustment effected since 1979 reflected an underlying rather than a cyclical improvement in the public sector finances. Moreover, it would appear that taking the period as a whole, the main part of this underlying improvement in the public finances has been on the side of reducing expenditures rather than increasing revenues.

2. U.K. Treasury estimates

Earlier work in the U.K. Treasury, based on a simulation of the U.K. Treasury model, had suggested that the first year effect of a 1 percent increase in GDP, relative to trend would be to reduce the PSBR by 0.25 percentage points of GDP, while the longer term effect would be to reduce the PSBR by a cumulative 0.45 percentage points of GDP. 1/ These estimates were long regarded in the Treasury as understating the probable impact of the cycle on the PSBR, given that taxes and expenditures both constituted around 40 percent of GDP. It was also thought that approaching this issue by using a large macroeconomic model was likely to result in some variables that were really endogenous being treated as exogenous.

As an alternative approach to shed light on the impact of the cycle on the budget deficit, the Treasury has conducted further econometric research undertaken at a highly aggregated level that now focuses directly on time series data for tax to GDP and for expenditure to GDP ratios. 2/ In conducting this analysis, it was important (a) to distinguish between true cyclical effects on taxes and expenditure from those that might have been

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1/ Bredenkamp (1988).

2/ Davies and Barder (1991). This research is presently being refined and updated within the U.K. Treasury. Preliminary results from this later research are pointing toward a PSBR that was approximately in balance on a cyclically adjusted basis in 1991/92.

the result of a discretionary policy response induced by the cycle; and (b) to identify the trend rate of output as well as the periods when output growth might have been above or below trend.

To get around the problem that the econometric results might pick up not just the automatic cyclical effects on taxes but also those discretionary changes induced as a response to the cycle, a measure of the tax burden adjusted for discretionary tax changes was constructed. This measure was obtained by making use of the estimated effect of budget measures as published in successive versions of the Financial Statement and Budget Report. On the expenditure side, while it was not possible to transform the data to disentangle discretionary and other changes in the same way, the research did allow for a change in the underlying trend in the public spending to GDP ratio. Thus, it was assumed that there was a pronounced upward trend in this ratio prior to the mid-1970s that was followed by a downward trend in the 1980s.

As to the estimate of potential output growth, the research distinguished between the period prior to 1981 and that after 1981. Thus, the estimates allowed for a very marked fall in the output trend between 1973 and 1981, after which year the trend growth of non-oil GDP was placed at 2¾ percent a year. The Treasury recognizes that this is probably an oversimplification of the issue particularly since it is reasonable to assume that the sustainable growth rate probably picked up more gradually during the first half of the 1980s as a succession of structural reforms began to take effect.

Correcting the data for discretionary changes and utilizing the aforementioned estimates of potential growth, separate equations were estimated to identify the size of the effects on taxes and expenditures of changes in output relative to trend. 1/ These equations would suggest

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1/ The estimated tax and expenditure equations are as follows:

$$AT/Y = \underset{(-3.5)}{-101.7} + \underset{(4.33)}{0.10}\ GDP\ TREND \underset{(-0.77)}{-0.07}\ CYCLE + \underset{(4.56)}{0.37}\ CYCLE_{-1} \underset{(5.91)}{-0.13}\ DRPI\ (68\text{-}80)_{-1}$$

$$\underset{(2.01)}{-1.18}\ D80 \qquad \bar{R}^2 = 0.85 \qquad DW = 1.75, \text{ and}$$

$$E/Y = \underset{27.72}{36.71} \underset{(2.44)}{-0.40}\ CYCLE + \underset{(5.22)}{0.84}\ TREND\ 64/5 \underset{(4.85)}{-1.10}\ TREND\ 75/6$$

$$\bar{R}^2 = 0.65 \qquad DW = 0.68$$

where

(continued...)

that the impact of a 1 percent rise in GDP would be to reduce the budget deficit by 0.33 percentage points of GDP in the first year and by a cumulative 0.70 percentage points of GDP over the longer run (see tabulation below). The fact that a rise in GDP is estimated to have only a limited impact on tax receipts in the first year and a larger impact thereafter is consistent with the tendency for the profit share to rise sharply in the early stages of an economic recovery and for taxes on profits to be paid with an average lag of over a year.

Estimates of the effect of a 1 percent rise in GDP

	First year	Second year
Effect on tax/GDP rates	-0.07	+0.30
Effect on expenditure/GDP rate	-0.40	-0.40
Effect on PSBR/GDP RATIO	-0.33	-0.70

The implications of the above results for the effect of economic activity on fiscal developments in the 1980s is summarized in the tabulation below. From this tabulation, it would appear that an underlying improvement in the public finances more than accounts for the 8 percentage points of GDP cumulative improvement in the PSBR between 1979/80 and 1988/89. A major role in this regard was played by a 5½ percentage point of GDP reduction in expenditures that mainly resulted from the strict application of cash limits on public spending over this period. Further contributions to the improved PSBR were an estimated 2 percentage points of GDP underlying improvement in revenue collections 1/ and an approximately 2 percentage point of GDP increase in receipts from asset sales.

1/ (...continued)

AT/Y = ratio of taxes to non-oil GDP, adjusted for discretionary tax changes relative to an indexed base.

GDP TREND = a linear trend (with two breaks) fitted to the log of real non-oil GDP.

CYCLE = the difference between the log of actual real non-oil GDP and the fitted linear trend.

DRPI (68-80) = the RPI inflation rate up to 1979-80 and zero thereafter.

D80 = a dummy variable, *0* up to *1979-80* and 1 thereafter.

E/Y = the ratio of general government expenditure (excluding privatization proceeds to GDP).

TREND 64/5 = a time trend starting 1964-65.

TREND 75/6 = a time trend starting in 1975-76.

1/ Of the total change in the ratio of revenue to GDP between 1979-80 and 1988-89 an increase of around 1½ percentage points was accounted for by local taxes and national insurance contributions while real fiscal drag probably added a little over 2 percentage points to the tax burden. These increases were offset by budgetary reductions of taxes of a little over 1 percent of GDP and by significant declines in oil revenues and interest receipts.

Treasury Estimates of the Cyclical Contribution
to Changes in the PSBR

(As percent of GDP)

	1979/80 to 1982/83	1982/83 to 1985/86	1985/86 to 1988/89	Total 1979/80 to 1988/89
Changes in expenditures 1/				
Total change	3½	-2¼	-5¾	-4¾
Cyclical contribution	3½	-¼	-2¼	¾
Underlying change	--	-2	-3½	-5½
Changes in revenues				
Total change	4	-¾	-2¼	1
Cyclical contribution	-1½	-¾	+1¼	-1
Underlying change	+5½	--	-3½	+2
Changes in PSBR 2/3/				
Total change	-1¾	-1½	-4½	-8
Cyclical contribution	5	¾	-3¾	1½
Underlying change	-6¾	-2¼	-¾	-9½
Memorandum item				
Average non-oil GDP growth	-¾	3	4¾	2¼

The above tabulation would suggest that the fiscal changes during the 1980s fell into the following three distinct phases: (a) the recessionary phase between 1979/80 to 1982/83, when the major part of the fiscal adjustment was effected through substantially increased revenue collections that accompanied the switch from direct to indirect sources of revenues; (b) the initial phase of moderate recovery between 1982/83 and 1985/86 when further substantial fiscal consolidation was attained but this now mainly reflected the application of strict expenditure limits; and (c) the period of above average trend growth between 1985/86 and 1988/89, when there was little overall underlying improvement in the PSBR but when a substantial further reduction in underlying public expenditures made way for a significant reduction in the tax burden.

1/ Excluding privatization receipts.
2/ Including privatization receipts and receipts from other asset sales.
3/ Changes in PSBR do not equal the difference between changes in expenditure and changes in revenue since the PSBR includes other financial transactions such as asset sales and borrowing by nationalized industries.

3. Staff estimates

An alternative method for evaluating the impact of the cycle on the public finances is that used for assessing the stance of fiscal policies of the industrialized countries in the context of the World Economic Outlook Exercise. 1/ The difference between this method and that used by the U.K. Treasury is largely related to the manner in which expenditure is cyclically adjusted. In the staff's method, only unemployment insurance benefits are treated as cyclical in nature, whereas the Treasury, as indicated above, regards a very much larger proportion of public expenditures as being subject to cyclical variation.

The staff's method starts from the choice of a benchmark time period when the economy could be considered to have been in a cyclically neutral position and, hence, when the general government financial balance net of unemployment insurance benefits could be regarded as "normal." For each subsequent year, a cyclically neutral balance is constructed by deducting cyclically adjusted expenditure (net of unemployment benefits) from cyclically adjusted revenue. Cyclically adjusted expenditure is calculated by applying the predetermined potential growth rate of GDP to actual expenditure in the base year, while cyclically neutral revenue is calculated by applying the actual growth rate of GDP to the revenue in the base year and by assuming an income elasticity of unity for revenues. The difference between the cyclically neutral and the actual public sector balance would give a measure of the stance of fiscal policy.

The staff has applied the foregoing methodology for cyclically adjusting the general government's revenues and expenditures for the period 1979/80 to 1990/91. For this purpose, a uniform trend rate of growth of potential of 2½ percent a year was assumed, which, though somewhat below that assumed by the Treasury, was more consistent with the average growth rate in the 1980s. The estimates of the year to year fiscal impulses utilizing the Fund methodology are summarized in the following tabulation.

1/ See Heller (1986).

General Government Fiscal Impulse Measures
Using the Fund Methodology 1/

(As percent of GDP)

	Actual Change			Underlying Change		
	Expenditures	Revenues	Balance	Expenditures	Revenues	Balance
1979/80	0.2	1.1	0.9	2.5	1.1	-1.4
1980/81	2.5	1.5	-1.0	-1.4	1.5	2.9
1981/82	0.5	2.9	2.4	-1.7	2.9	4.6
1982/83	0.2	-0.6	-0.8	-0.1	-0.6	-0.5
1983/84	-0.9	-0.9	--	-0.4	-0.9	-0.6
1984/85	0.3	0.6	0.2	-0.1	0.6	0.7
1985/86	-1.7	-0.4	1.3	-1.3	-0.4	0.9
1986/87	-0.9	-0.7	0.2	-0.3	-0.7	-0.4
1987/88	-2.2	-0.3	1.9	--	-0.3	-0.3
1988/89	-2.4	-0.6	1.8	-1.0	-0.6	-0.3
1989/90	-0.2	-0.7	-0.5	-0.2	-0.7	-0.5
1990/91	1.6	0.8	-0.9	-1.8	0.8	2.5

Source: Financial Statement and Budget Report, and Fund staff estimates.

Aggregating the above estimates for the same sub-periods assumed by the Treasury, yields results rather similar to those of the Treasury (see tabulation below). Thus, over the period as a whole, the 4½ percent of GDP decline in the general government's borrowing requirement is more than accounted for by discretionary measures. Moreover, it would appear that most of the underlying improvement in the general government balance was effected in the early part of the period; while taking the period as a whole, the major part of the fiscal adjustment is seen to lie on the side of expenditures.

1/ Expenditures and general government balance exclude privatization receipts.

Cyclically Adjusted General Government Balance
Using Fund Methodology and Assuming Potential Growth
of Two and a Half Percent a Year

(In percent of GDP)

	1979/80 to 1982/83	1982/83 to 1985/86	1985/86 to 1990/91	Total 1979/80 to 1990/91
Change in Expenditures				
Actual	3.3	-2.3	-4.0	-3.0
Cyclical	6.5	-0.6	-0.7	5.1
Underlying	-3.2	-1.7	-3.3	-8.1
Underlying Change in Revenue	3.9	-0.8	-1.6	1.5
Change in General Government Borrowing Requirement				
Actual	-0.5	-1.5	-2.4	-4.4
Cyclical	6.5	-0.6	-0.7	5.1
Underlying	-7.0	-0.8	-1.7	-9.7

Source: Fund staff estimates.

As noted above, there is reason to believe that the underlying trend rate of growth of output was not uniform throughout the 1980s. In light of this consideration, the staff reestimated the cyclical adjustment using a "middle expansion" estimate of the trend rate of growth. 1/ In terms of this method, the middle expansion points of each cycle are considered to be cyclically neutral, while the trend growth in output could be determined from the rate of growth between sequential middle expansion points.

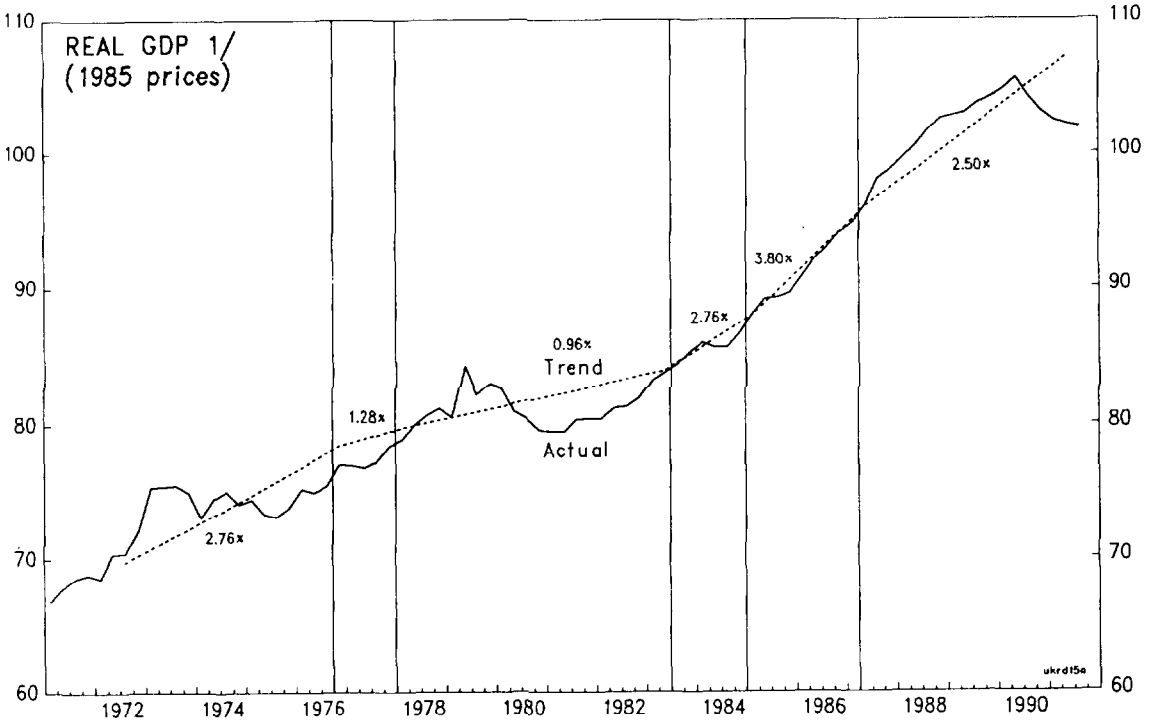
As illustrated in Chart 15, one can distinguish between three distinct periods of growth between 1978 and mid-1990. The first period between end-1978 and mid-1983, was one of slow growth of around 1 percent a year; the second period, between mid-1983 and mid-1987, was one of growth averaging over 3¼ percent a year; and the third period, from mid-1987 to early 1991 was one of trend growth slowing to 2½ percent a year. Distinguishing these different periods of growth in making the cyclical adjustment for the period as a whole, yields results that suggest a lesser degree of underlying adjustment than that reported above as well as a

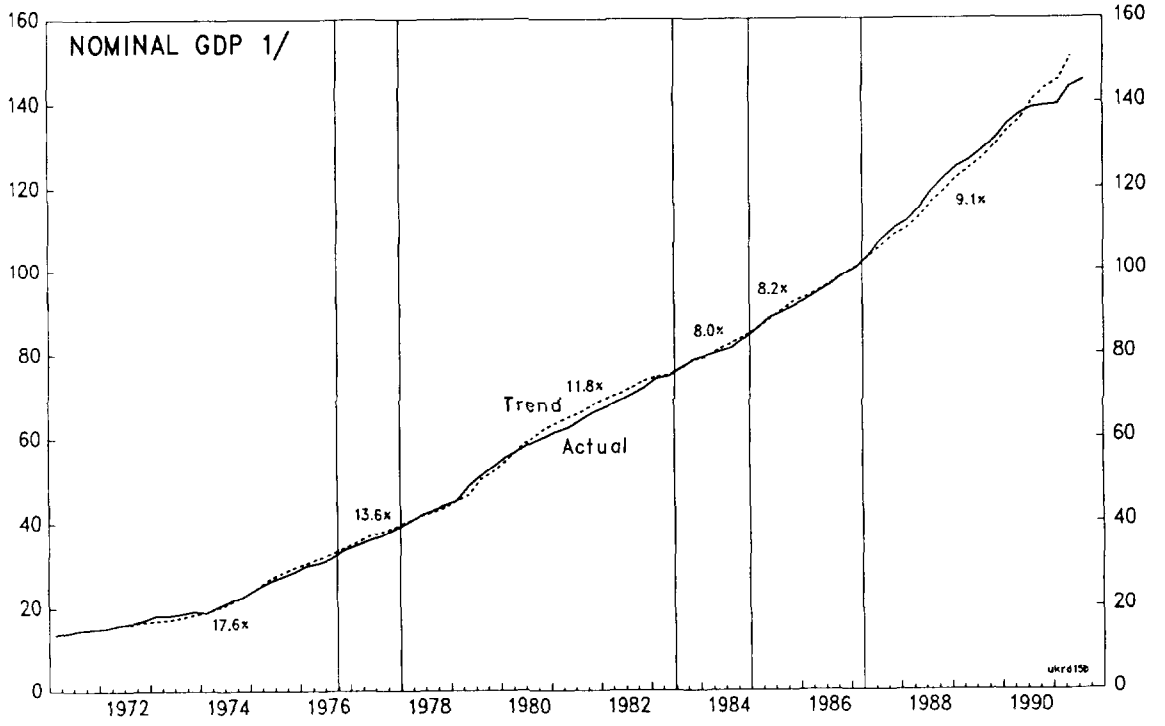
1/ For a discussion of the concept of middle expansion points see Halloway (1989).

CHART 15
UNITED KINGDOM

TREND GDP, 1971-1991

(In billions of pounds sterling)





Sources: CSO, Economic Trends; staff estimates.

1/ Vertical lines indicate a normal-to-upswing position of the cycle; numbers indicate annualized trend output growth rates in percent.

different pattern of adjustment, with less adjustment early in the period and more adjustment in the latter part of the period. However, these results do not challenge the basic conclusion reported above that the actual adjustment in the general government's accounts is more than explained by an improvement in the underlying balance and that the major part of this adjustment was effected through an underlying reduction in public expenditure.

Cyclically Adjusted General Government Borrowing Requirement Using Fund Methodology and Middle Expansion Trends

(In percent of GDP)

	1979/80 to 1982/83	1982/83 to 1985/86	1985/86 to 1990/91	Total 1979/80 to 1990/91
Change in Expenditure				
Actual	3.32	-2.29	-4.00	-2.97
Cyclical	1.07	-0.82	1.14	1.39
Underlying	2.25	-1.47	-5.14	-4.36
Change in Revenue				
Actual	3.85	-0.82	-1.57	1.47
Cyclical	0.02	0.23	0.06	0.32
Underlying	3.83	-1.05	-1.63	1.15
Change in GGBR				
Actual	-0.53	-1.47	-2.43	-4.44
Cyclical	1.04	-1.05	1.08	1.07
Underlying	-1.58	-0.42	-3.51	-5.51

Source: Fund staff estimates.

VI. Recent Monetary Developments in the United Kingdom

This chapter reviews U.K. monetary developments in the period since sterling's entry into the exchange rate mechanism of the European Monetary System in October 1990. The U.K. entered the ERM at a point when more than a year of high nominal interest rates had already created strong disinflationary forces within the economy. In the following twelve months, interest rates were cut cautiously in a series of steps upon increased evidence of a moderation in domestic inflation. As a result, interest rate differentials between the U.K. and Germany narrowed appreciably suggesting a substantial gain in market confidence about the authorities' exchange rate commitment.

Since September 1991, there has been no further reduction in U.K. interest rates as the scope for such reduction was limited by a general tightening in monetary conditions in the other ERM countries. In real terms, interest rates in the U.K. have remained relatively high by the standards of the 1979-81 recession. At the same time, monetary expansion has slowed markedly since early 1990, but by comparison with the 1979-81 period, monetary growth in real terms has remained relatively buoyant.

1. Conduct of monetary policy in the ERM

Sterling's entry into the ERM on October 8, 1990 was intended to reinforce the counterinflationary policies of the U.K. authorities. Sterling entered the ERM with a bilateral central rate against the deutsche mark of £1 = DM 2.95, and with the wider 6 percent band of fluctuation permitted under the transitional provisions of the arrangement. The authorities have indicated that they intend to adopt the narrower 2¼ percent margins of the ERM as soon as conditions are appropriate. While no precise set of criteria have been established for such a move, an important criterion would be the degree of convergence of U.K. inflation with that in the low inflation members of the arrangement.

The conduct of U.K. monetary policy since entry into the ERM has had to take into account not only the commitment to keep sterling within its band, but also the pressing need to reduce the rate of domestic inflation towards the levels prevailing in the low inflation member countries of the ERM arrangement. In addition, the authorities have continued to assess monetary conditions as before by taking account of a range of monetary and financial indicators, including the behavior of the narrow monetary aggregate M0, for which there is still a target range.

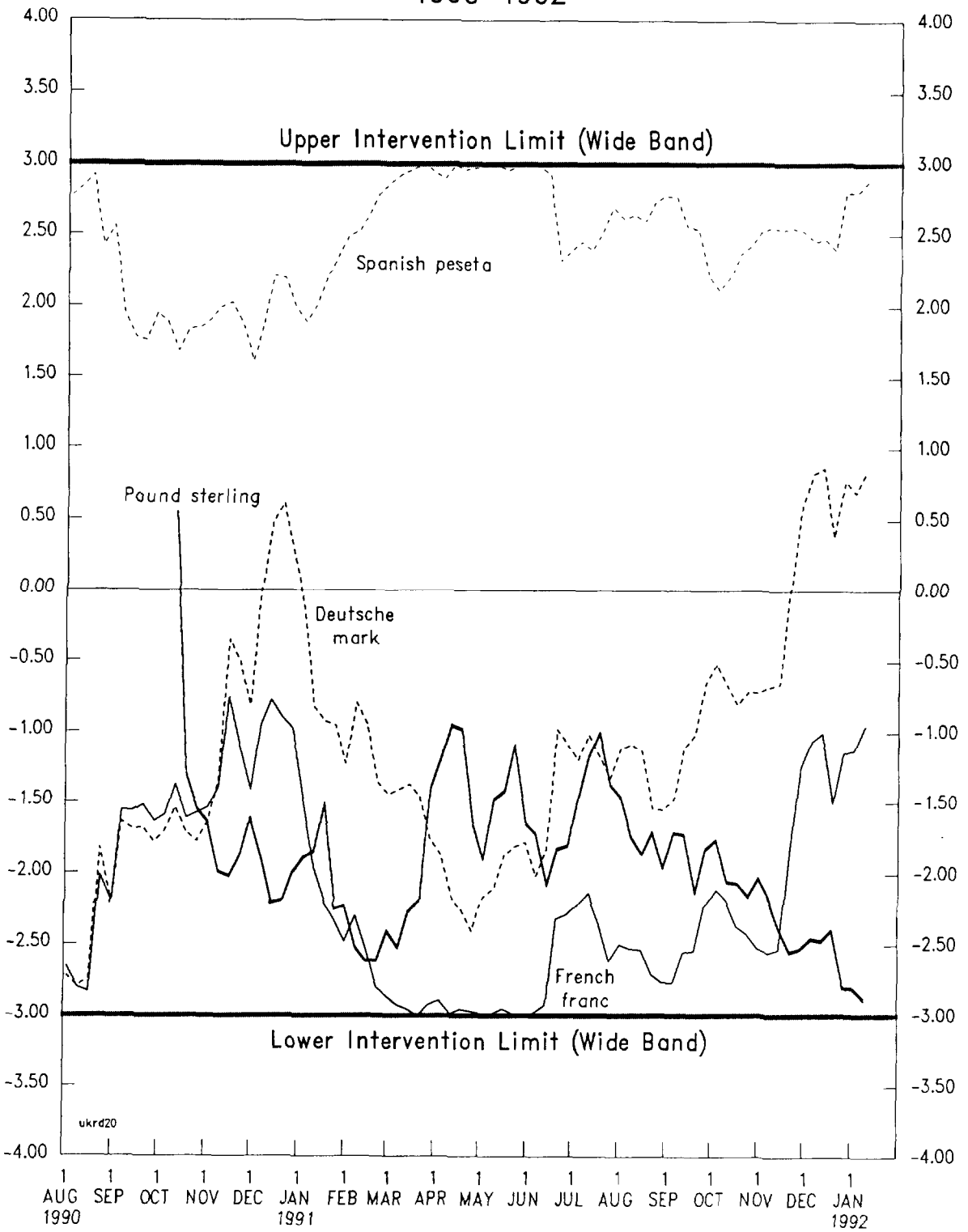
2. Interest rates and the exchange rate

At the same time that sterling entered the ERM, the commercial banks' base rates were lowered from 15 percent, where they had stood for almost exactly a year, to 14 percent. 1/ This action was taken against the background of evidence of declining inflationary pressures, the prospect of a substantial fall in domestic inflation (which at the time was close to its peak) and the reinforcement of the authorities' anti-inflationary framework, which the ERM would provide. In the month following ERM entry, sterling fell from above DM 3.00 to below its central rate but then stabilized (Chart 16). Subsequently, as the weakness of the domestic economy became more apparent, the authorities initially resisted calls for further interest rate reductions until February 1991. Between February and September 1991

1/ In the United Kingdom, the Bank of England signals changes in short-term interest rates through its money-market dealing rates. There is no administered discount rate. Commercial banks' base rates (essentially prime lending rate minus one percentage point) provide the usual reference point.

CHART 16
UNITED KINGDOM

POSITIONS OF SELECTED CURRENCIES IN THE EMS, 1990-1992



Source: International Monetary Fund.

1/ Weekly averages of daily data. Vertical distance between currencies measures the percentage deviation of their bilateral exchange rate from their bilateral central rate.

base rates were lowered in seven half-percentage-point steps to reach 10½ percent in early September 1991.

The reductions in short-term interest rates over the past year were implemented in view of the continuing decline in inflation, the continuing weakness of economic activity, and growth of M0 within the target range, as well as sterling's position in the ERM. Each of the reductions in base rates except that in September 1991 was largely anticipated by market interest rates, and in most cases they had little impact on sterling. The decline in short-term interest rates in the U.K. in the year following sterling's entry into the ERM, together with an increase in German rates, entailed a substantial narrowing in the short-term interest rate differential with Germany (Chart 17). Thus the differential between U.K. and German three-month rates narrowed from about 6½ percentage points before ERM entry to about 1½ percentage points in September 1991. There was also a convergence of long-term interest rates, albeit to a smaller extent: the differential in 10-year government bond yields narrowed to about 1½ percent in September 1991 from more than 4 percent in early 1990. These reductions in the interest premia on sterling-denominated assets, given sterling's broad stability within the ERM after the first few weeks of membership, signify a substantial improvement in market confidence about the authorities' exchange rate commitment.

The decline in short-term interest rates in the U.K. in the period up to September 1991 is comparable with the reductions that occurred in the United States and Canada, the other two major industrial countries in recession. This may be viewed as one indication of the absence of significant tension between domestic considerations and the ERM constraint in the conduct of U.K. monetary policy in this period. Thus, as Chart 17 indicates, the narrowing of interest differentials between sterling- and U.S. dollar-denominated assets in the year to September 1991 was relatively small. There was nevertheless a sharp depreciation of sterling in terms of the U.S. dollar between February and July 1991 as the dollar rose against most other major currencies.

Between September 1991 and January 1992 there was no further reduction in base rates in the U.K. in spite of the continuing weakness in the economy. Nevertheless, this period saw significant downward pressure on sterling, as monetary conditions in other EMS member countries were tightened. The pressure on sterling was particularly intense in December 1991 as German interest rates were increased and as the U.S. dollar weakened substantially following a full percentage point reduction in the U.S. discount rate. 1/ The pound recovered somewhat in January 1992, in part

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1/ Movements in the U.S. dollar have a more pronounced impact on the U.K.'s external accounts than elsewhere in the ERM in reflection of the significantly higher proportion of U.K. trade that is U.S. dollar denominated.

reflecting a relative strengthening of the U.S. dollar in foreign exchange markets.

The top panel of Chart 18 shows that in real terms (using an ex post measure of retail price inflation) short-term interest rates declined from a plateau of 8 percent in late 1989 and early 1990 to about 5 percent in late 1990. However, since late 1990 real interest rates have remained virtually unchanged in spite of the contemporaneous reduction in nominal rates. These real rates, while not high by the standards of the period since around 1983, are substantially above the real interest rates prevailing during the 1979-81 recession. The measurement of inflation expectations during the earlier recession is problematic, however, given that inflation was boosted by factors such as a once-and-for-all indirect tax hike that may in fact have reduced inflationary expectations.

Aside from real interest rates, the shape of the yield curve is sometimes invoked as an indicator of the stance of monetary policy while movements in long-term rates are sometimes referred to as an indication of market resistance to monetary policy actions. In this context, the yield curve in the U.K. has remained inverted since monetary conditions were tightened sharply in mid-1988, but the differential between short-term and long-term interest rates narrowed substantially between the end of 1989 and the middle of 1991. This suggests a significant easing of the monetary policy stance, but that the stance has nevertheless remained relatively tight.

3. Monetary and credit aggregates

During the mid-1980s, in the context of their medium-term financial strategy (MTFS), the U.K. authorities progressively abandoned their earlier reliance on targets for the monetary aggregates M3, M1, and PSL2. Thus, since the March 1987 budget, M0, the narrowest monetary aggregate, has been the only one for which a target range has continued to be set. The abandonment of the other aggregate targets stemmed from difficulties in the interpretation of movements in velocity, which were subject in particular to the destabilizing effects of financial liberalization on the demands for credit and liquid assets.

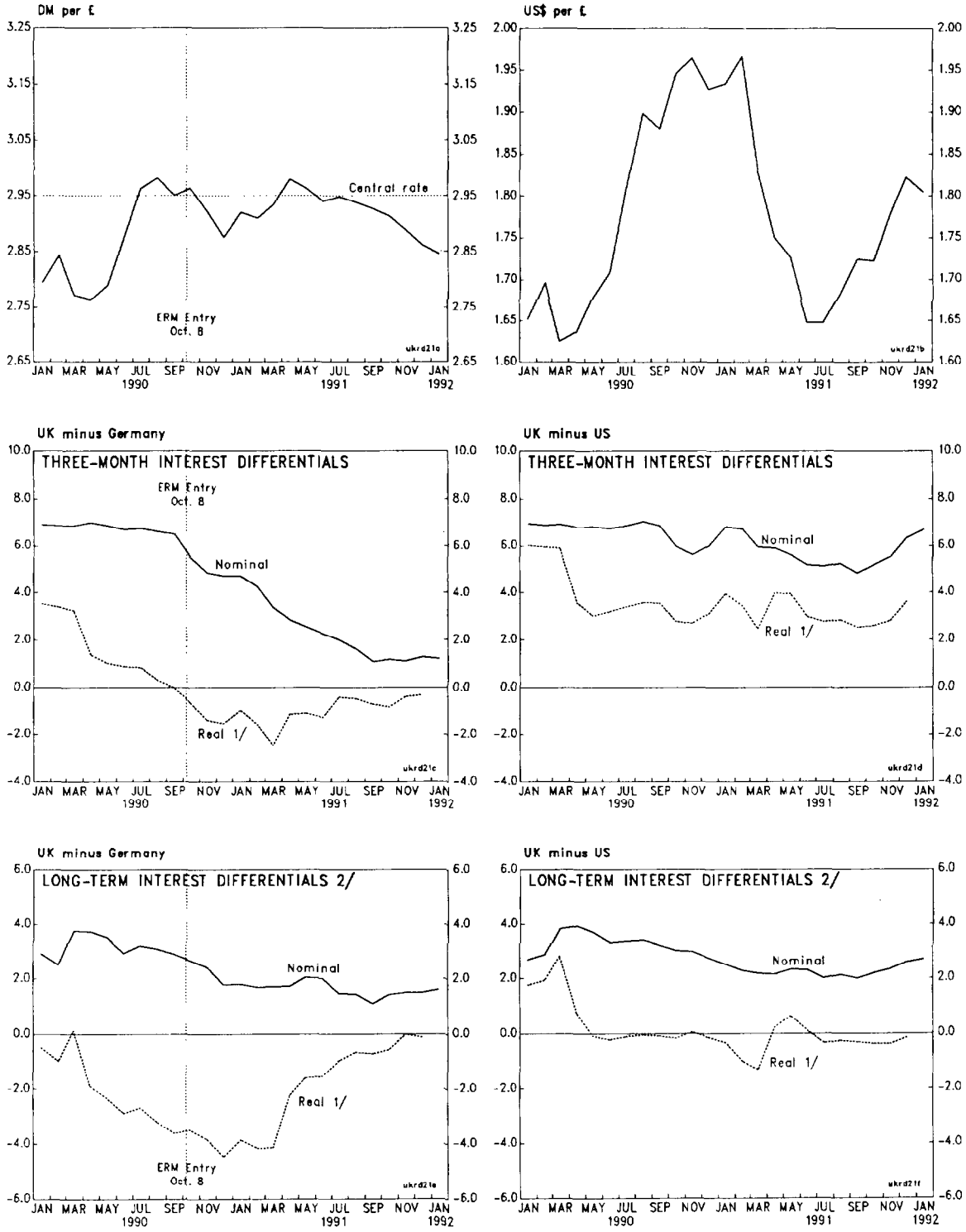
M0 consists almost entirely of currency in circulation. The authorities consider M0 to be a reliable and timely indicator of monetary conditions, but to be limited in its usefulness as a target aggregate because it is a contemporaneous rather than a leading indicator of demand conditions. The 1991 MTFS set a target range of 0-4 percent for the growth of M0 in the financial year 1991/92, one percentage point below the target range set a year earlier for 1990/91. The practice of setting illustrative ranges for later years was, however, dropped because it was viewed as redundant in view of the ERM commitment.

The 12-month growth rate of M0 declined from above 6 percent in early 1990 to a low point of 1.5 percent in April 1991, before moving upwards to

CHART 17
UNITED KINGDOM

EXCHANGE RATES AND INTEREST RATES, 1990-1992

(In percent)



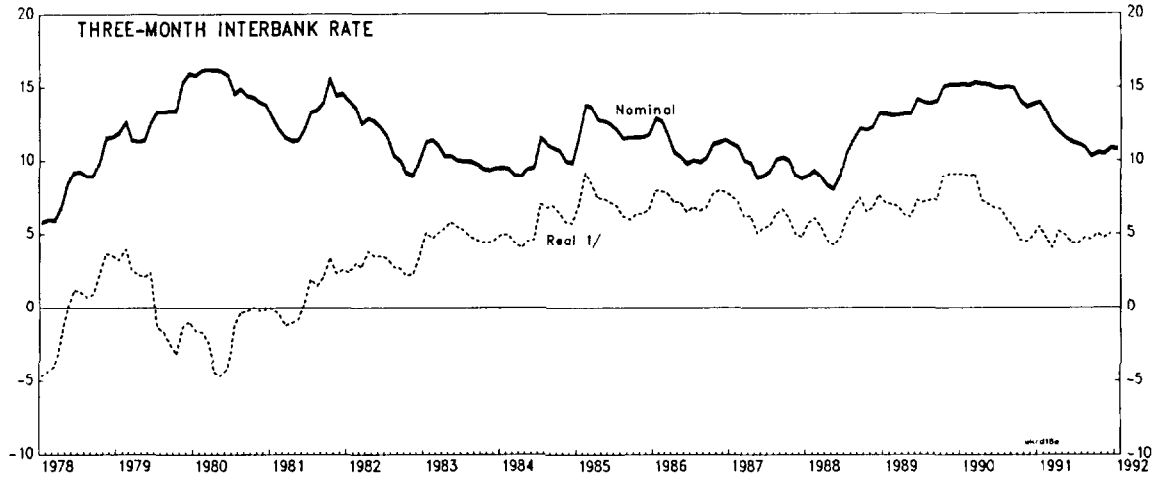
Sources: International Monetary Fund.

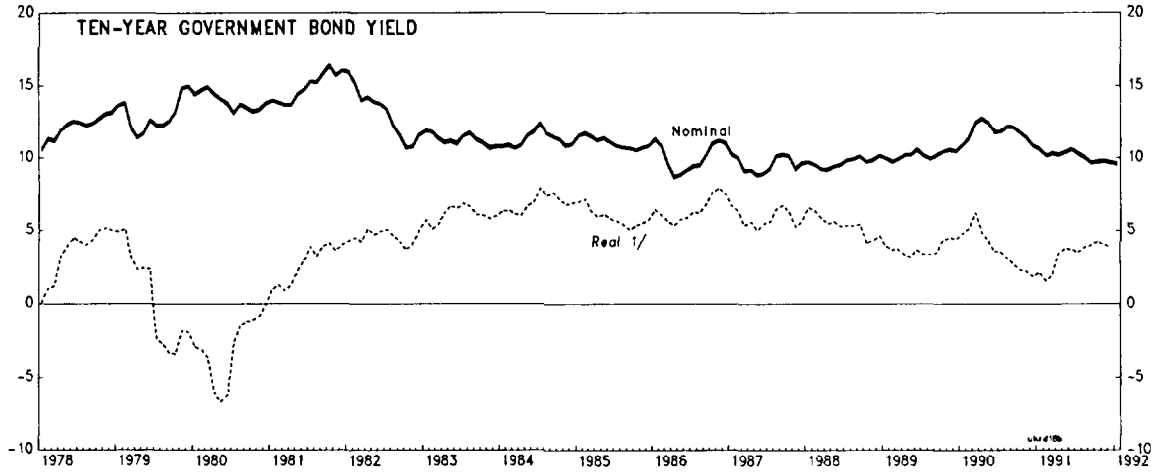
1/ Nominal interest rate minus twelve-month percentage change in CPI (excluding mortgage interest for the UK).
2/ Based on 10-year government bond yields.

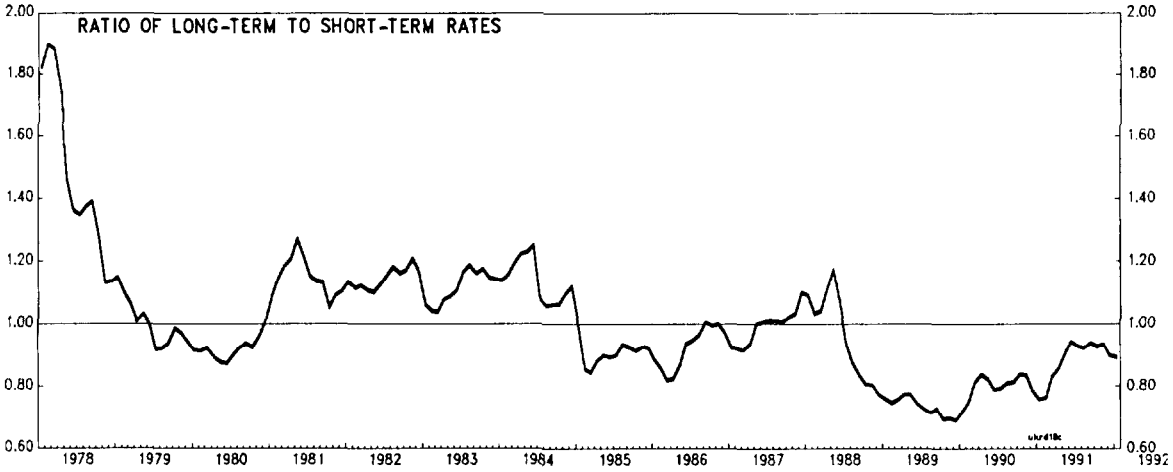
CHART 18
UNITED KINGDOM

INTEREST RATE DEVELOPMENTS, 1978-1992

(In percent)







Sources: CSO, Financial Statistics; IMF.

1/ Nominal interest rate minus twelve-month percentage change in RPI excluding mortgage interest.

2.8 percent by December 1991 or into the upper half of its target range. The deceleration of M0 in the period up to early 1991 and its subsequent moderate recovery are broadly consistent with the path of nominal GDP growth up to the third quarter of 1991. In real terms the rate of decline of M0 in 1990-91 has been significantly smaller than that seen during the recession of the early 1980s (Chart 19).

M4, which is monitored but not targeted by the authorities, consists of currency in circulation plus all private sector sterling deposits with banks and building societies. 1/ During the 1980s, M4 grew much faster than nominal GDP, as financial liberalization encouraged the growth of both credit and liquid assets held for savings purposes (see Chart 19). Its 12-month growth rate reached a peak of 18 percent in early 1990, and subsequently fell steeply, and more or less continuously, to 6 percent in the year to December 1991. In real terms, M4 growth declined almost to zero during 1991, but it nevertheless remained markedly higher than during the 1979-81 recession.

The decline in M4 growth from the peak of 1990 Q1 is more than fully accounted for by the tapering-off of growth in lending to the private sector (Table 5). The slowing of the economy, combined with pressures on both households and companies to reduce their indebtedness, has lowered the demand for credit. Companies have also to some extent switched to capital market finance and away from bank borrowing. 2/ As a result of the weaker growth of demand for credit, there has been less incentive for banks and building societies to attract deposits; and, as is normal in a recession, the institutions have also become more cautious in their lending. The recent deceleration of M4 may be viewed as being related largely to the slowdown in personal sector wealth, which appears to play an important role in the determination of the demand for this aggregate. 3/

The PSBR has exerted an increasingly positive influence on monetary growth since 1989, but this has been largely offset by the growth in sales of public sector debt to the private sector after a period of debt repayment. This reflects the "full funding" rule in operation since 1985. External factors (which include official reserve changes) and banks' non-deposit liabilities have both tended to increase monetary growth since early 1990.

1/ M4 may be viewed as the successor to M3, the principal targeted aggregate between 1976 and 1986. Data for M3 (named £M3 up to May 1987) have not been published since June 1989, because the distinction between banks (to which the coverage of M3 was limited) and building societies had become essentially meaningless.

2/ In 1990, U.K. industrial and commercial companies increased their bank borrowing by £16.1 billion and issued U.K. securities amounting to £10.6 billion. In the first half of 1991, companies repaid £1.3 billion in bank loans, but security issues grew to £14.5 billion at an annual rate.

3/ See e.g., Hall, Henry, and Wilcox (1989).

Table 5. United Kingdom: Contributions of Asset Counterparts to Growth in Broad Money Stock M4, 1987-91 1/

(In percent of stock of M4 outstanding four quarters earlier)

	1987	1988	1989	1990				1991			
	Q1	Q1	Q1	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
M4	14.6	16.7	17.8	18.1	17.2	14.5	12.2	9.9	7.8	6.5	6.2
PSBR	1.5	-1.3	-4.7	-2.1	-0.5	-0.5	-0.5	-0.1	0.2	1.1	1.7
Purchases of public sector debt by U.K. private sector	-2.3	-2.0	3.1	2.3	0.9	-0.3	-0.4	-0.6	-0.3	-1.0	-1.3
Sterling lending to U.K. private sector	20.0	22.7	27.2	24.1	22.2	18.9	16.5	13.3	10.3	8.7	6.9
Personal sector	(13.3)	(13.3)	(13.3)	(13.3)	(11.7)	(10.7)	(9.3)	(7.9)	(7.0)	(6.2)	(...)
For house purchase	[10.6]	[10.0]	[10.9]	[8.7]	[8.6]	[8.1]	[7.2]	[6.4]	[5.8]	[5.7]	[...]
Other	[2.7]	[3.3]	[2.4]	[4.6]	[3.1]	[2.6]	[2.1]	[1.5]	[1.2]	[0.6]	[...]
Industrial and commercial companies	(2.8)	(6.3)	(7.7)	(7.6)	(6.6)	(4.7)	(4.1)	(3.1)	(1.4)	(0.6)	(...)
Other financial institutions	(3.9)	(3.0)	(3.9)	(4.0)	(3.8)	(3.4)	(3.0)	(2.3)	(1.9)	(1.9)	(...)
External and foreign currency counterpart	-1.6	-0.2	-3.6	-3.8	-2.8	-0.9	-1.4	-1.5	-1.2	-1.5	-0.3
Net non-deposit liabilities	-2.9	-2.4	-4.2	-2.4	-2.5	-2.4	-2.1	-1.2	-1.0	-0.8	-0.9

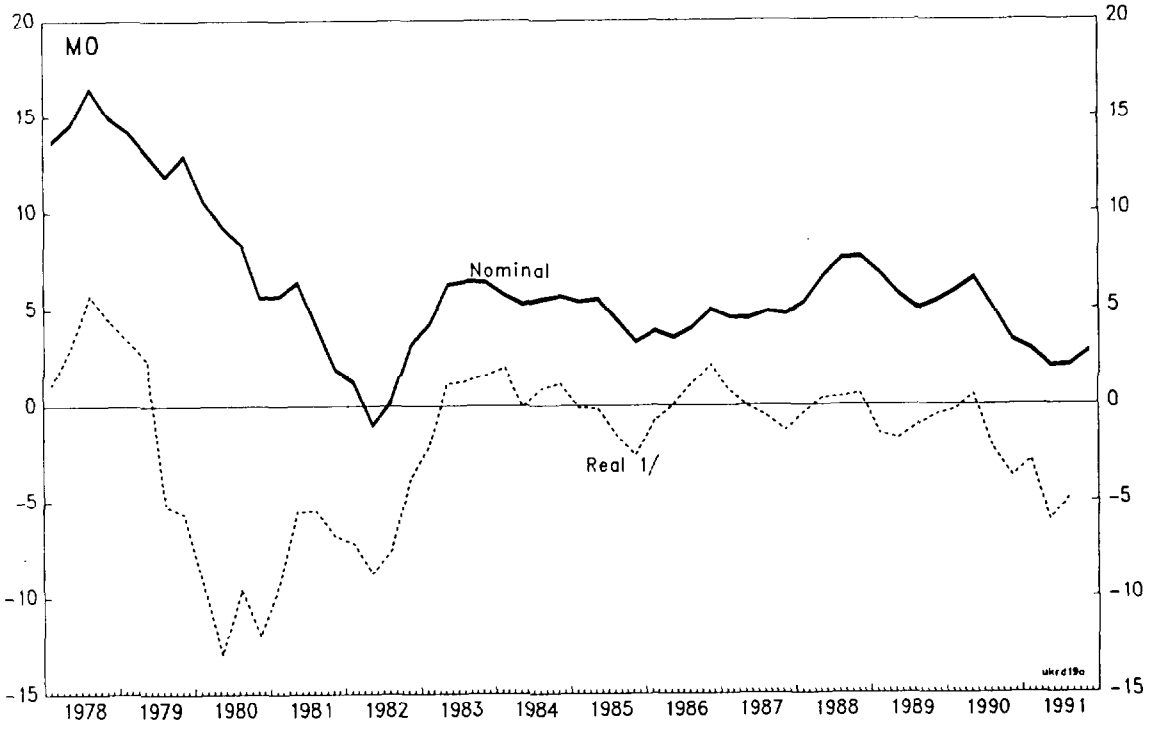
Source: CSO/Bank of England and Fund staff estimates.

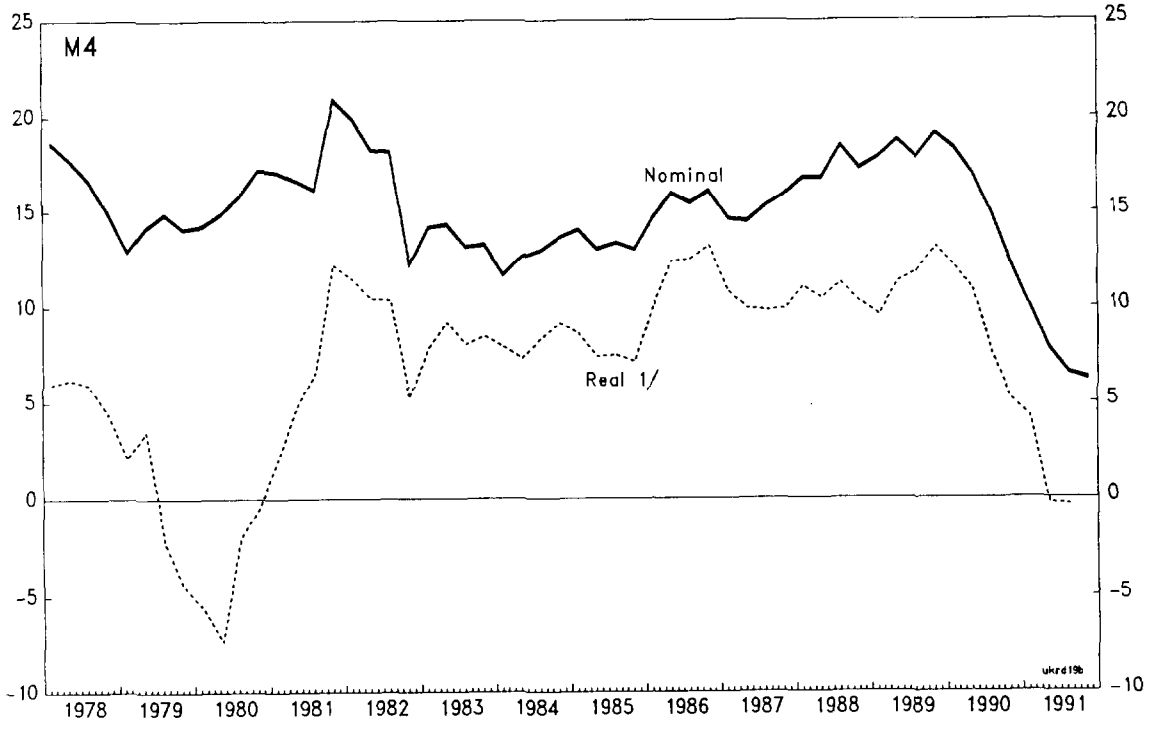
1/ Components may not add to totals because of rounding

CHART 19
UNITED KINGDOM

MONETARY GROWTH, 1978-1991

(Percentage change from a year ago)





Sources: CSO, Financial Statistics; IMF.

1/ Deflated by GDP deflator.

M2 comprises currency in circulation plus private-sector sterling retail deposits with banks and building societies. 1/ The exclusion of wholesale deposits is intended to provide an aggregate that is less affected by purely financial portfolio allocation decisions than M4, and is hence more closely related to economic developments. M2 growth was much more buoyant than that of M4 during 1991. However, the upturn in the growth of M2 in early 1991 reflects the introduction at the beginning of the year of Tax-Exempt Special Savings Accounts (TESSAs). These are designed to be long-term savings accounts rather than transactions media, but they are nevertheless included in M2 because the penalties for early encashment are tax rather than interest costs. The introduction of TESSAs boosted M2 relative to wholesale deposits; it therefore had no effect on M4.

VII. External Developments

1. Introduction

The United Kingdom's external position has undergone a marked change over the past decade. In the early 1980s, the external current account registered significant surpluses as imports were depressed by the slowdown in activity and, more importantly, as exports were boosted by the coming on stream of North Sea oil production (see tabulation below). Beginning in 1983, the current account began to weaken, reaching approximate balance by 1986 before registering a record deficit equivalent to 4 percent of GDP in 1989. The deficit subsequently narrowed as the slowdown in activity in 1990 and 1991 acted to depress imports. However, at around the estimated trough in the recession in mid-1991, the current account deficit was still equivalent to around 1 percent of GDP.

Current Account Developments

(In billions of pounds sterling)

	1980	1985	1986	1987	1988	1989	1990	1991 2/
Visible trade balance	1.4	-3.3	-9.6	-11.6	-21.6	-24.6	-18.7	-9.9
Non-oil balance	1.0	-11.4	-13.6	-15.7	-24.3	-25.9	-20.2	-10.7
Oil balance	0.3	8.1	4.1	4.2	2.7	1.3	1.5	1.2
Invisibles balance	1.5	6.1	9.4	7.4	6.1	4.2	3.5	4.3
Current account balance	2.8	2.8	--	-4.2	-15.5	-20.4	-15.2	-5.5
(In percent of GDP)	(1.2)	(0.8)	--	(-1.0)	(-3.3)	(-4.0)	(-2.8)	(-1.0)

1/ Retail deposits consist of non-interest bearing deposits plus checkable sight or time deposits plus other deposits of less than £100,000 and with less than one month to maturity.

2/ First three quarters at an annual rate.

A key development in the shift in the U.K.'s external position over the past decade has been an underlying deterioration in the non-oil visible trade balance. This deterioration partly reflected the shake out in the manufacturing sector following the sharp loss of competitiveness in 1978-80 that reduced export supply potential. A modest recovery of competitiveness over the course of the 1980s helped to promote an improved export growth performance. However, the improvement was not sufficient to counter the effects on the visible trade balance of a continued trend rise in import penetration.

Up to the mid-1980s, the external position was bolstered both by expanding levels of oil production and by a rising surplus on the invisibles balance that reflected the importance of the United Kingdom as a financial center and the rate of return earned on a large stock of overseas assets. However, since the middle of the decade the surplus on oil trade shrank as production dwindled, while the surplus on the invisibles account declined as a result of high transfer payments to the EC, a deterioration on the travel account, and the cumulative impact of large external deficits on the net asset position.

The remainder of this chapter examines in more detail the recent trends in the visible trade balance, focusing especially on relative export performance and on import penetration. It also examines the broad developments in international competitiveness and the overall developments in the capital account over the past ten years.

2. The visible trade balance

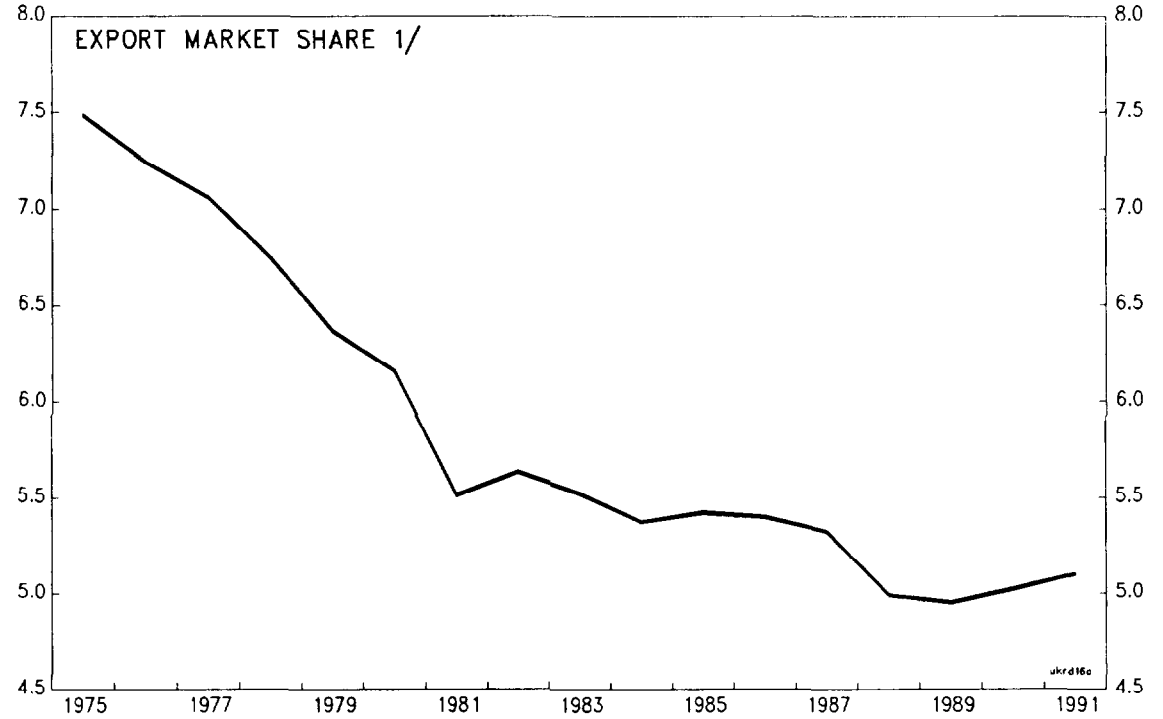
The United Kingdom's underlying visible trade balance deteriorated over the course of the 1980s once allowance is made for cyclical factors. The deterioration can mostly be traced to trade in non-oil goods. Sizable surpluses in oil trade owing to the coming on stream of North Sea oil helped to mask the deterioration in the trade balance in the early 1980s, but as oil production and prices declined in the second half of the decade, the overall trade deficit widened considerably. The underlying deterioration of the visible trade balance can be partly attributed to the sizable real appreciation of sterling in 1978-80, that precipitated a major shakeout in the manufacturing sector and reduced export supply potential.

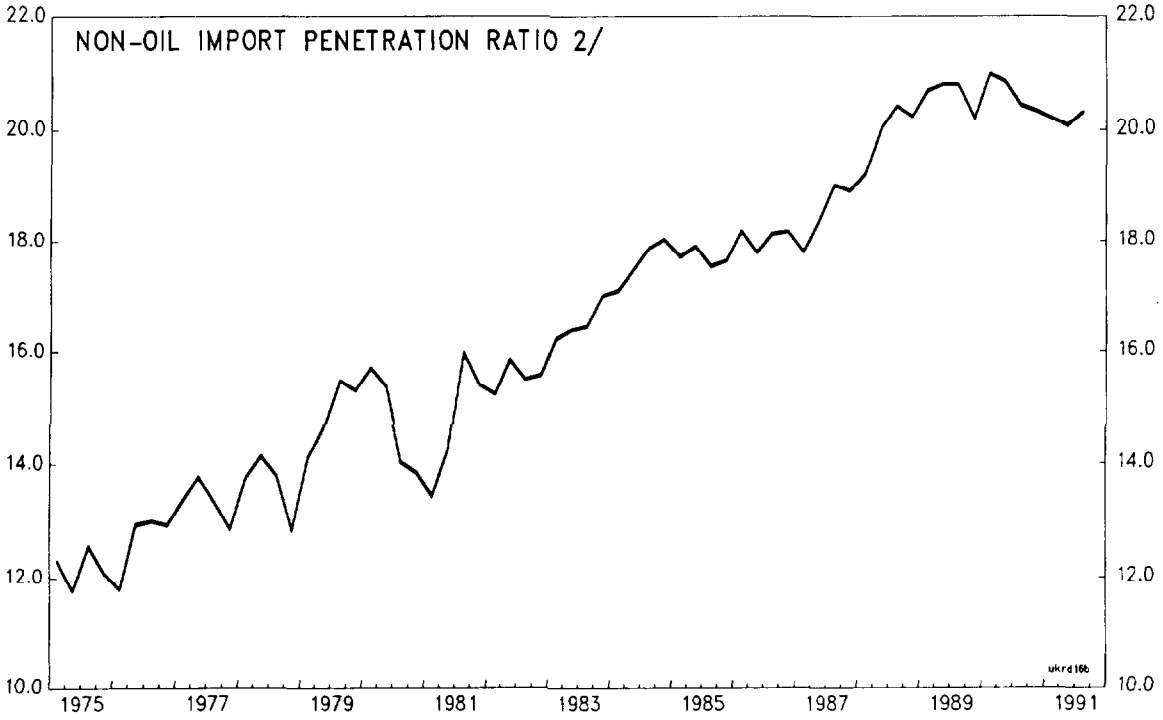
During the second half of the 1970s, U.K. export share of partners' markets had steadily declined owing in part to an erosion of competitiveness (Chart 20). The decline in market share accelerated sharply in 1980 and 1981 following the particularly steep real appreciation of sterling in the period 1978-80. One effect of this appreciation was to substantially reduce the size of the manufacturing sector: indeed, manufacturing output was not to recover to its 1979 level until 1987. Given the importance of manufacturing in the U.K.'s overall exports, the retrenchment of the manufacturing sector in the early 1980s had important consequences for the supply potential of the export sector.

CHART 20
UNITED KINGDOM

EXPORT MARKET SHARE AND IMPORT PENETRATION

(In percent)





Sources: CSO, Economic Trends; IMF, World Economic Outlook.

1/ Ratio of non-oil exports to total world exports excluding the United Kingdom.
2/ Ratio of non-oil imports to final sales.

Helped in part by some gradual recovery in competitiveness on average after 1980, export growth performance was significantly better in the 1980s compared to the 1970s. Thus, while there was some further decline in market share in the 1980s, the decline was extremely modest in comparison to that in the 1970s. Export competitiveness was generally helped by the return of manufacturing productivity to its post-war trend after the disappointing performance of the 1970s as described more fully in Chapter IV above.

More recently, the performance of exports has been notably strong in relation to growth in partner market size. In fact, this performance has confounded most forecasters whose econometric models underpredicted the most recent growth in market shares at a time of a rise in the real exchange rate. One possible explanation for the better export performance is the effect of sizable foreign direct investments in the export sector in the late 1980s ahead of greater EC market integration in 1992. For example, investments by Japanese auto makers resulted in exports of cars of £4 billion at an annual rate in the first quarter of 1991, more than double the level of sales in the corresponding period three years earlier.

Import penetration continued on an upward trend during the 1980s that was interrupted only briefly during periods of domestic cyclical weakness (Chart 20, lower panel). The increase in import penetration in the U.K. is similar to that experienced in other industrial countries and reflects the expansion in world trade in excess of growth of output. To some degree, this development has been due to increasing specialization in manufacturing as production has gravitated to areas of comparative advantage. This rise in specialization has contributed to a drop in the import elasticity of demand and accounts for the much more modest decline in the ratio of imports to final sales in the recent downturn than occurred in the 1979-81 recession.

The overall trade balance in the 1980s was distorted by the effects of the oil surplus. Between 1980, when the United Kingdom became a net oil exporter, and 1983, the surplus on oil trade rose to 2¼ percent of GDP buoyed by both rising North Sea production and world prices. The oil surplus remained at this level for the next two years before declining sharply in the second half of the 1980s as production waned and world prices collapsed. In 1990-91, owing partly to production problems, the oil surplus shrank to just ¼ percent of GDP.

The evolution of the non-oil trade balance in the recent cyclical episode has largely reflected the strength of domestic spending and the attempts by producers to meet demand. Beginning in 1987, lower interest rates and a booming housing market spurred all categories of expenditure, but particularly consumption. As the following tabulation shows, from 1986 to 1989 net imports of automobiles and other consumer goods rose by £3¾ billion, accounting for 30 percent of the deterioration of the non-oil trade balance. The attempts to increase supply to meet the rise in domestic demand is evidenced by the swing in the intermediate goods balance from a surplus of £1 billion in 1986 to a deficit of £3 billion in 1989. In

addition, net imports of capital goods increased somewhat as producers endeavored to expand productive capacity.

Non-oil Trade

(In billions of pounds sterling)

	1986	1987	1988	1989	1990	1990			1991	
						1st half 1/	3rd qtr. 1/	4th qtr. 1/	1st qtr. 1/	2nd qtr. 1/
Non-oil trade balance	-13.6	-15.7	-24.4	-25.9	-20.2	-24.5	-17.9	-13.9	-12.9	-9.3
of which:										
Manufactured goods	-9.8	-12.0	-18.7	-21.3	-14.8	-17.3	-14.3	-10.5	-9.2	-5.9
Semi-manufactures 2/	-2.0	-3.0	-4.8	-5.4	-3.8	-3.8	-4.1	-3.6	-3.2	-1.0
Finished manufactures 3/	-7.8	-9.0	-13.8	-15.9	-11.0	-13.5	-10.2	-6.9	-6.0	-4.8
(Consumer goods and autos)	-8.1	-7.7	-10.7	-11.8	-10.3	-11.3	-10.3	-8.4	-7.1	-6.7
(Intermediate goods)	1.1	-0.1	-1.9	-3.0	-1.6	-2.8	-0.5	-0.4	-0.7	0.1
(Capital goods)	-0.8	-1.1	-1.2	-1.2	0.9	0.6	0.6	1.8	1.8	1.8

1/ Seasonally adjusted, annual rate.
2/ Excludes precious stones and silver.
3/ Excludes ships, North Sea installations, and aircraft.

The pressure on resources began to abate in 1990 as attempts to reign in domestic demand through progressive interest rate increases ultimately proved successful. The deficit with respect to trade in manufactured goods moderated in the first half of the year and fell sharply thereafter as activity turned down, reaching an annual rate of £6 billion in the second quarter of 1991. While the non-oil trade deficit was approximately halved between 1990 and 1991, the fact that the balance remained in deficit at a point that could prove to be the trough of the business cycle is in sharp contrast to previous cyclical episodes. For example, from the peak to the trough of the previous cycle in the early 1980s, the non-oil trade balance improved by some £2½ billion (annual rate) and registered a small surplus at the bottom of the cycle in mid-1981.

3. Competitiveness

While competitiveness has been subject to wide swings over the past 15 years, it appears that the real exchange rate has undergone a relative appreciation over the past decade with respect to the average level in the 1970s (Chart 21). In the late 1970s, there was a very sharp nominal appreciation of sterling associated with the coming on stream of oil exports at a time of high international oil prices and tight domestic policies. This nominal appreciation was subsequently reversed as the domestic economy moved into recession, but there was a tendency for the real exchange rate to remain above its average level in the 1970s.

The period since the mid-1970s can be divided into several distinct sub-periods as indicated in the tabulation below. The initial period between 1977 and 1981 was associated with the emergence of oil as a major export. As shown in Chart 21, as the importance of petroleum grew and as monetary policy was tightened, both the nominal and real exchange rates (based on relative unit labor costs) appreciated substantially. In response to this appreciation, producers of manufactured goods reacted by raising their prices relative to competitors, but not by as much as the rise in labor costs. As a consequence, profit margins were squeezed in relation to those in trading partners. 1/

1/ Relative profit margins are roughly measured by the difference between relative export unit values and relative labor costs. Of course, other factors such as changes in intermediate goods prices complicate this relationship, but the direction of the movement in margins over the period is clear.

Exchange Rate Developments
and Competitiveness

(Percent change)

	1976 IV-1981 I	1981 I-1982 III	1982 III-1986 IV	1986 IV-1989 I	1989 I-1989 IV	1989 IV-1990 III	1990 III-1991 III
Nominal effective exchange rate	30.9	-9.6	-26.0	14.1	-9.3	7.0	-3.7
Real effective exchange rate 1/	94.5	-14.8	-23.6	15.5	-5.5	11.4	-0.4
Relative export unit value adjusted for exchange rate changes	46.9	-11.1	-11.0	16.1	-6.6	10.9	-4.6
Memorandum items:							
Relative unit labor costs (unadjusted for exchange rate changes	63.6	-5.3	2.3	1.4	3.8	4.4	3.3
Export unit value (unadjusted for exchange rate changes)	16.0	-1.5	14.9	2.0	2.7	3.8	-0.8
Profit margin relative to trading partners	-47.5	3.7	12.6	0.6	-1.1	-0.5	-4.2

Source: IMF, International Financial Statistics.

Developments in the period from 1981 to 1986 reflect largely the effect of the tightening of policies in the late 1970s on costs, prices, and the exchange rate. Over this period, both the nominal and the real effective exchange rates depreciated substantially, as did relative export unit values. During an initial period between the first quarter of 1981 and the third quarter of 1982, a significant part of the gain in competitiveness was achieved through a relative improvement in unit labor cost performance. However, subsequently, between the third quarter of 1982 and the fourth quarter of 1986, the improvement in competitiveness was more than accounted for by movements in the nominal exchange rate. Over the period as a whole, relative export profitability improved markedly with nominal exchange rate movements more than accounting for this improvement towards the end of the period (see tabulation above).

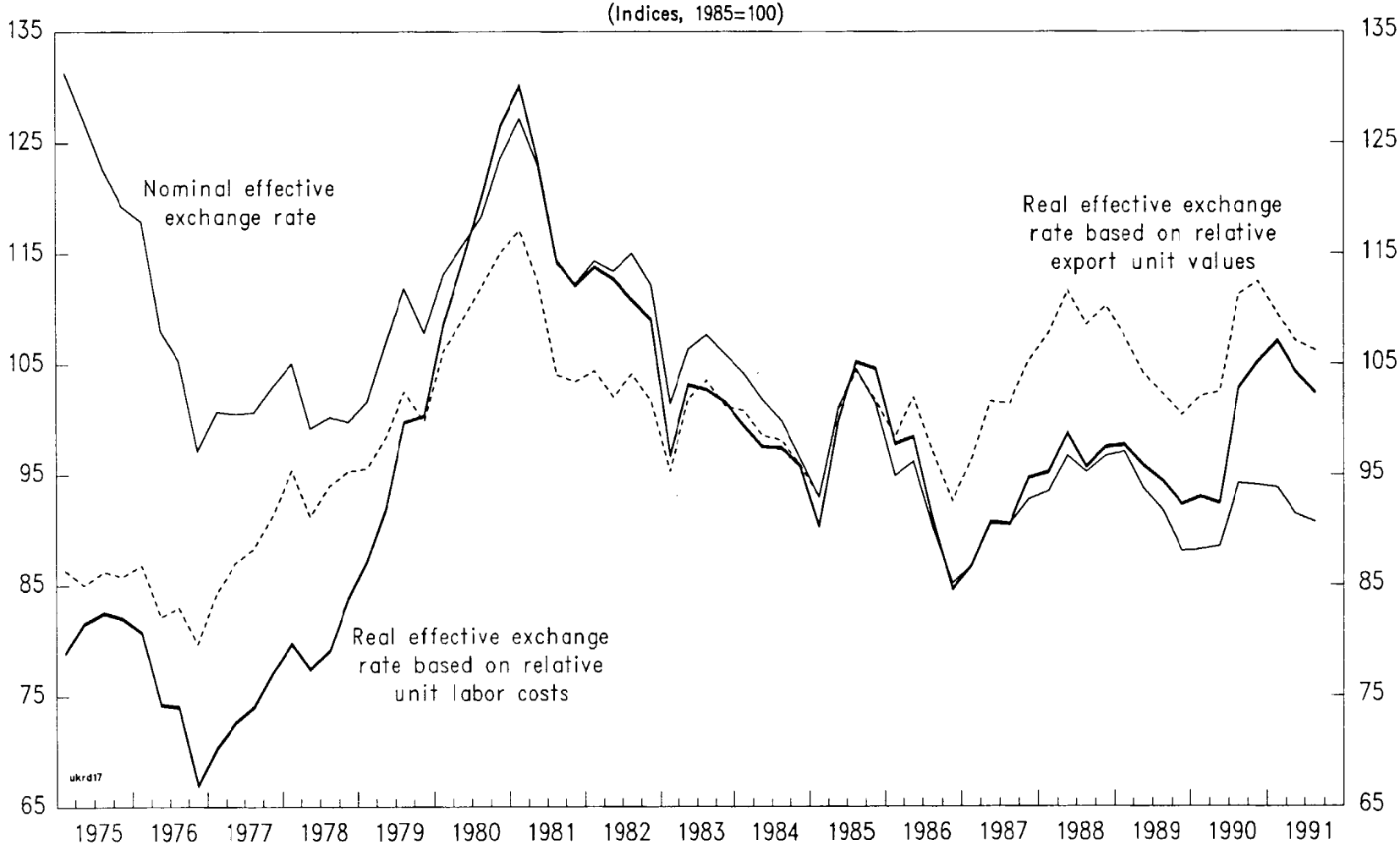
At the end of 1986, the nominal effective value of sterling began an ascent that lasted through the first quarter of 1989. This period was characterized by the emergence of excess demand pressures that contributed to strong employment gains and to rapid wage increases. As labor

1/ Based on relative unit labor costs.

CHART 21
UNITED KINGDOM

EFFECTIVE EXCHANGE RATES

(Indices, 1985=100)



Source: IMF, International Financial Statistics.

productivity moderated with the rise in employment, relative unit labor costs--both adjusted and unadjusted for exchange rate changes--deteriorated. The rise in sterling together with the increase in unit labor costs would have placed producers of exportables in a difficult position had it not been for the strength of domestic demand, which permitted producers to protect profit margins to some extent by diverting goods to the home market.

The pressure on producers abated somewhat during 1989 as the nominal exchange value of sterling fell. However, the conditions of excess demand continued as the rate of unemployment declined, productivity stagnated, and wages rose rapidly. As a result, relative profit margins were squeezed. In 1990, with anticipation of entry into the ERM, sterling generally appreciated and unit labor costs rose. Unlike the 1986-88 period when sterling also rose, profit margins came under pressure as weak domestic demand meant goods could not be diverted to the home market. Instead, producers were forced to compete internationally at prices constrained by the rise in sterling.

In the year following entry into the ERM in the fourth quarter of 1990, competitiveness improved somewhat. To a large extent, however, this improvement was due to the depreciation of the nominal exchange rate within the wide band and to movements in the U.S. dollar on foreign exchange markets. It is interesting to note that relative profit margins continued to be squeezed as unit labor costs unadjusted for exchange rate changes rose, while relative export unit values measured on the same basis fell.

4. Capital account developments

Overseas direct and portfolio investment in the U.K. private sector, which averaged about £6 billion from 1980 to 1985, picked up sharply to £17 billion in 1986 and averaged around £27 billion between 1987 and 1990. While a portion of the higher inflow was probably due to the general process of international portfolio diversification, it is also likely that the perceived advantage emanating from progress toward the Single European Market in 1992 played a role. An interesting feature of the composition of direct investment inflows is the concentration in the non-oil industrial sector, rather than in the financial sector in which the United Kingdom is thought to have a comparative advantage.

On the portfolio account, the increase in inflows in 1986 and 1987 was largely for the purchase of ordinary shares. Since then, however, purchases of equity have declined and the inflow has been concentrated in other financial instruments, such as corporate bonds. A possible explanation of this development is the rise in the long-term interest rate differential in favor of paper denominated in pounds sterling. In 1990, portfolio investment fell to under £10 billion, perhaps reflecting the narrowing of interest differentials. Share purchases fell proportionally more than that of corporate bonds, perhaps owing to the weakness in the economy.

While nonresidents were increasing their investments in the United Kingdom, residents accelerated their purchases of long-term foreign assets (see following tabulation). Direct investment outflows averaged less than £6 billion in the first half of the 1980s and picked up sharply after 1986 to average around £20 billion a year between 1987 and 1989, as acquisitions, particularly in the United States, increased. In 1990, however, direct foreign investment by U.K. residents fell sharply, to about £12 billion. The drop was mainly due to an inflow in inter-company accounts, that would result from the sale of overseas subsidiaries.

Foreign Long-term Investment Inflows into the Private Sector 1/

(In millions of pounds sterling)

	1980	1986	1987	1988	1989	1990	1991 2/
Direct investment inflows							
In non-oil companies	2,541	2,865	6,396	7,098	13,953	14,797	11,226
In oil companies	1,714	1,930	1,619	2,692	2,031	2,838	4,750
Portfolio investment inflows							
In U.K. companies' securities	196	8,446	15,318	13,034	15,594	9,595	13,134
(In ordinary shares)	(264)	(5,174)	(11,563)	(5,290)	(6,494)	(2,795)	(5,934)
Total	4,451	13,241	23,333	22,824	31,578	27,230	...
Memorandum items:							
Direct investment in financial institutions	221	1,537	2,535	2,350	4,530	6,069	...
Direct investment in non-oil industrial and commercial companies	2,320	1,328	3,861	4,748	9,423	8,728	...

Source: Central Statistical Office, Financial Statistics and United Kingdom Balance of Payments.

1/ Excludes miscellaneous property investments.
2/ The first two quarters of 1991 at an annual rate.

In contrast to the relatively steady increase in direct investment until 1990, portfolio investment abroad has displayed sharp swings moving from a £22 billion outflow in 1986 to a £7 billion repatriation in 1987 before moving back sharply to a £31 billion outflow in 1989. As was the case with direct investment, outflows in the portfolio investment category also declined sharply in 1990. The variability of outflows on the portfolio account has primarily reflected the behavior of nonbank financial institutions. In 1986, nonbanks made sizable overseas purchases of both common stock and bonds. Following the global stock market crash in 1987, the external positions of these institutions were run down, perhaps reflecting the need to bolster their domestic financial position. As the economy successfully weathered the events of October 1987, nonbanks again placed large quantities of funds abroad, particularly purchases of equity in 1989. In 1990, purchases of ordinary shares by nonbank financial institutions fell to £1 billion from more than £16 billion in the previous year. A possible interpretation of this development is that, as in late 1987 and early 1988, the financial well-being of nonbanks was again under pressure, but this time as a result of weakness in the domestic property and equity markets.

The estimated stock of net external assets fell by £54 billion in 1990 to £30 billion (5 percent of GDP) compared with a peak of over £100 billion (27 percent of GDP) in 1986 (see tabulation below). The nearly £75 billion decline in net external assets since 1986 can be attributed to two factors, the cumulative current account deficit (£55 billion) and valuation effects (£34 billion). Valuation effects in 1990 were especially large owing mostly to the 20 percent decline in the value of the U.S. dollar on a year-end basis. With the recovery of the U.S. dollar following the war in the Middle East, the value of U.K. assets abroad rose and the estimated stock of external assets climbed to almost £50 billion at the end of the first half of 1991.

Changes In Net External Assets and Liabilities

(In billions of pounds sterling)

	1985	1986	1987	1988	1989	1990	1991 1/ 1st half
Current account balance	2.8	-0.0	-4.2	-15.5	-20.4	-15.2	-2.8
Net errors and omissions	1.2	7.0	-1.7	5.9	7.5	0.6	7.3
Net identified capital (outflow -)	-4.1	-7.2	5.8	9.6	12.9	12.1	-1.8
Valuation effects	-9.7	22.7	-30.9	23.6	15.6	-42.0	16.8
Change in external assets	-5.6	29.9	-36.7	14.0	2.7	-54.1	18.5
Stock of external assets	73.8	103.7	67.0	81.0	83.7	29.6	48.0

Source: CSO data tape

1/ Bank of England estimates.

Table 6. United Kingdom: Selected National Accounts Aggregates at 1985 Market Prices, 1986-91

	1986	1987	1988	1989	1990	1990 1/		1991 1/		
						1st half	2nd half	1st qtr.	2nd qtr.	3rd qtr.
				(In billions of pounds sterling)						
Private consumption	231.2	243.3	261.3	270.6	273.2	274.2	272.3	270.8	266.5	266.8
Government consumption	75.1	76.0	76.5	77.2	79.5	79.1	80.0	80.6	80.7	81.1
Gross domestic fixed capital formation	61.8	67.8	76.6	81.8	80.0	82.3	77.8	73.3	71.8	70.0
Residential	12.9	13.5	15.1	14.6	12.7	13.4	11.9	12.0	11.0	11.2
Non-residential construction	18.9	21.7	24.6	26.1	27.8	27.4	28.1	26.0	25.2	24.8
Plant and equipment	30.0	32.6	36.9	41.2	39.6	41.5	37.7	35.3	35.5	33.9
Stockbuilding and work in progress	0.7	1.2	4.0	2.7	-0.4	0.6	-1.3	-4.4	-4.1	0.1
Total domestic demand	368.8	388.2	418.5	432.3	432.4	436.1	428.6	420.3	414.9	418.0
Exports of goods and services	107.1	113.1	113.2	117.9	123.7	124.8	122.5	122.0	126.3	125.5
Imports of goods and services	105.7	113.9	128.0	137.4	138.8	140.7	136.8	133.1	133.2	136.2
Foreign Balance	1.4	-0.8	-14.8	-19.5	-15.1	-16.0	-14.3	-11.0	-6.9	-10.6
Gross domestic product:										
Expenditure estimate	370.2	387.4	403.7	412.8	417.3	420.2	414.3	409.2	408.0	407.3
Statistical adjustment	-0.2	0.3	0.5	0.7	0.2	0.2	0.1	0.3	0.3	0.3
Average estimate 2/	370.0	387.7	404.2	413.5	417.4	420.4	414.5	409.5	408.3	407.6
				(Percentage change from previous period)						
Private consumption	6.2	5.2	7.4	3.5	1.0	1.8	-1.4	-0.7	-6.2	0.5
Government consumption	1.8	1.2	0.6	0.9	3.0	2.4	2.3	3.9	0.5	1.7
Gross domestic fixed capital formation	2.4	9.6	13.1	6.8	-2.2	1.9	-10.8	-18.0	-8.1	-9.6
Residential	8.8	4.4	12.2	-3.7	-13.1	-12.0	-20.6	20.6	-29.1	9.3
Non-residential construction	3.9	14.8	13.6	6.0	6.3	6.3	5.4	-29.4	-11.2	-6.5
Plant and equipment	-1.0	8.6	13.2	11.6	-3.8	4.2	-17.7	-19.0	2.6	-17.0
Stockbuilding and work in progress 3/	-0.0	0.1	0.7	-0.3	-0.7	0.0	-0.9	-1.1	0.3	4.2
Total domestic demand	4.6	5.3	7.8	3.3	0.0	1.9	-3.4	-4.2	-5.0	3.0
Exports of goods and services	4.7	5.6	0.0	4.2	4.9	7.8	-3.6	-4.0	14.8	-2.4
Imports of goods and services	6.9	7.8	12.3	7.4	1.0	5.2	-5.5	-8.1	0.5	9.2
Foreign balance 3/	-0.5	-0.6	-3.6	-1.1	1.1	0.5	0.8	1.5	4.1	-3.6
Gross domestic product:										
Expenditure estimate	4.0	4.6	4.2	2.3	1.1	2.6	-2.8	-2.9	-1.2	-0.7
Average estimate 2/	3.9	4.8	4.3	2.3	1.0	2.4	-2.8	-2.7	-1.2	-0.7
Memorandum items:										
GDP at factor cost based on:										
Expenditure data	3.7	4.4	3.9	1.9	0.6	2.6	-2.5	-3.7	-1.6	-0.5
Income data	3.7	4.7	4.0	2.1	0.6	2.0	-3.0	-3.4	-2.4	...
Output data	3.3	4.7	4.2	2.3	1.0	2.4	-2.5	-3.4	-2.8	0.7
GDP at current market prices 4/	382.9	421.2	467.9	511.4	550.5	544.8	556.2	558.2	574.4	580.5
(Percent change)	(7.5)	(10.0)	(11.1)	(9.3)	(7.6)	(9.6)	(4.3)	(0.7)	(12.1)	(4.3)

Sources: Central Statistical Office, Economic Trends.

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

Table 7. United Kingdom: Components of Personal Income, 1986-91

	1986	1987	1988	1989	1990	1990 1/		1991 1/		
						1st half	2nd half	1st qtr.	2rd qtr.	3rd qtr.
					(In billions of pounds sterling)					
Total personal income	332.5	358.8	398.7	441.0	491.0	478.4	503.6	508.6	519.8	525.7
Wages, salaries, and armed forces pay	183.9	200.1	223.2	248.5	275.3	270.1	280.4	285.6	287.5	290.3
Employers' contributions	27.8	29.4	32.1	35.0	38.7	37.8	39.6	39.8	40.7	41.5
National Insurance benefits and other current grants from Government	51.0	52.5	54.1	56.8	61.9	60.7	63.2	65.1	70.0	72.2
Other personal income	69.8	76.7	89.3	100.7	115.1	109.8	120.4	118.0	121.6	121.8
U.K. taxes on income	40.8	43.4	48.3	53.5	61.8	60.4	63.3	63.7	63.9	64.5
National Insurance contributions	26.2	28.6	32.1	33.0	34.8	34.9	34.7	37.3	36.9	36.1
Community charge	--	--	--	0.6	8.8	6.2	11.5	11.5	7.1	7.1
Other miscellaneous deductions	1.9	2.1	2.3	2.4	2.6	2.6	2.5	2.6	2.5	2.4
Total personal disposable income	263.6	284.6	316.0	351.4	383.0	374.4	391.7	393.6	409.4	415.5
Real personal disposable income 2/	252.6	261.4	276.4	291.3	299.7	297.2	302.3	298.2	300.1	299.5
Consumer expenditure	241.3	264.9	298.8	326.5	349.1	345.4	352.8	357.4	363.6	370.3
Real consumer expenditure	231.2	243.3	261.3	270.6	273.2	274.2	272.3	270.8	266.5	266.8
Durable goods	22.0	23.9	27.1	29.4	27.8	28.6	27.0	26.9	24.9	25.9
Non-durable goods	114.6	118.5	123.5	124.9	125.1	125.5	124.7	125.3	125.2	124.3
Services	94.5	100.9	110.7	116.3	120.3	120.0	120.5	118.6	116.5	116.7
Personal savings ratio 3/	8.5	6.9	5.4	7.1	8.9	7.7	9.9	9.2	11.2	10.9
Personal financial balance 3/	1.3	-1.1	-4.3	-1.2	2.1	0.5	3.6	5.1	5.2	...
					(Percentage change from previous period)					
Total personal income	9.0	7.9	11.1	10.6	11.3	12.5	10.8	0.1	9.1	4.6
Wages, salaries and armed forces pay	8.7	8.8	11.5	11.3	10.8	12.4	7.8	5.6	2.6	3.9
Employers' contributions	5.0	5.7	9.2	9.2	10.5	9.0	9.7	-1.8	9.1	7.9
National Insurance benefits etc.	8.9	3.0	3.0	5.0	9.1	10.6	8.6	7.1	33.6	12.9
Other personal income	11.6	10.0	16.3	12.7	14.3	15.2	20.1	-14.3	12.7	0.4
U.K. taxes on income	8.0	6.3	11.3	10.8	15.5	17.9	9.8	4.1	1.2	4.3
National Insurance contributions	8.1	9.5	12.1	2.9	5.3	14.3	-1.3	26.4	-4.7	-8.4
Community charge 4/	--	--	--	-0.2	-2.3	-3.1	-3.0	--	4.5	--
Total personal disposable income	9.2	8.0	11.0	11.2	9.0	8.4	9.5	-2.8	17.1	6.1
Real personal disposable income	4.6	3.5	5.7	5.4	2.9	2.4	3.5	-6.4	2.6	-0.9
Consumer expenditure	10.9	9.8	12.8	9.3	6.9	7.7	4.3	3.0	7.1	7.6
Real consumer expenditure	6.2	5.2	7.4	3.5	1.0	1.8	-1.4	-0.7	-6.2	0.5
Durable goods	8.8	8.5	13.5	8.3	-5.2	-3.6	-11.0	10.3	-27.7	17.1
Non-durable goods	4.5	3.4	4.2	1.1	0.2	0.7	-1.2	3.4	-0.2	-3.0
Services	7.8	6.7	9.8	5.0	3.4	4.3	0.8	-7.1	-6.9	0.9
Memorandum item:										
Implied consumption deflator	4.4	4.3	5.0	5.5	5.9	5.9	5.8	3.8	14.1	7.1

Source: Central Statistical Office, United Kingdom National Accounts.

1/ At seasonally adjusted annual rates.
2/ In 1985 prices, deflated by the implied deflator for consumers' expenditure.
3/ Relative to personal disposable income.
4/ Contribution to growth in disposable income.

Table 8. United Kingdom: Selected Indicators of Investment Activity 1/
1986-1991

	1986	1987	1988	1989	1990	1990 2/		1991 2/		
						1st half	2nd half	1st qtr.	2nd qtr.	3rd qtr.
					(Billions of 1985 Pounds Sterling)					
Gross domestic fixed capital formation	61.8	67.8	76.6	81.8	80.0	82.3	77.8	73.3	71.8	70.0
By sector:										
Private sector	48.9	55.8	65.6	68.9	66.3	68.8	63.8	61.1	58.3	...
Residential	10.4	10.7	12.6	11.6	9.4	9.6	9.1	8.7	7.9	...
Nonresidential	38.6	45.1	53.0	57.3	56.9	59.2	54.7	52.4	50.4	...
Public sector	12.9	11.9	11.0	12.9	13.6	13.5	13.7	12.0	12.6	...
General government	7.5	7.5	6.6	8.3	9.7	9.8	9.6	8.6	9.7	...
Public corporations	5.4	4.5	4.4	4.6	3.9	3.7	4.1	3.4	2.9	...
By industry:										
Manufacturing	9.4	10.0	11.2	12.4	12.1	12.5	11.8	10.7	10.1	10.3
Mineral oil and natural gas extraction	2.5	1.9	1.9	2.1	2.7	2.6	2.7	3.3	3.5	...
					(Percentage change from previous period)					
Gross domestic fixed capital formation	2.4	9.6	13.1	6.8	-2.2	1.9	-10.8	-18.0	-8.1	-9.6
By sector:										
Private sector	2.9	14.0	17.6	5.0	-3.8	3.5	-14.0	-7.7	-16.8	...
Residential	11.2	3.6	17.1	-8.0	-19.0	-22.7	-10.1	-4.5	-31.1	...
Nonresidential	0.9	16.9	17.7	8.1	-0.7	8.9	-14.6	-8.3	-14.2	...
Public sector	0.6	-7.2	-7.6	17.3	5.1	-5.8	3.0	-47.9	20.0	...
General government	8.6	0.1	-11.0	24.7	17.1	14.4	-3.6	-41.7	60.8	...
Public corporations	-8.7	-17.4	-2.0	6.0	-16.2	-39.1	21.4	-60.4	-49.3	...
By industry:										
Manufacturing	-6.9	6.6	11.4	10.6	-2.0	-3.2	-11.1	-34.2	-20.0	10.2
Mineral oil and natural gas extraction	-11.9	-22.4	-2.9	12.1	27.8	25.4	9.8	113.7	21.2	...
					(In percent of GDP (average estimate), calculated in nominal terms)					
Gross domestic fixed capital formation	16.8	17.6	19.0	19.9	19.2	19.9	18.5	17.4	16.6	15.9
By sector:										
Private sector	13.4	14.7	16.6	17.0	15.9	16.7	15.2	14.6	13.5	...
Residential	2.8	3.0	3.3	3.2	2.6	2.6	2.5	2.4	2.2	...
Nonresidential	10.6	11.8	13.6	13.7	13.3	14.0	12.7	12.2	11.3	...
Public sector	3.3	2.8	2.3	2.7	3.0	3.1	3.2	2.8	2.9	...
General government	1.9	1.7	1.3	1.7	2.2	2.3	2.3	2.0	2.2	...
Public corporations	1.4	1.1	1.0	1.0	0.8	0.8	0.9	0.8	0.6	...
By industry:										
Manufacturing	2.3	2.4	2.4	2.4	2.4	2.8	2.6	2.3	2.2	...
Mineral oil and natural gas extraction	0.7	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	...

Source: Central Statistical Office, United Kingdom National Accounts.

1/ The sectoral breakdown of investment for the third quarter of 1991 and revisions for earlier quarters is not yet available. As a consequence, the sectoral breakdown presented in this table may not add to the totals presented.
2/ At seasonally adjusted annual rates.

Table 9. United Kingdom: Real Output and Its Major Components at Constant Factor Cost, 1986-91

(Percentage change over preceding year)

	1985 Weights	1986	1987	1988	1989	1990	1991 1/
Agriculture, forestry, and fishing	19	-2.5	0.8	-0.8	4.1	3.0	-1.6
Total production and construction	403	3.7	6.2	7.1	4.1	0.5	-10.2
Manufacturing	238	1.3	5.2	7.0	4.3	-0.5	-5.6
Construction	59	4.5	7.9	9.0	6.1	1.0	-13.3
Utilities	106	5.0	-1.0	-4.4	-9.8	-0.8	1.9
Transportation and communications	70	4.5	7.7	5.3	5.9	2.2	-4.7
Distributive trades	134	4.5	6.5	6.1	3.2	1.0	-3.2
Other services	374	3.8	4.1	3.5	2.5	2.0	-0.6
GDP 2/	1,000	3.3	4.7	4.2	2.3	1.0	-2.7
Memorandum Items:							
Extraction of oil and gas	62	1.2	-2.6	-8.6	-18.5	--	-8.5 3/
Non-oil GDP	938	3.4	5.1	5.0	3.4	0.9	-2.9 3/
Consumer goods		1.2	5.2	5.3	2.3	-0.4	-4.1
Intermediate goods		3.6	2.7	1.4	-3.4	-1.1	-2.7
Investment goods		0.6	2.4	7.9	8.4	0.8	-6.0

Source: Central Statistical Office, Economic Trends.

1/ Average for first three quarters over corresponding period one year earlier.
2/ Based on output data using the new index (1985 = 100).
3/ Average for first two quarters over corresponding period one year earlier.

Table 10. United Kingdom: Labor Market Indicators 1/

(In thousands)

Level at March	1986	1987	1988	1989	1990	1991
Work force	27,847	27,920	28,293	28,490	28,436	28,491
(Percent change)	(0.5)	(0.3)	(1.3)	(0.7)	(-0.2)	(0.2)
Work force in employment= (1 + 2 + 3 + 4)	24,535	24,793	25,727	26,584	26,828	26,398
(Percent change)	(0.2)	(1.1)	(3.8)	(3.3)	(0.9)	(-1.6)
1. Employees in employment	21,395	21,411	22,104	22,635	22,802	22,375
Male	11,799	11,648	11,945	11,995	12,061	11,723
Female	9,596	9,763	10,159	10,640	10,741	10,652
2. Self-employed 1/ 2/	2,626	2,808	2,963	3,190	3,284	3,298
3. H.M. forces 1/	323	320	317	312	306	298
4. Work related government training programs 1/	191	255	343	448	436	426
Unemployment	3,312	3,127	2,566	1,906	1,608	2,093
Employees in employment 3/	100.0	100.0	100.0	100.0	100.0	100.0
Manufactures	24.9	24.1	23.6	23.1	22.8	22.5
Services	66.3	67.3	68.0	68.8	69.1	69.9
Other	8.7	8.5	8.4	8.1	8.0	7.6
			(In percent)			
Memorandum items:						
Unemployment rate 4/	11.1	10.7	8.7	6.8	5.7	7.0
Long-term unemployed 5/	4.9	4.8	3.9	2.9	2.0	1.8
Unemployment rate in the South East	8.2	7.9	6.1	4.3	3.6	5.0

Source: Department of Employment, Employment Gazette.

1/ Not adjusted for seasonal variation.
2/ With or without employees. Estimates of the self-employed from 1986 and 1988 as based on labor force surveys. Estimates for 1989 are based on the assumption of a continuation of the average 1981-88 growth rate.
3/ Great Britain, percent of total.
4/ Claimants basis, seasonally adjusted.
5/ Over 52 weeks.

Table 11. United Kingdom: Selected Indicators of Wage Developments, 1986-91 1/

(Percentage changes from previous year)

	1986	1987	1988	1989	1990	1990 2/		1991 2/		
						1st half	2nd half	1st qtr.	2nd qtr.	3rd qtr.
Average earnings										
Whole economy	8.0	7.8	8.7	9.1	9.7	9.7	9.8	9.0	7.9	7.9
Manufacturing	7.6	8.1	8.4	8.8	9.4	9.1	9.6	8.8	8.5	7.8
Services	7.7	7.6	8.8	8.9	9.6	9.5	9.7	8.8	7.2	7.7
Average earnings deflated by retail prices										
Whole economy	4.4	3.5	3.7	1.2	0.2	0.9	-0.4	0.3	1.8	3.0
Manufacturing	4.1	3.8	3.4	0.9	-0.1	0.4	-0.5	0.1	2.4	2.9
Services	4.2	3.4	3.7	1.0	0.1	0.8	-0.4	0.1	1.2	2.8
Average earnings deflated by producers' output prices										
Whole economy	3.5	3.7	4.1	3.8	3.6	3.6	3.7	2.6	1.8	2.0
Manufacturing	3.2	4.0	3.8	3.5	3.3	3.1	3.5	2.4	2.3	2.0
Unit wage costs 3/										
Whole economy	5.5	4.7	7.3	9.5	10.3	9.6	11.0	10.8	9.3	...
Manufacturing	4.0	1.9	2.6	4.6	8.7	7.2	10.1	10.9	10.8	6.7

Sources: Central Statistical Office, Economic Trends; and Department of Employment, Employment Gazette.

1/ Great Britain.
2/ Relative to same period in previous year.
3/ Wages and salaries per unit of output, based on seasonally adjusted monthly statistics for earnings, employment and output.

Table 12. United Kingdom: Selected Indicators of Price Developments, 1986-91

(Percentage change from corresponding period of previous year)

	1986	1987	1988	1989	1990	1990		1991			
						1st half	2nd half	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.
GDP deflator 1/											
(market prices)	3.5	5.0	6.5	6.9	6.8	6.1	7.2	5.7	8.0	6.9	...
(factor cost)	2.7	5.1	6.6	7.6	8.0	7.6	9.7	8.0	6.7	...	...
Retail prices											
All items	3.4	4.1	4.9	7.8	9.5	8.7	10.2	8.7	6.0	4.8	4.2
Non-food items	3.4	-1.4	5.2	8.2	9.8	8.8	10.7	9.2	6.1	4.7	...
Housing	5.7	8.6	8.9	20.3	21.0	20.4	21.5	15.9	-3.9	-8.0	...
Excluding mortgage interest	3.6	3.7	4.3	6.4	8.1	7.2	9.1	8.5	6.8	6.2	5.7
Tax and Price Index	1.8	2.5	2.9	7.1	8.3	7.2	9.3	8.2	5.7	4.3	...
Producer prices											
Input	-7.6	3.1	3.2	5.8	-0.2	0.9	-1.4	-2.3	-0.0	-0.7	-1.2
Output	4.3	3.9	4.5	5.1	5.9	5.8	5.9	6.3	6.0	5.7	5.1

Source: Central Statistical Office, Economic Trends.

1/ Based on expenditure estimate.

Table 13. Central Government Expenditure: Main Departments

(In millions of pounds)

	Estimates of outturn		New Plans			Changes from previous plans 1/		
	1990/91	1991/92	1992/93	1993/94	1994/95	1991/92	1992/93	1993/94
Social Security	51,958	61,200	66,000	71,200	74,500	3,000	3,300	4,500
Health	22,393	25,540	27,940	29,800	31,490	630	1,620	2,300
Defense 2/	21,800	22,850	24,180	24,520	24,800	50	830	1,120
Territories	13,043	14,910	16,030	16,880	17,610	180	510	730
Education and Science	4,548	4,570	4,860	5,110	5,340	-60	120	220
Employment	3,387	3,210	3,460	3,460	3,510	240	480	460
Other Departments	23,524	24,360	26,160	27,070	28,090	510	10	710
Total	140,653	156,700	168,600	178,000	185,400	4,500	6,900	10,000

Source: H.M. Treasury, Autumn Statement, November 1991.
1/ Difference from plans stated in the March 1991 Budget.
2/ The estimated outturn for Defense in 1990/91 and 1991/92 is net of other governments' contributions to the cost of the Gulf conflict.

Table 14. United Kingdom: General Government Accounts

(National Accounts Basis)

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91 Budget	1990/91 Outturn	1991/92 Budget
				(In billions of pounds sterling)				
Current receipts	149.2	156.6	172.4	187.9	203.5	213.1	216.9	224.5
Taxes on income	52.5	52.4	58.9	63.0	71.5	75.7	77.8	79.2
Taxes on expenditure	57.7	64.5	70.5	77.8	82.3	77.3	77.5	87.0
Social security contributions	24.6	26.7	29.5	32.8	33.4	35.9	35.4	37.2
Other 1/	14.4	13.1	13.5	14.3	16.2	24.2	26.2	21.1
Capital receipts	2.4	2.9	3.3	4.4	4.1	6.0	4.0	3.6
Total receipts	151.7	159.5	175.7	192.3	207.6	219.1	220.9	228.1
Current expenditure	149.6	158.4	167.8	174.4	187.7	200.5	204.0	217.6
Final consumption	75.0	80.3	87.1	93.2	101.1	109.0	112.0	119.8
Subsidies and grants	57.0	60.6	62.7	62.9	68.1	73.8	73.8	80.6
Debt interest	17.7	17.5	17.9	18.3	18.4	17.7	18.1	17.2
Capital expenditure	10.8	10.2	10.7	10.4	18.9	14.7	18.5	18.5
Unallocated reserve	...	...	...	...	...	2.3	...	3.5
Total expenditure 2/	160.5	168.5	178.4	184.9	206.6	217.5	222.5	239.6
Financial balance 2/	-8.8	-9.0	-2.7	7.4	0.9	1.6	-1.7	-11.5
Financial transactions 3/	8.8	9.0	2.7	-7.4	-0.9	-1.6	1.7	11.5
Net lending	2.1	3.9	5.2	5.3	6.1	4.7	6.4	5.5
Of which: Privatization proceeds	(2.7)	(4.5)	(5.1)	(7.1)	(4.2)	(5.0)	(5.3)	(5.5)
Other miscellaneous 4/	-0.2	0.2	-0.6	-1.0	-0.4	-0.4	-4.2	-2.3
Borrowing requirement	6.9	4.9	-1.9	-11.7	-6.6	-5.9	-0.5	8.3
				(Annual percentage changes)				
Memorandum items:								
Total receipts	8.3	5.2	10.1	9.4	7.9	5.5	6.4	3.3
Total expenditure	5.2	5.0	5.9	3.6	11.8	5.3	7.7	7.7
Including net lending	5.0	4.0	5.2	3.7	11.7	6.1	7.8	8.3
				(In percent of GDP) 5/				
Total receipts	41.8	40.8	40.6	40.0	39.8	39.5	39.8	39.3
Total expenditure	44.2	43.1	41.3	38.4	39.6	39.2	40.1	41.3
Including net lending	43.6	42.1	40.1	37.3	38.5	38.3	38.9	40.4
Financial balance	-2.4	-2.3	-0.6	1.5	0.2	0.3	-0.3	-2.0
Borrowing requirement	1.9	1.2	-0.4	-2.4	-1.3	-1.1	-0.1	1.4
Excluding privatization receipts	2.6	2.4	0.7	-1.0	-0.5	-0.2	0.9	2.4

Sources: Central Statistical Office, Financial Statistics and Economic Trends; and H.M. Treasury, Financial Statement and Budget Report 1990/91 and 1991/92.

1/ Includes community charge from 1989/90.
2/ Including unallocated reserve where appropriate.
3/ A positive sign denotes a drawdown in assets or an increase in liabilities.
4/ Including accruals adjustments and balancing item.
5/ 1991/92 figures use budget estimate of GDP.

Table 15. United Kingdom: Central Government Accounts

(National Accounts Basis)

	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91 Budget	1990/91 Outturn	1991/92 Budget
				(In billions of pounds sterling)				
Current receipts	132.5	138.4	153.0	166.0	179.5	199.5	202.4	215.4
Taxes on income	52.5	52.4	58.9	63.0	71.5	75.7	77.8	79.2
Taxes on expenditure	43.9	48.8	53.3	58.5	62.2	77.2	77.4	86.9
Social security contributions	24.6	26.7	29.5	32.8	33.4	35.9	35.4	37.2
Other	11.5	10.5	11.2	11.7	12.4	10.7	11.9	12.1
Capital receipts	2.4	2.9	3.2	4.3	4.0	6.0	3.9	3.6
Total receipts	134.9	141.2	156.3	170.4	183.5	205.5	206.4	219.0
Current Expenditure	134.8	142.9	150.7	154.8	165.9	189.7	192.4	211.2
Final consumption	46.7	49.2	53.0	56.6	61.8	66.2	68.2	72.5
Subsidies and grants	72.1	77.2	80.7	80.7	86.2	106.5	106.6	122.0
Debt interest	16.1	16.5	17.1	17.6	17.8	17.0	17.5	16.7
Capital Expenditure	6.8	6.4	6.8	7.8	14.5	12.5	15.0	15.6
Total Expenditure	141.6	149.2	157.5	162.6	180.3	202.2 2/	207.4	227.0 1/
Current surplus	-2.3	-4.5	2.3	11.2	13.6	9.8 1/	10.0	4.2 1/
Financial balance	-6.7	-8.0	-1.2	7.7	3.1	3.3 1/	-1.0	-8.0 1/
Memorandum items:				(Annual percentage changes)				
Total receipts	8.7	4.7	10.6	9.0	7.7	12.0	12.5	6.1
Total expenditure	5.6	5.4	5.5	3.3	10.9	12.1	15.0	9.4
				(In percent of GDP) 2/				
Total receipts	37.2	36.2	36.1	35.4	35.2	37.0	37.2	37.8
Total expenditure	39.0	38.2	36.4	33.8	34.6	36.4	37.4	39.1
Current surplus	-0.6	-1.2	0.5	2.3	2.6	1.8	1.8	0.7
Financial balance	-1.9	-2.0	-0.3	1.6	0.6	0.6	-0.2	-1.4

Source: Central Statistical Office, Financial Statistics and Economic Trends; and H.M. Treasury, Financial Statement and Budget Report 1990/91 and 1991/92.

1/ Excluding any allocation from the reserve.
2/ 1991/92 figures use budget estimate of GDP.

Table 16. United Kingdom: Public Sector Spending

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92 Autumn Statement
	(In billions of pounds sterling)					
Public expenditure planning total 1/	136.0	142.6	145.6	162.8	180.1	204.9
Plus:						
Local authority self-financed expenditure	8.7	9.2	10.6	15.2	14.7	10.2
Central government debt interest	16.4	17.0	17.5	17.8	17.5	16.7
Accounting adjustments	3.5	4.4	5.8	4.7	3.8	4.3
Equals:						
General government expenditure 2/	164.6	173.2	179.5	200.5	216.1	236.1
Excluding privatization proceeds	169.1	178.3	186.6	204.7	221.4	244.1
Memorandum items:						
General government expenditure excluding privatization proceeds						
Percent of GDP 3/	43.3	41.3	38.8	39.2	39.9	41.5
Real growth 4/	1.6	0.0	-2.4	3.1	1.5	3.0

Sources: Central Statistical Office, Financial Statistics; and H.M. Treasury, 1991 Autumn Statement.

1/ The new definition used in the latest Autumn Statement. The "public expenditure planning total" is used by the authorities for monitoring and planning purposes and is defined as the expenditure on a cash basis of the Central Government (including centrally financed local authority expenditure), plus the capital expenditure of certain public corporations, plus the market and overseas borrowing by nationalized industries and some other public corporations; it excludes gross interest payments by the general government and self-financed local authority spending and treats privatization proceeds as negative expenditure.

2/ "General government expenditure" is based on national accounts data and differs from the public expenditure planning total mainly in that it excludes any transactions by public corporations and it includes self-financed local authority expenditures and gross debt interest payments by the general government.

3/ Using Autumn Statement forecasts of GDP for 1991/92.

4/ Percentage change in expenditures divided by the GDP deflator at market prices.

Table 17. The Budget Measures

(In millions of pounds) 1/

	1991/92		1992/93
	Changes from a non-indexed base	Changes from an indexed base	Changes from an indexed base
Corporation tax changes	-380	-380	-1,100
National insurance employers' contributions on company cars and fuel	--	--	+610
Income tax	-1,730	+595	+860
personal allowances	-1,635	+360	+490
basic rate limit raised	-470	-140	-240
mortgage interest relief limited to basic rate	+220	+220	+420
full relief for profit-related pay	-35	-35	-60
car benefit scales raised	+190	+190	+250
PAYE and NICs small employers allowed to pay quarterly	-210	-210	--
Value added tax	+3,685	+3,685	+5,425
standard rate raised to 17½ percent	+3,900	+3,900	+5,515
other	-215	-215	-90
Excise duties	2,470	+565	+670
tobacco duties raised	+735	+290	+335
alcohol duties indexed	+310	+10	+10
petrol, derv and other oils duties raised	+1,440	+550	+625
vehicle excise duty frozen	--	-270	-280
pool betting duty reduced	-15	-15	-20
Other tax changes	+340	+385	-35
Total central government receipts	+4,175	+4,640	+6,430
Community charge reduced	-4,345	-4,345	-4,540
Total general government receipts 2/	-170	+295	+1,890

Source: H.M. Treasury Financial Statement and Budget Report, March 1991.

1/ Negative number implies a loss of revenue.

2/ Not including an estimated cost of £220 million in 1991/92 and £450 million in 1992/93 for increases to child benefit allowances that are to be met out of the Reserve.

Table 18. Central Government Expenditure: Main Departments

(In millions of pounds)

	Estimates of outturn		New Plans			Changes from previous plans 1/		
	1990/91	1991/92	1992/93	1993/94	1994/95	1991/92	1992/93	1993/94
Social Security	51,958	61,200	66,000	71,200	74,500	3,000	3,300	4,500
Health	22,393	25,540	27,940	29,800	31,490	630	1,620	2,300
Defense 2/	21,800	22,850	24,180	24,520	24,800	50	830	1,120
Territories	13,043	14,910	16,030	16,880	17,610	180	510	730
Education and Science	4,548	4,570	4,860	5,110	5,340	-60	120	220
Employment	3,387	3,210	3,460	3,460	3,510	240	480	460
Other Departments	23,524	24,360	26,160	27,070	28,090	510	10	710
Total	140,653	156,700	168,600	178,000	185,400	4,500	6,900	10,000

Source: H.M. Treasury, Autumn Statement, November 1991.

1/ Difference from plans stated in the March 1991 Budget.

2/ The estimated outturn for Defense in 1990/91 and 1991/92 is net of other governments' contributions to the cost of the Gulf conflict.

Table 19. General Government Expenditure--Plans and Outturn 1/ 2/

(In percent of GDP)

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
March 1987 FSBR 3/	44	43	42	41½				Plans	
January 1988 White Paper (Cmnd 288)	44¾	43¼	42¾	42½	42		Outturn		
January 1989 White Paper (Cmnd 621)	44½	42½	40½	39¾	39¾	39½			
January 1990 White Paper (Cmnd 1021)	44¼	42	39¾	39½	39¾	39½	39¼		
January 1991 Supplement (Cmnd 1520)	44	41¾	39¼	39½	39¾	39½	39½	39	
1991 Autumn Statement	44	42	39½	40	40	41½ 4/	42	41¾	41¼

Source: H.M. Treasury, Autumn Statement, November 1991.
1/ Excluding privatization proceeds.
2/ GDP adjusted to correct for the abolition of domestic rates.
3/ Financial statement and budget report.
4/ Estimated.

Table 20. Tax Allowance and Reliefs: Estimated Costs in 1990/91

(In billions of pounds)

	1990/91
Personal tax	57.0
income tax allowances	30.6
mortgage interest relief	7.8
life insurance premiums 1/	0.3
pension schemes, relief for:	
employee's contributions	2.2
employers' contributions	3.8
investment income of occupational schemes	4.9
lump sum payments to pensioners	1.0
personal pensions	1.1
other savings 2/	0.9
employee participation 3/	0.3
charities 4/	0.8
capital gains tax	3.3
Business tax	
capital allowances	13.1
public corporations	0.5
North Sea oil and gas production	1.1
other companies and self-employed	9.5
double taxation relief 5/	2.0
VAT zero rates 6/	11.8
food	5.3
domestic fuel and power	1.8
private sector dwelling	1.5
passenger transport	0.9
books, newspapers, etc.	0.7
children's clothing	0.5
other 7/	1.1
Total	81.9
(percent of total general government expenditure)	(37.9)

Source: HM Treasury, Financial Statement and Budget Report, March 1991.

1/ For policies taken out before 14 march 1984.

2/ Includes various National Savings instruments, BES, PEPs, SAYE and TESSAs.

3/ Includes approved profit sharing schemes, savings-linked share option schemes, share option schemes and profit-related pay.

4/ Includes relief under income tax, inheritance tax and VAT.

5/ For accounting periods ending 1987/88.

6/ Not all expenditure under these headings is zero-rated.

7/ "Other" includes sewerage services and water, drugs medicine and aids for the handicapped and caravans and houseboats.

Table 21. United Kingdom: Interest Rates, 1986-91 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
1986	10.9	6.0	10.8	10.0	10.1	9.9
1987	9.7	5.8	9.6	9.4	9.6	9.5
1988	10.3	6.7	10.3	9.7	9.7	9.4
1989	13.9	8.1	13.9	10.7	10.2	9.6
1990	14.8	7.5	14.8	12.1	11.8	11.1
1990 1st qtr.	15.2	7.8	15.0	12.2	11.5	10.8
2nd qtr.	15.1	7.8	15.0	12.7	12.3	11.4
3rd qtr.	15.0	7.5	15.0	12.1	12.0	11.3
4th qtr.	13.8	7.0	14.0	11.3	11.3	10.8
1991 1st qtr.	13.2	6.1	13.2	10.4	10.3	10.1
2nd qtr.	11.6	5.6	11.7	10.4	10.4	10.2
3rd qtr.	10.8	5.4	10.8	10.0	10.0	9.8
1990 January	15.2	7.6	15.0	11.6	10.9	10.3
February	15.1	7.8	15.0	12.0	11.3	10.7
March	15.3	7.9	15.0	13.0	12.4	11.5
April	15.2	7.8	15.0	13.2	12.7	11.8
May	15.2	7.8	15.0	12.8	12.5	11.5
June	15.0	7.7	15.0	12.1	11.8	11.0
July	15.0	7.7	15.0	12.1	11.8	11.0
August	15.0	7.4	15.0	12.2	12.2	11.4
September	14.9	7.4	15.0	12.2	12.1	11.3
October	14.0	7.2	14.0	11.6	11.7	11.1
November	13.6	7.1	14.0	11.2	11.4	10.9
December	13.8	6.8	14.0	11.0	10.8	10.4
1991 January	14.0	6.3	14.0	10.8	10.6	10.2
February	13.2	5.9	13.0	10.2	10.1	9.9
March	12.4	5.9	12.5	10.3	10.3	10.1
April	12.0	5.7	12.0	10.3	10.2	10.0
May	11.5	5.5	11.5	10.4	10.4	10.2
June	11.2	5.6	11.5	10.5	10.6	10.3
July	11.1	5.6	11.0	10.3	10.3	10.1
August	10.9	5.4	11.0	10.1	10.0	9.9
September	10.3	5.2	10.5	9.7	9.6	9.5
October	10.5	5.0	10.5	9.8	9.7	9.6
November	10.5	4.6	10.5	...	...	...
December	...	4.1	10.5	...	...	...

Sources: U.K. Treasury; and Central Statistical Office, Economic Trends and Financial Statistics.

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 are period averages of the monthly numbers.

Table 22. United Kingdom: Nominal Exchange Rates, 1986-91 1/

(Period average)

	Nominal Effective Exchange Rate 2/ (1985=100)	U.S. Dollar	Deutsche Mark	Japanese Yen	French Franc
Changes to end of:					
1986	93.01	1.4670	3.1861	247.08	10.1629
1987	92.67	1.6389	2.9404	236.43	9.8358
1988	97.69	1.7814	3.1243	228.07	10.5976
1989	94.31	1.6397	3.0812	225.76	10.4571
1990	94.73	1.7847	2.8740	257.41	9.6846
1991	...	1.7694	2.9269	238.13	9.9514
1990					
January	90.71	1.6515	2.7940	239.61	9.5123
February	92.63	1.6960	2.8424	246.81	9.6547
March	90.07	1.6251	2.7699	248.77	9.3522
April	90.45	1.6367	2.7630	259.36	9.2788
May	91.45	1.6784	2.7890	257.67	9.3966
June	93.65	1.7080	2.8764	262.65	9.6758
July	97.06	1.8068	2.9629	269.72	9.9382
August	99.29	1.8982	2.9815	279.83	10.0092
September	97.57	1.8798	2.9507	261.27	9.8830
October	98.46	1.9450	2.9629	252.33	9.9295
November	98.17	1.9639	2.9204	253.51	9.8207
December	97.26	1.9272	2.8754	257.38	9.7641
1991					
January	98.10	1.9337	2.9199	258.89	9.9213
February	98.28	1.9657	2.9091	256.49	9.9061
March	96.39	1.8310	2.9336	251.21	9.9967
April	95.15	1.7499	2.9803	239.91	10.0784
May	94.45	1.7263	2.9641	238.30	10.0465
June	92.51	1.6477	2.9400	230.33	9.9819
July	92.53	1.6480	2.9477	227.44	10.0063
August	93.12	1.6834	2.9379	233.81	9.9832
September	93.63	1.7237	2.9270	231.97	9.9628
October	92.99	1.7225	2.9136	225.16	9.9266
November	93.78	1.7775	2.8884	230.50	9.8416
December	...	1.8232	2.8614	233.56	9.7650

Source: International Monetary Fund, International Financial Statistics.

1/ Units of foreign currency per pound sterling.
2/ MERM weights.

Table 23. United Kingdom: Growth Rates of Selected Monetary Aggregates, 1986-91

(Seasonally adjusted, 12-month rates of change, in percent)

	M0	M2	M4
Stock, end 1990, (Billions of £)	18.3	253.4	474.2
Changes to end of:			
1986	4.1	14.8	16.1
1987	4.7	11.0	15.9
1988	6.8	15.8	17.2
1989	5.7	9.8	18.9
1990	5.2	7.9	12.3
1990			
January	5.3	9.1	19.2
February	6.2	8.7	18.8
March	6.2	8.9	18.3
April	6.9	9.4	18.1
May	6.5	8.6	17.1
June	6.2	9.3	16.9
July	5.6	10.0	16.6
August	4.9	9.1	15.5
September	4.7	9.2	14.8
October	4.0	9.0	14.1
November	3.2	7.7	14.3
December	2.8	8.1	12.2
1991			
January	3.5	9.9	11.1
February	2.6	9.5	10.7
March	2.5	9.9	9.9
April	1.5	9.5	9.8
May	1.6	10.4	9.3
June	2.9	10.6	7.7
July	2.1	9.7	7.7
August	1.6	10.4	7.2
September	2.3	9.6	6.5
October	2.6	9.1	6.4
November	2.9	10.0	5.7
December	2.8	...	6.2

Sources: Central Statistical Office, Financial Statistics; and Bank of England, Monetary Statistics.

Table 24. United Kingdom: Selected Balance of Payments Indicators

(In billions of pounds sterling)

	1986	1987	1988	1989	1990	Est. 1991 1/
Current Account Balance	-0.0	-4.2	-15.5	-20.4	-15.2	-5.5
Visible Balance	-9.6	-11.6	-21.6	-24.6	-18.7	-9.9
Exports	72.6	79.2	80.3	92.4	102.0	103.4
Imports	82.2	90.7	102.0	117.0	120.7	113.3
Invisible Trade Balance	9.4	7.4	6.1	4.2	3.5	4.4
Services balance	6.8	6.7	4.6	4.7	5.0	6.0
Interest, profits and dividends balance	5.1	4.1	5.0	4.1	3.4	-0.1
Transfers balance	-2.5	-3.4	-3.5	-4.6	-4.9	-1.5
Net Long-term Capital Flows	-17.4	15.7	-4.9	-22.4	2.6	-8.5
Net Direct Investment	-7.1	-10.7	-10.6	-4.4	9.7	1.4
Net Portfolio Investment	-10.3	26.4	5.8	-18.0	-7.1	-9.9
Basic Balance	-17.4	11.5	-20.4	-42.8	-12.6	-16.5
Net Short-term Capital Flows	10.3	-9.9	14.5	35.3	12.1	2.6
Statistical Discrepancy	7.0	-1.7	5.9	7.5	0.5	13.9
Memorandum Items:						
Non-oil Trade Balance	-13.6	-15.7	-24.4	-25.9	-20.2	-11.0
(As percent of GDP)	-3.6	-3.7	-5.2	-5.1	-3.7	-1.9
Current Account Balance (as percent of GDP)	-0.0	-1.0	-3.3	-4.0	-2.8	-1.0

Source: CSO, Financial Statistics.

1/ First three 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 25. United Kingdom: Merchandise Trade Indicators, 1986-1991

(Percentage change from the preceding year or the corresponding period of the preceding year)

	1986	1987	1988	1989	1990	1990 1st half	1990 2nd half	1991 1st qtr.	1991 2nd qtr.	1991 3rd qtr.
Exports										
Value										
All goods	-6.9	9.0	1.5	15.0	10.4	13.9	5.0	-0.8	1.2	4.4
Non-oil goods	4.1	9.8	5.2	16.3	9.3	14.3	4.8	0.3	1.4	4.7
Volume										
All goods	4.2	5.2	1.8	4.7	6.6	10.9	2.7	-0.2	0.7	4.6
Non-oil goods	4.0	6.9	4.6	10.3	6.9	9.1	3.8	1.9	1.4	3.1
Price										
All goods	-10.7	3.6	-0.3	9.8	3.6	4.4	3.1	-0.6	0.6	-0.2
Non-oil goods	*0.2*	*2.7*	*0.6*	*5.5*	*2.3*	*4.7*	*0.9*	*-1.6*	*0.0*	*1.6*
Imports										
Value										
All goods	1.0	10.4	12.4	14.7	3.2	4.7	-4.6	-10.5	-9.5	-2.0
Non-oil goods	6.5	10.8	14.2	13.8	2.1	8.7	-4.1	-10.6	-10.4	-2.5
Volume										
All goods	7.3	7.4	13.1	7.9	1.2	3.0	-0.6	-5.8	-5.2	-0.7
Non-oil goods	6.7	8.2	15.7	7.7	1.2	1.9	-1.5	-6.1	-7.7	-2.9
Prices										
All goods	-5.9	2.8	-0.6	6.3	2.0	6.1	-1.6	-5.0	-4.6	-1.3
Non-oil goods	-0.2	2.4	-1.3	5.7	0.9	6.6	-2.7	-4.7	-2.9	0.4
Terms of trade										
All goods	-5.5	1.0	0.8	0.5	1.6	-1.2	4.4	2.5	1.8	-2.2
Non-oil goods	0.5	0.6	2.6	-0.1	0.7	-1.4	2.8	3.1	1.5	-1.0

Source: Central Statistical Office, Monthly Digest of Statistics.

Table 26. United Kingdom: Exports by Commodity--
Volume Indices

(1985=100; seasonally adjusted)

	1986	1987	1988	1989	1990	1990		1991		
						1st half	2nd half	1st qtr.	2nd qtr.	3rd qtr.
Total	104.0	109.8	112.5	117.3	125.1	126.0	124.3	123.5	126.6	128.0
Food, beverages and tobacco	108.4	112.0	112.4	123.5	124.2	120.5	127.8	125.3	123.3	129.0
Basic Materials	106.2	114.4	99.8	104.2	102.2	98.0	106.3	98.7	99.0	97.0
Fuels	104.1	100.8	93.9	75.2	80.8	85.8	75.8	73.0	73.7	81.0
Total Manufactures	103.6	112.2	119.7	130.9	140.9	141.0	140.8	141.7	146.3	146.7
Manufacturers excluding erratics 1/										
Semi-manufactures 2/										
Total less SNAPS	101.8	110.6	117.8	129.1	140.5	140.5	140.5	141.0	147.0	145.0
Total less PS	102.2	110.3	116.8	121.8	129.5	129.3	129.7	131.0	137.3	135.0
Chemicals	104.4	112.2	118.1	119.8	123.9	124.3	123.5	124.7	131.7	129.0
Other less PS	100.3	108.8	115.8	124.1	135.3	134.5	136.2	137.7	143.7	141.0
Finished manufactures 3/										
Total less SNA	101.4	110.5	118.1	133.5	147.2	147.3	147.2	147.3	153.0	150.0
Passenger cars	92.5	117.3	122.9	153.1	183.5	163.3	203.7	222.0	245.0	231.0
Other Consumer	105.8	125.8	122.5	144.4	169.0	168.8	169.2	168.3	168.3	166.0
Intermediate	100.5	103.5	104.5	114.6	126.8	123.5	130.0	128.7	132.0	126.0
Capital	101.8	112.2	135.2	153.2	160.9	168.8	153.0	153.0	163.3	166.0

Source: Central Statistical Office, 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 27. United Kingdom: Nonfactor Services

(In millions of pounds; seasonally adjusted)

	1986	1987	1988	1989	1990	1990		1991		
						1st half	2nd half	1st qtr.	2nd qtr.	3rd qtr.
Credits										
Private sector and public corporations										
Sea transport	3,216	3,282	3,526	3,870	3,848	1,982	1,866	976	1,021	991
Civil aviation	2,786	3,159	3,192	3,758	4,358	2,161	2,197	818	1,016	1,025
Travel	5,553	6,260	6,184	6,945	7,785	3,975	3,810	1,702	1,851	1,787
Financial and other services	13,626	14,656	14,035	15,380	15,652	8,013	7,639	4,057	4,452	4,411
Total	25,181	27,357	26,937	29,953	31,643	16,131	15,512	7,553	8,340	8,214
General government	511	521	551	449	432	224	208	117	154	74
Total credits	25,692	27,878	27,488	30,402	32,075	16,355	15,720	7,670	8,494	8,288
Debits										
Private sector and public corporations										
Sea transport	3,302	3,310	3,566	3,737	3,768	1,870	1,898	885	970	949
Civil aviation	3,194	3,775	4,097	4,298	4,674	2,406	2,268	1,063	1,012	1,017
Travel	6,083	7,280	8,216	9,357	9,916	5,011	4,905	2,387	2,517	2,556
Financial and other services	4,385	4,627	4,684	5,627	5,990	2,943	3,047	1,453	1,518	1,581
Total	16,964	18,992	20,563	23,019	24,348	12,230	12,118	5,788	6,017	6,103
General government	1,920	2,141	2,351	2,698	2,753	1,344	1,409	648	729	665
Total debits	18,884	21,133	22,914	25,717	27,101	13,574	13,527	6,436	6,746	6,768
Balance										
Private sector and public corporations										
Sea transport	-86	-28	-40	133	80	112	-32	91	51	42
Civil aviation	-408	-616	-905	-540	-316	-245	-71	-245	4	8
Travel	-530	-1,020	-2,032	-2,412	-2,131	-1,036	-1,095	-685	-666	-769
Financial and other services	9,241	10,029	9,351	9,753	9,662	5,070	4,592	2,604	2,934	2,830
Total	8,217	8,365	6,374	6,934	7,295	3,901	3,394	1,765	2,323	2,111
General government	-1,409	-1,620	-1,800	-2,249	-2,321	-1,120	-1,201	-531	-575	-591
Total	6,808	6,745	4,574	4,685	4,974	2,781	2,193	1,234	1,748	1,520

Source: Central Statistical Office, Balance of Payments.

Table 28. United Kingdom: Capital Account 1/

(In billions of pounds sterling)

	1986	1987	1988	1989	1990	1991 2/
Transactions in external assets of the U.K.						
Direct investment	-12.0	-19.2	-20.9	-21.5	-8.9	-11.4
Portfolio investment	-22.1	7.2	-8.6	-31.3	-12.1	-29.6
Ordinary shares	-6.0	4.3	-2.9	-16.2	0.0	...
Bonds	-16.1	2.9	-5.7	-15.1	-12.1	...
Bank lending	-53.7	-50.4	-19.5	-27.0	-37.6	37.5
Non-bank lending	-1.5	-4.4	-2.8	-7.9	-12.6	-11.8
Official reserves	-2.9	-12.0	-2.8	5.4	-0.1	-3.8
Other assets of central government	-0.5	-0.8	-0.9	-0.9	-1.2	-0.9
Total	-92.7	-79.6	-55.4	-83.2	-72.4	-19.9
Transactions in external liabilities of the U.K.						
Direct investment	5.0	8.5	10.2	17.1	18.6	12.8
Of which: Non-oil companies	2.9	6.4	7.1	14.0	14.8	8.8
Portfolio investment	11.8	19.2	14.4	13.2	5.0	19.7
Of which: U.K. company securities						
Bonds	3.3	3.8	7.7	9.1	6.8	6.9
Ordinary shares	5.2	11.6	5.3	6.5	2.8	4.7
Bank borrowing	64.1	52.6	34.2	43.9	47.2	-32.6
Non-bank borrowing	4.4	3.3	5.4	19.7	15.5	15.9
Other liabilities of general government	0.2	1.8	0.8	2.2	0.7	-1.8
Total	85.4	85.4	65.1	96.1	87.0	14.0
Net transactions						
Total	-7.2	5.8	9.6	12.9	14.6	-5.9
Of which: Long-term private capital	-17.4	15.7	-4.9	-22.4	2.6	-8.5
Short-term private capital	13.3	1.1	17.3	28.7	12.5	9.1
Memorandum items:						
Net foreign assets 3/	103.7	67.0	81.0	83.7	29.6	...
Official reserves 3/	14.8	23.5	28.6	24.0	19.9	25.5
Change in official reserves	-4.0	-8.7	-5.1	4.6	4.0	-5.5

Source: CSO, Financial Statistics.

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

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