

ACTION

Mr. Scholar



National Economic Development Council

NEDC(82)6

(For information)

2

Q 2 was a record  
due to the fall  
in

Prime Minister

I attach the tables of figures.

I think the reason why the charts  
do not seem to indicate a record is  
that they have not got the Q3 115.1  
figures - not available when the EPR  
went to print.

ECONOMIC PROGRESS REPORT

Note by the Secretary

I circulate herewith the Monthly Economic Progress Report  
by the Treasury for January 1982.

MUS 1/2

The output per person  
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P G Davies  
20 January 1982

record for these figures. But  
it's still for the figures going  
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another look at those figures.  
rob.

# Economic Progress Report



Published by the Treasury

No. 141 January 1982

## Recent trends in labour productivity

In the last 12 months there have been substantial improvements in labour productivity, particularly in manufacturing industry. Between the fourth quarter of 1980 and the third quarter of 1981, output per person in manufacturing rose by almost 10 per cent, and output per person hour by 8 per cent.\*

Since the last peak of economic activity in the first half of 1979, output per person in manufacturing has increased by 3 per cent and output per person hour by 6 per cent, against a fall of 14 per cent in manufacturing output.

This article poses the interesting question of how to interpret these changes in productivity against the background of what occurred in previous cycles, and asks whether the economy is turning back to the faster trend growth rates in productivity observed in the 1960s.

### The short and long terms

In any analysis of this kind it is important to distinguish clearly between long-term, or 'underlying', movements in productivity and short-term movements that may be associated with cyclical changes in output or in the position of the company sector.

One reason for looking at short-term productivity movements is to try and draw conclusions about the long-run growth in productivity. The long run is of interest for two reasons, both of which might indicate an improvement in economic performance.

First, if appropriately defined, labour productivity is analogous to real income per head, which may be a very long-run objective for policy. Secondly, while the productivity of other factors of production is also important, the long-run trend in labour productivity may be a proxy for the long-run growth of technological progress — a measure of how much an economy can grow given the amounts of labour and capital available for production.

This article falls into three parts. The first section outlines movements in productivity since the early 1960s and sets out some possible explanations of the reduced trend growth rate since 1973. The second section examines more closely the movements in employment, output and productivity that have occurred over the last four economic cycles. The final section focuses on developments during the current cycle.

### Experience in the 1960s and 1970s

Charts 1-3 on pages 2 and 3 show that short-run movements in productivity follow a pronounced cyclical pattern. This is because employers do not fully adjust their labour force to changes in output immediately but respond to such changes only slowly. When output in-

### WHAT 'PRODUCTIVITY' MEANS

Productivity is a measure of the quantity of **output** of goods and services that can be produced for a given **input** of factors of production (land, labour, capital, energy, entrepreneurial skills, for instance). A major long-run aim of policy is to increase the standard of living of the community, and raising productivity is the main way of achieving this.

### The measurement of productivity

In practice, measures of productivity concentrate on labour rather than other factors of production. This is largely because of problems of measurement. For example, it is extremely difficult to quantify the physical volume of inputs of capital and entrepreneurial skills. Similarly, measures of productivity tend to concentrate on manufacturing industry, because of measurement problems in other sectors. But it should be recognised that labour productivity in manufacturing is only one measure, and not always the best.

### Definitions of labour productivity

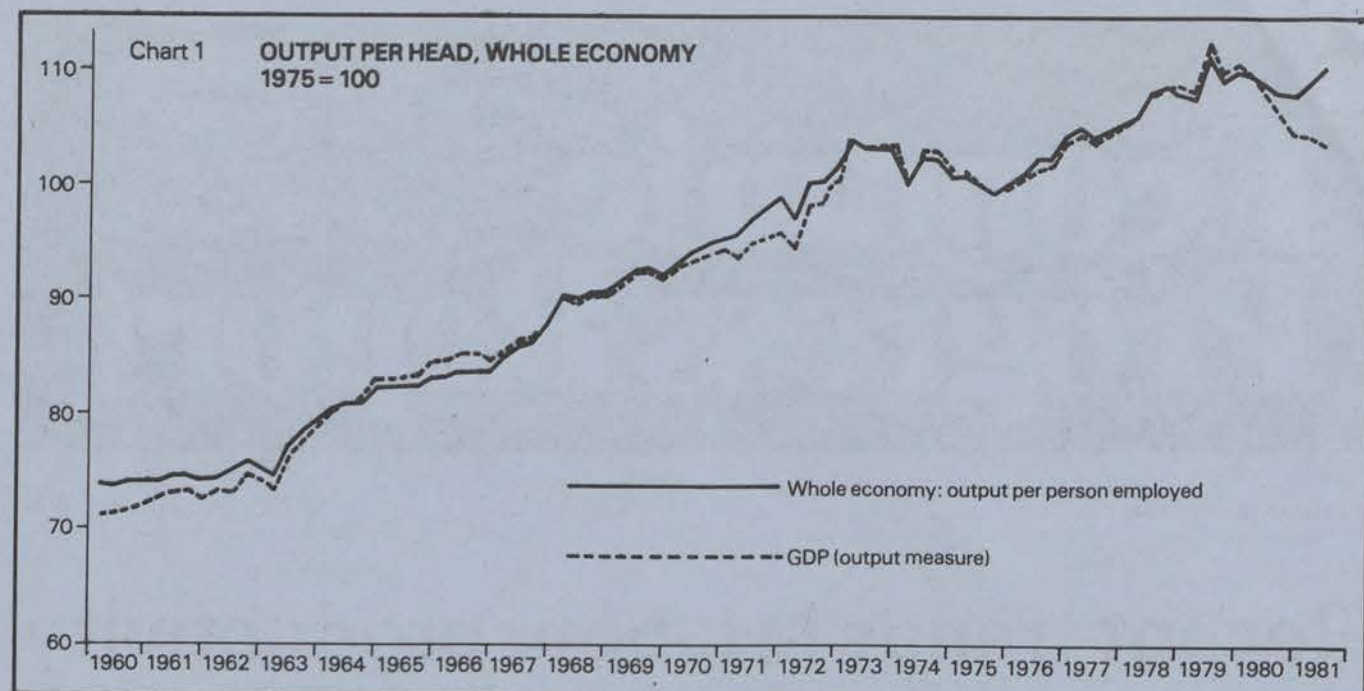
In official statistics, there are two main definitions of labour productivity:

- (i) output per head: the volume of output produced on average by each person employed;
- (ii) output per hour: the volume of output produced on average by each person employed, in each hour.

Both of these measures are calculated from indices of output, employment and hours worked, defined in the aggregate, rather than from direct measures of productivity itself. Measures of output per head are published for a number of sectors including manufacturing industry and the whole economy; estimates of output per hour, however, are only published for manufacturing in total.

In the short run, changes in output are usually much larger than changes in employment, which tends to adjust only slowly. Changes in hours worked can usually be made more quickly. As a result, output per head shows a strong tendency to vary with the economic cycle. So too, but to a much lesser extent, does output per hour.

\*The figures for output per hour were first published in the December 1981 issue of *Economic Trends*. A full description will be given in the January issue.



creases, therefore, output per head is observed to rise. Conversely, in the downswing of the cycle, falling output implies falling output per head. The first chart presents output per head for the whole economy since 1960 along with movements in aggregate output. The second depicts similar magnitudes for the manufacturing sector alone.

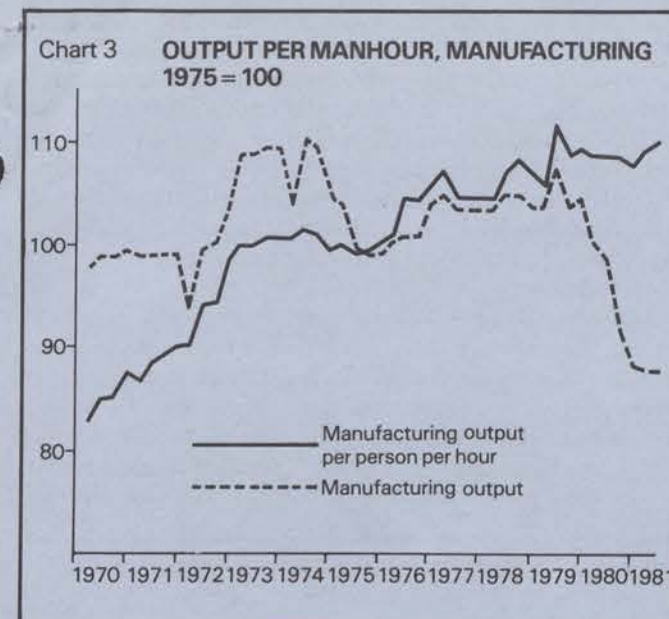
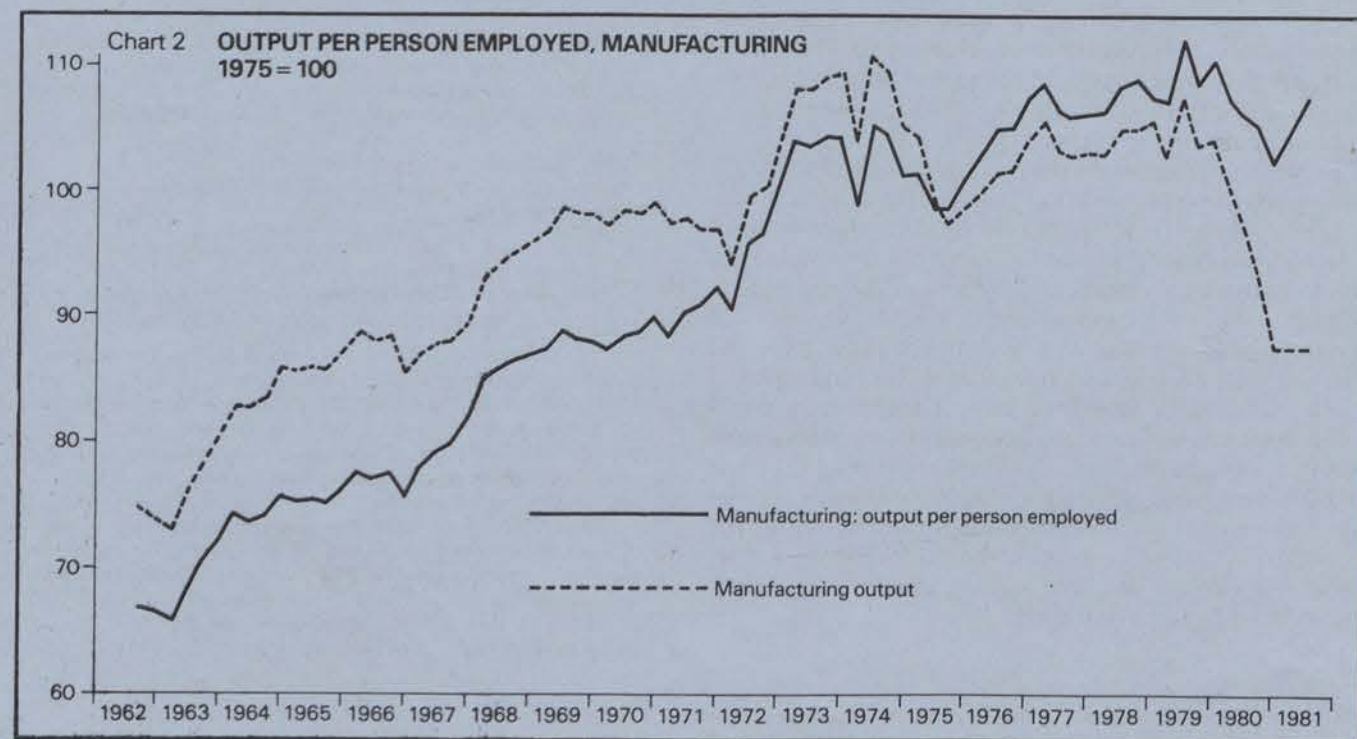
Employers do, however, adjust the average hours worked by their labour force quite rapidly in response to changing output, by varying hours of overtime and short time. Productivity as measured by output per hour therefore tends to exhibit a less pronounced cyclical pattern than output per head. This is illustrated for the manufacturing sector in chart 3. Unfortunately, the data are only available quarterly from 1970. (Lack of reliable average-hours data precludes a comparable measure for the whole economy.)

In all cases these marked cyclical patterns are imposed on a rising long-run trend. For manufacturing, the trend growth rate in output per head was around 3-4 per cent

per annum in the 1960s and early 1970s. The trend growth in manufacturing output per hour was perhaps 1/2 per cent per annum faster over the same period. For the whole economy, trend output per head grew at around 2 1/2 per cent per annum between 1960 and the early 1970s.

Since the mid-1970s there has been a marked slowdown in the recorded growth of productivity. Nearly all industrialised countries suffered a similar deterioration at around the same time, although to varying extents. Despite much research, this change in trend is not well understood. But it seems likely that the successive increases in real energy prices since 1973 have played some part. Investment in energy conservation and fuel switching may have crowded out investment aimed at enhancing labour productivity.

Another possibility is that firms have employed more labour than otherwise as a substitute for highly expensive energy. Other factors may include inflexible labour markets, the more rapid inflation of the 1970s and in-



creased regulatory burdens on industry (for example, health, safety and environmental requirements).

It may also be that industry expected output to recover more strongly than it did following the recession in 1974 and 1975 and to return to the long-term growth rates, both here and abroad, that were experienced in the previous ten or 15 years\*. Firms may have maintained employment levels in the light of these expectations, which, in the event, proved too optimistic.

#### Manufacturing productivity — the last four cycles

Chart 4 shows movements in manufacturing output, employment and output per head in the last four downturns (starting in 1964, 1969, 1973 and 1979) and the next four to five quarters of recovery. It is clear from the chart that recessions since 1964 have been successively more severe.

In the first cycle (1964-68), a 'growth recession', output actually rose by 1.3 per cent from the peak to the trough of the cycle. However, the second downturn (1969-72) saw a fall in output of 4 per cent, the third (1973-75) a fall of 10.5 per cent and the fourth (1979-81) a fall of 18 per cent.

This is consistent with the general slowdown of the rate of growth of output over the whole period. At the same time, the decline in employment has generally been more severe in successive cycles. Both in the 1964-67 and 1969-72 downturns productivity was broadly stable before recovering strongly in the upturn. A break in this general pattern seems to come in the third (1973-75) downturn. While employment fell at roughly the same rate as in the second downturn, output declined more severely. Consequently, productivity fell sharply, and the recovery in output and productivity was weaker than in previous downturns.

\*This hypothesis is supported by a recent National Institute study. See G.C. Wenban-Smith, 'A Study of the Movements of Productivity in Industries in the United Kingdom, 1968-79', *NIESR Review*, August 1981. This paper is part of a wider National Institute study of productivity being financed by the Treasury.

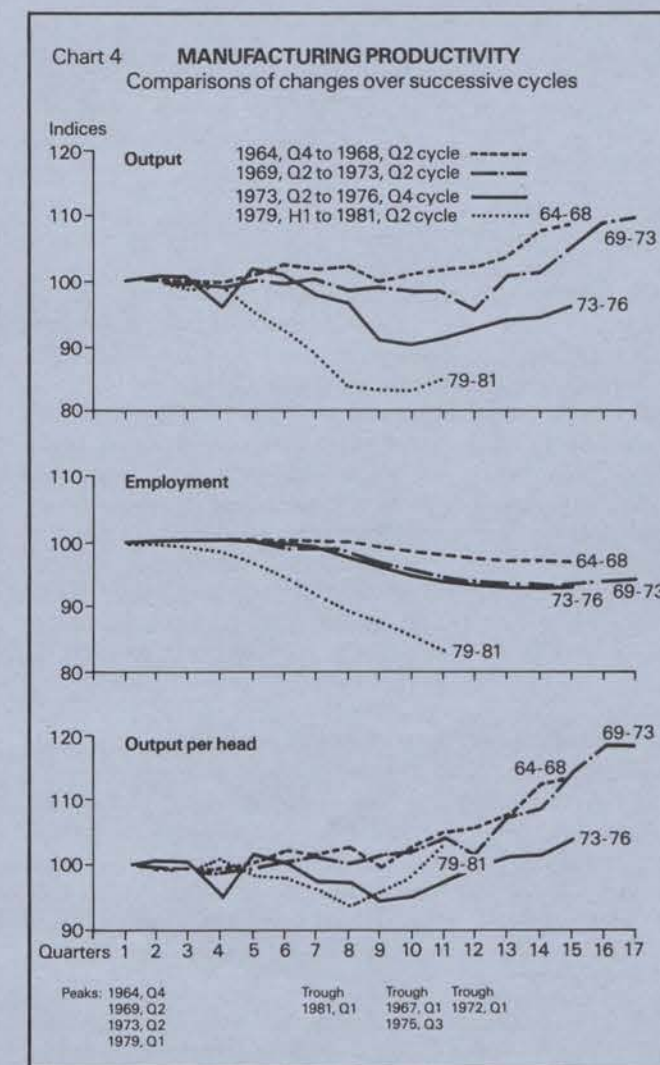
†The exclusion of North Sea oil activities does not greatly affect this calculation although it reduces the level of output per head in 1979 by some 3 per cent (1975 = 100).

While the fall in productivity in 1979-81 was sharper than in any of the previous cycles, it was probably not as severe as might have been expected on past experience, reflecting the much earlier and sharper fall in employment. Compared with the 1973-75 cycle, the pick-up in productivity after the trough (now approximately dated in the second quarter of 1981) has been much stronger, being more in line with the recovery following the 1964-67 and 1969-72 downturns.

#### An analysis of the current cycle

The last peak in economic activity is officially dated in the second quarter of 1979. But output levels for that quarter were distorted by the recovery from the various strikes in the first quarter. For present purposes, therefore, it is more useful to average the figures for the first and second quarters. Output per head for the whole economy (including North Sea activities) has risen by some 2 per cent from the end of 1980, and in the third quarter of 1981 was slightly above the 1979 first-half level.† In manufacturing, as noted above, there have been substantial improvements in output per head and output per hour since the end of 1980, and, on both measures, productivity in manufacturing is now higher than in the first half of 1979, despite a 14 per cent fall in output.

Interpretation of these recent movements is particularly difficult, since the fall in output from 1979, especially in the manufacturing sector, was greater than in any previous post-war recession. It is, therefore, not clear how reliable a guide to current circumstances past experience may be. But there does seem to be some evidence that



output per head has declined less, relative to output, than in previous cycles. This is shown in charts 1-3.

For example, output per head for the whole economy (chart 1) has tracked movements in output extremely closely over the last 20 years or so. From the end of 1979, however, a marked divergence seems apparent. Productivity fell much less during 1980 relative to output than previous experience would suggest. Furthermore, while output continued to fall in the first half of this year, productivity actually rose. This experience is unprecedented in the past 20 years.

A similar pattern can be observed in manufacturing output per head (chart 2). Again, cycles in productivity and output were closely matched between 1962 and 1979. But the fall in productivity was much less during 1980, and the subsequent recovery much greater, than might have been anticipated given the movements in output. Exactly analogous arguments apply to output per hour in manufacturing.

Chart 5 shows the movements in productivity over the current cycle in four specific manufacturing industries. Particular points to note are as follows:

1. Metals and chemicals have shown a much stronger cycle in output and productivity than manufacturing generally. And the turning point in activity may have arrived earlier than in other sectors, while employment has continued to fall.

2. Of the 10 per cent rise in output per head in manufacturing since the fourth quarter of 1980, metals and chemicals contribute over one third, approximately double their weight in total manufacturing output.\*

3. In textiles (and possibly engineering), productivity appears to have held up well (relative to the fall in output) compared with the last cycle, partly reflecting the more intense competitive pressures from imports experienced in these sectors.

#### Interpretation of recent developments

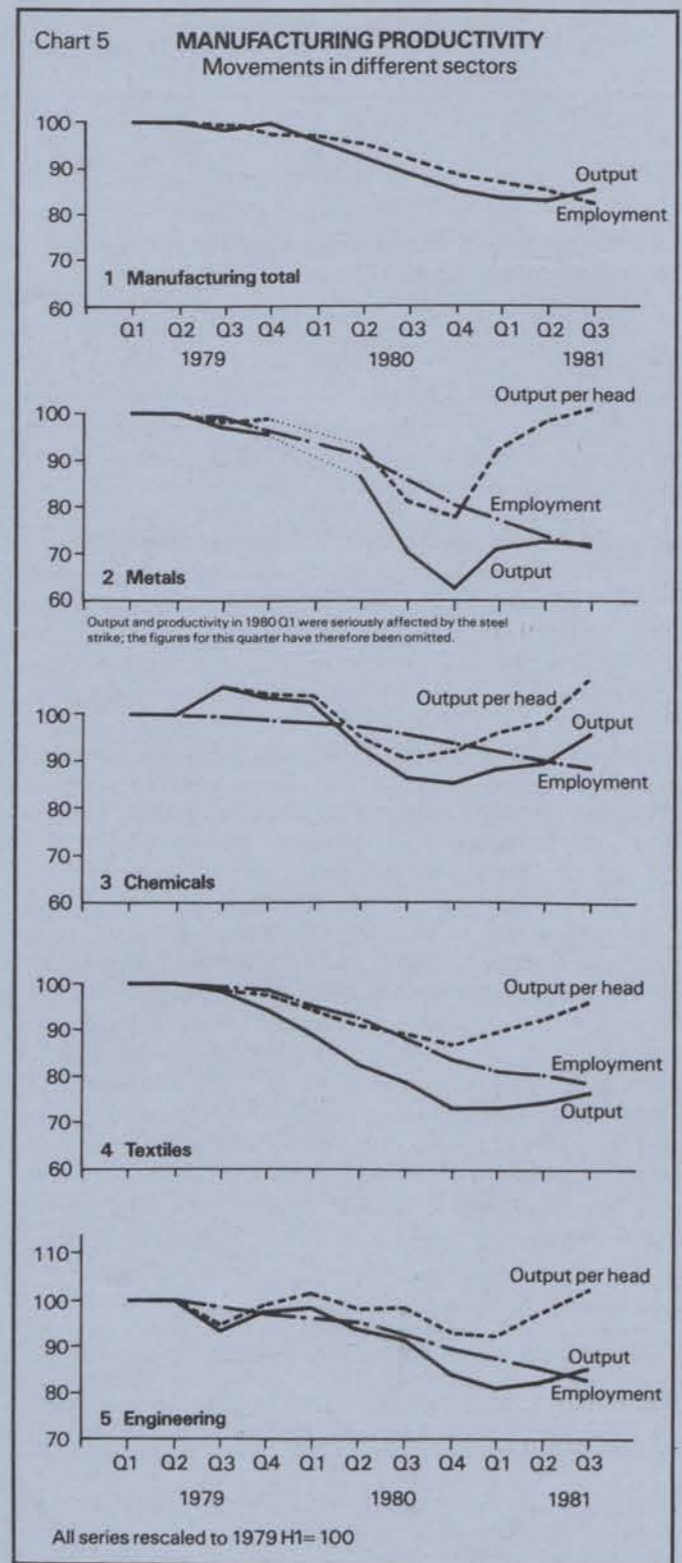
There are enormous problems in trying to separate out short-term and 'underlying' improvements in productivity. The effects of all the various influences on the paths of employment and output over recent cycles cannot be isolated by a simple examination and comparison of these paths. Year-to-year, or even cycle-to-cycle, changes in productivity may tell us very little about the underlying trend. Improvements in labour productivity can reflect a variety of factors — the closure of whole factories or plants, new capital investment or simply the more efficient use of existing capacity. All three factors have probably been important during the current cycle, to varying degrees in different industries, but it is impossible to separate out their effects.

As already noted, one plausible explanation of recent developments is that, on the basis of past experience, firms may have expected an early and rapid pick-up in economic activity after the 1973-75 downturn, and that this (unfulfilled) expectation, together with high redundancy costs and high hiring and firing costs, limited the extent of demanning in that cycle. It may also help to account for the very rapid labour shake-out in the current

\*The substantial improvements in labour productivity being achieved at the British Steel Corporation have clearly been an important factor, and provide some measure of the direct impact of government policies on productivity.

recession. What we may have been observing recently, therefore, may reflect the unwinding of a long lagged employment response to the disappointingly low output levels of the last cycle and to the real oil shocks of the 1970s. In addition, employers may have shed labour rather earlier and faster than in previous cycles, perhaps reflecting more pessimistic expectations induced by the deep recession and the severe squeeze on the profits and financial position of companies, particularly in manufacturing.

The recent rise in output per head has also been influenced by the recovery in output. Much of the recent increase in manufacturing productivity reflects developments in two industries (metals and chemicals), where output has been undergoing cyclical recovery (albeit from a very low base relative to 1979). There are no indications as yet that these industries are taking on new labour;



indeed, their employment levels to October 1981 appear still to be contracting.

#### Conclusion

It is too early to say whether we are witnessing an improvement in the long-term growth of productivity. But expectations of only moderate economic recovery, and the low level of profitability in many companies, should exert pressure to reduce costs and improve efficiency; this reduces the likelihood of any reversal of productivity gains already achieved. Similarly, despite the very slow growth in unit wage costs in manufacturing this

year and the fall in the exchange rate, manufacturing competitiveness is probably still some 35-40 per cent below its end-1978 level. So competitive pressures on UK firms remain strong.

It seems possible, therefore, that the recent rise in productivity may be followed by an improvement in the long-term trend. The tendency for companies to substitute capital for labour in response to the higher relative cost of energy and labour inputs is likely to remain. Capital investment, particularly in the private non-manufacturing sector, has remained high. Government policies towards the labour market aim to provide better resource allocation in the future.

## Alternatives to domestic rates

The Government published a Green Paper on alternatives to domestic rates as a source of revenue for local authorities in Great Britain on 16 December 1981 (HMSO, Cmnd 8449).

The main features of local government finance in Great Britain are shown in the table.

The Green Paper is a response to public criticism about the way in which local people contribute to the cost of local services. It does not set out firm proposals but seeks to identify the range of realistic alternatives on which consultation can now take place.

#### The main options

The main options identified and discussed in the Green Paper are:

- a local sales tax
- a local income tax
- a poll tax (payable by each resident at a flat rate)
- reforms to domestic rates.

In addition, several other possibilities are rejected:

- local duties on petrol, alcohol or tobacco
- local vehicle excise duty
- charges for licences for the sale of alcohol or petrol
- a local payroll tax (payable by employers on each employee).

#### Seven criteria

Each potential local tax is assessed against seven criteria:

- is it practicable?
- is it fair?
- does it make councillors who make decisions on local expenditure properly accountable to the local taxpayers?
- are the administrative costs (both for tax gathering and taxpayers) acceptable?
- are the implications for the rest of the tax system acceptable?
- does it encourage proper financial control?
- is it suitable for all tiers of local government?

Separate chapters in the Green Paper consider each of the serious alternatives in turn. Local rates confine the local tax burden to occupiers of property with an unevenly distributed burden across the country; on the other hand, the tax base is relatively easy to identify.

#### Income and poll taxes

A local income tax would spread the tax burden wider: and an individual's tax liability would be related more closely to his ability to pay; but it would be complex to administer. As with

#### Local government finance in Great Britain 1981-82

	£ bn
Gross expenditure	30
Financed by:	
government grants	14.3 (48%)
fees and charges	4.5 (16%)
non-domestic rates	6.1 (20%)
domestic rates	4.8 (16%)

Note: These figures reflect latest information at the time the Green Paper was published.

local income tax, local sales taxes would achieve a broader local tax base at the expense of imposing significant costs on traders. Both local income tax and local sales taxes would have unpredictable yields, and, because they could share a tax base with central government, there could be some conflict with the Government's fiscal objectives.

A poll tax would spread the local tax burden without the complication of sophisticated measurement of ability to pay, but could be difficult to enforce and would be open to criticism as taxing the right to vote.

#### Government grants

The Green Paper also considers changes in the system of government grants which could result from a switch to a new local revenue. At the extreme, it might be possible to replace the revenue from domestic rates by extra rate support grant (RSG), but an equivalent amount would have to be realised by the central government in some other way. Moreover, removing the link between local expenditure decisions and local taxation would tend to damage public accountability and local autonomy.

Another section of the paper covers the economic effects of changing the local tax system, including the financial consequences for some typical households in different parts of the country.

#### Open mind

The Government have an open mind about the way in which reform should be achieved. Some taxes would be unsuitable for both counties and districts. Some would not be flexible or predictable enough to replace rates on their own. Most would work better if supplemented by other taxes — rates or poll tax at district level, for instance, to accompany a sales tax for counties.

Because the Government attach importance to reforming the domestic rating system as a matter of urgency, comments are invited by the end of March.

# UK overseas assets and liabilities

There has been a substantial improvement in the United Kingdom's net balance sheet over the past five years.

## Current account surplus

Traditionally, the UK's overseas assets have exceeded liabilities abroad. By 1975 there was a position of near balance. The improvement since then in part reflects valuation changes; but in 1978 and especially in 1980 there was also a substantial surplus on current account. The proceeds of the surplus, which was helped by the growth

of North Sea oil production, went to build up overseas assets or reduce overseas debt.

In the period 1978-80 there was a current account surplus of £3.2 billion, compared with a deficit of £5.8 billion between 1973 and 1975. Table 1 and the chart show the deterioration in the position up to 1975; and the improvement between the end of 1977 and the end of 1980. With a substantial current account surplus expected in 1981 there should have been a further improvement since the end of 1980.

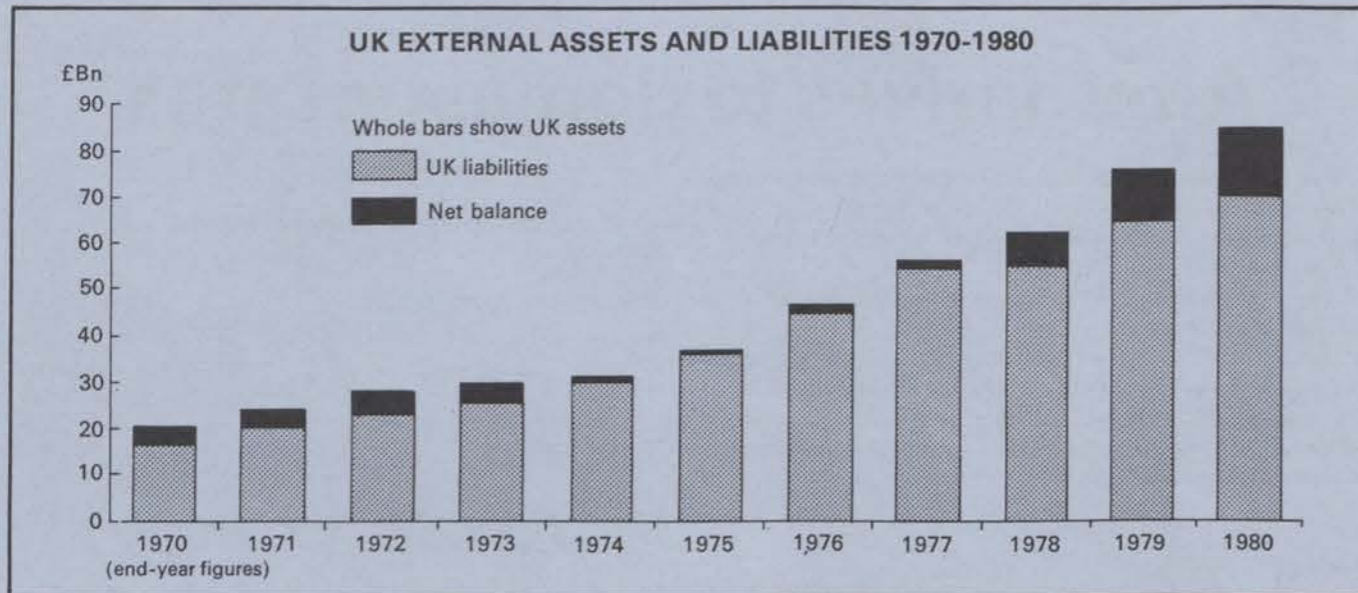


Table 1 UK external assets and liabilities

	end-year figures £ billion										
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
External assets	20	24	28	30	31	37	46	56	62	73	85
External liabilities	17	20	22	25	30	36	44	54	54	62	70
Net balances	4	4	6	5	1	1	2	2	8	11	15

## Notes:

1. Direct investment is at book values; portfolio investment at market values; property investment is excluded because of lack of figures.
2. For further notes see: *UK Balance of Payments 1981*, CSO, tables 11.1 and 11.2.
3. In tables 1 and 2 figures do not necessarily add, because of rounding.

There are difficulties in identifying and measuring outstanding stocks of both assets and liabilities, so that the net position is subject to particularly wide margins of error.

## Public and private sectors

The figures show a net improvement since 1977 of around £13 billion. Table 2 shows that over a third of this was in the public sector's position, as official foreign currency reserves were built up and official overseas debts

repaid. The rest reflects the balance between private investment overseas and overseas investment in the UK private sector. In contrast, figures for earlier years show that the UK's net holdings of overseas assets declined between 1972 and 1975 as the Government increased their overseas borrowing. The low value of sterling in 1976 increased the sterling value of both net private sector assets and net public sector liabilities denominated in foreign currencies.

Table 2 UK overseas assets (net of liabilities)

	Balance, end-year £ billion										
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Private sector	+7	+4	+7	+6	+4	+5	+10	+4	+9	+8	+12
Public sector	-3	0	-1	-1	-3	-4	-8	-2	0	+3	+3
Total	+4	+4	+6	+5	+1	+1	+2	+2	+8	+11	+15

Since exchange controls were abolished in 1979 it has been easier for the private sector to invest overseas and increase the UK's holdings of profitable overseas investment. These overseas assets will produce foreign currency earnings in future, which should continue to benefit the current account after the value of North Sea oil production has begun to decline.

There has, in addition, been a sizeable improvement in the net foreign currency position of the public sector. The reserves have been built up and the Government have made progress with the repayment of official external debt. Table 3 shows this more clearly. (Official reserves and official external debts only account for part of the public sector figures in tables 1 and 2.)

Table 3 Official reserves and foreign currency debt

	\$ billion (end-year)										
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	
Official foreign currency debt	5.2	7.8	12.3	14.0	19.3	24.5	23.4	20.9	17.5	13.3	
Official reserves	5.6	6.5	6.8	5.4	4.1	20.6	15.7	22.5	27.5	23.3	

Source: *Financial Statistics*, December 1981. See footnotes to tables 11.4 and supplementary table B, June 1981 issue.  
Note: These amounts are valued on a different basis from those in tables 1 and 2.

## EUROPEAN COMMUNITY BUDGET REFUNDS

On 22 December 1981 the Commission adopted decisions granting the balance of the UK's Community Budget refunds for 1980. As a result, the UK is to receive a further £109 million, which will bring its total gross refund receipts for 1980 to £799 million (1,438 million ecus). The UK contributes to these gross receipts, as to other Community expenditure, and the corresponding total of net receipts is 1,175 million ecus, as provided in the Council agreement of 30 May 1980 (see *Economic Progress Report*, July 1980).

The Commission's latest decisions have two components:

- (i) repayment by the UK of the instalment received last January under the financial mechanism and,
- (ii) further payments to the UK under the supplementary measures scheme.

When the Commission's final estimates for 1980 were compiled, the UK's share of gross contributions to the Community Budget turned out to exceed its estimated share of Community gross domestic product by a little less than 10 per cent. The UK therefore failed to qualify for the financial mechanism and had to repay the instalment of some £211 million received under the financial mechanism last January. In accordance with the 30 May 1980 agreement, this sum has now been paid under supplementary measures instead.

The total sum to be received under the latest decision on supplementary measures is £319.7 million (563.3 million ecus). This comprises net additional payments of £109.2 million as well as the £210.5 million (351.75 million ecus) previously received under the financial mechanism and now transferred to supplementary measures.

The supplementary measures scheme provides for contributions by the Community in respect of public sector investment programmes in the UK, principally in the regions. For details of the regional programmes attracting support under the scheme see *Economic Progress Reports* for January and May 1981. The Commission's latest decisions provide in addition for a Community contribution in respect of the Department of Transport's trunk roads programme. Projects which form part of this programme include sections of the M25 orbital motorway around London, the A45 Ipswich bypass, the M54 from Telford to the M6 and the A40 Gloucester Northern bypass.

The table shows total Community contributions under the supplementary measures scheme for 1980-81 programmes of public sector investment in the UK.

The Community Budget refunds are enabling public expenditure programmes generally in the UK to be sustained at levels higher than the country could otherwise have afforded. Expenditure programmes throughout the country are benefitting accordingly. The refunds do not, however, open the way to increases in domestic expenditure programmes beyond the levels already planned. These planned levels were set on the assumption that substantial refunds would be received from the Community Budget.

The 30 May agreement provides that refunds for a particular year should be paid from the Budget of the following year. It also provides for the possibility of speeding up payment under supplementary measures. The 1981 Community Budget made provision accordingly for advance payments to the UK of 150 million ecus, and the Commission put forward to the Council a proposal for advance payments of this amount. Since, however, the Council did not act on the Commission's proposal before the end of 1981, the Commission are now expected to propose accordingly that the provision be carried forward into 1982. The Commission and the Council are committed to providing not less than 80 per cent of the UK's supplementary measures entitlement for 1981 by the end of March 1982.

## COMMUNITY CONTRIBUTIONS IN RESPECT OF UK PUBLIC SECTOR INVESTMENT PROGRAMMES, 1980-81

	£m								
	Northern England	North-West England	Yorkshire & Humberside	South-West England	Scotland	Wales	Northern Ireland	Trunk roads	Total
Roads	16.8	27.3	9.5	—	37.0	41.2	25.6	103.0	260.4
Rail	9.6	17.0	19.8	3.7	24.4	7.1	1.2	—	82.8
Water and sewerage	20.2	24.6	22.7	5.3	—	9.2	10.9	—	92.9
Advance factories	—	0.9	—	—	7.2	12.4	2.5	—	23.0
Land reclamation	—	—	—	—	3.6	—	0.2	—	3.8
Tele- communications	33.6	64.5	69.3	13.8	56.4	47.8	33.0	—	318.4
Housing	—	—	—	—	—	—	17.8	—	17.8
TOTAL	80.2	134.3	121.3	22.8	128.6	117.7	91.2	103.0	799.1

# The index of average earnings

Confusion sometimes arises over the different forms in which monthly indices of average earnings have been made available in recent years. This note describes how the present situation has developed.

The first average earnings index, started in January 1963 and later rebased on January 1970, covered only the production sector and a limited range of other industries (road, rail and air transport, laundries and dry cleaning, shoe repairing and motor trades): it omitted most of the service sector, accounting for about half of all employees.

In January 1976 a new index was introduced which covered virtually the whole economy. For the sake of continuity the older series was maintained for an interim period, but was finally discontinued at the end of 1980. For those industrial groups which appear in both the new and the older indices, a continuous series back to 1963 can be obtained by linking the relevant parts of the two sets of indices.

## Sources

Like its predecessor, the present index is constructed from information obtained by the Department of Employment through a monthly survey of a representative sample of firms in Great Britain, together with information supplied by the Ministry of Agriculture about agricultural earnings in England and Wales. Returns cover some 10 million employees. The average weekly earnings for each industry group are weighted together using estimated numbers of employees in employment, and the result expressed as a percentage of the corresponding figure for January 1976. The employment weights are revised at the beginning of each year.

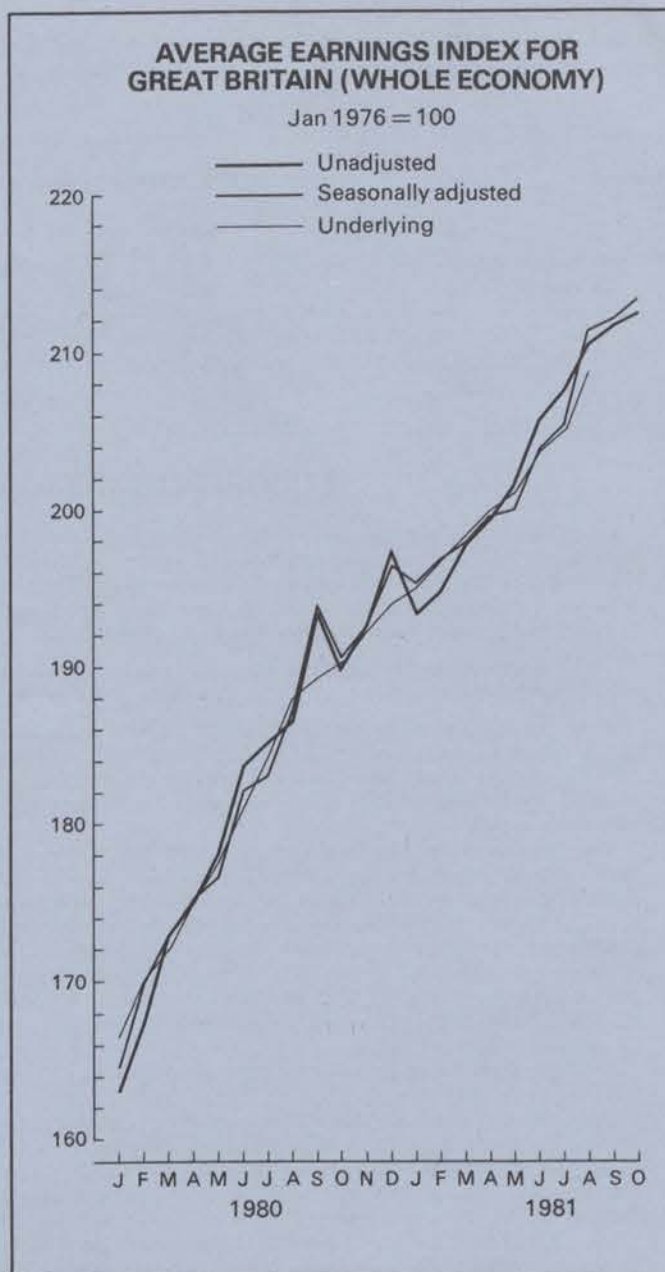
## Publication

Separate indices are published for each Order group of the Standard Industrial Classification, and for two broader aggregates — manufacturing and production industries. The full detail is published first in the *Employment Gazette* of the Department of Employment (two months after the date to which it relates), and shortly afterwards in the Central Statistical Office's *Monthly Digest of Statistics*. Figures for the whole economy, and for the aggregates mentioned, are published about a fortnight before the *Employment Gazette* appears, in a Department of Employment press notice. The whole economy index also figures in the table of economic indicators which appears, when space permits, in *Economic Progress Report*. (See opposite page.)

## Seasonal adjustment

For each individual industry Order group an index of actual earnings is published each month. The broader indices are also available in seasonally-adjusted form, taking account of variations in earnings which take place with some regularity each year. For example, earnings are generally somewhat below trend in August because of holidays, and above trend in December because of Christmas and end-year bonuses, high overtime payments and so on.

In the case of manufacturing and production industries (and the 'older series' as a whole when this was compiled) such adjustments are reasonably effective in smoothing out short-term variations in earnings. For the economy as a whole they also serve some purpose in lessening the



peaks and troughs in the most affected months, and in removing a general tendency for earnings to increase faster in the second and third quarters of the year than in the remainder (reflecting a concentration of settlement dates in this period).

However, the whole economy index, even when seasonally adjusted, remains subject to large short-term variations, principally because of differences between one year and another in the timing of pay settlements. The seasonal adjustment allows for an average pattern of timing; but if, for example, settlements are unduly delayed in a particular year, the index will be depressed for a period and may then be temporarily inflated by lump-sum payments of arrears. Examples of this can be seen in the chart, which shows the figures for 1980 and 1981. The peaks in the actual index in September and December

1980 reflect large payments of arrears to (respectively) teachers and local authority non-manual staffs, both of which groups settled much later than usual that year. A conventional seasonal adjustment does nothing to remove such fluctuations. Other factors not allowed for by seasonal adjustment include the depressive effects on earnings of industrial disputes and of holidays such as Easter which do not occur at the same time every year.

In an attempt to quantify the impact of these irregular influences, the Department of Employment have for the last two years compiled an 'underlying' index of average earnings which seeks to measure how earnings would have changed if the normal timing of pay settlements had been followed. This involves subtracting from the seasonally-adjusted index any unusually large amounts of back-pay, and adding in allowances for earnings lost through industrial disputes, non-recurring holidays and so on. Such adjustment inevitably involves an element of professional statistical judgement and can only be approximate: the methodology for it is described in an article in the April 1981 issue of the *Employment Gazette*.

## The underlying index

The underlying index is shown in the chart. At certain times it can give a more helpful indication of the trend change in earnings than the seasonally adjusted index. Its main use is not primarily for long-term comparisons (for which users can make their own estimates of trend by taking a run of months together) but as an aid to interpreting the figures for a short run of recent months.

In view of its essentially short-term value the underlying index is not published as a regular statistical series, but is presented from time to time in the *Employment Gazette* (most recently in the November 1981 issue). Percentage

## READERS' ENQUIRIES

### Distribution enquiries

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changes in the underlying series over the latest 12 months are given in the Key Statistics Commentary in the *Employment Gazette*.

## Summary

To summarise, the unadjusted average earnings index measures changes in average cash payments made to employees based solely on employers' returns. The seasonally-adjusted index removes the effect of regular recurring variations but is still subject to temporary influences such as back-pay, industrial disputes and the timing of settlements, which can be substantial. The underlying index allows for these too in an approximate way but is intended only as a supplement to the other indices for purposes of short-term comparisons.

## Economic indicators<sup>1</sup>

PUBLISHED MONTHLY (months or monthly averages)	Unit	(seasonally adjusted)								
		1980	1980		1981		1981			
			3rd qtr	4th qtr	1st qtr	2nd qtr	3rd qtr	Oct	Nov	
1 Industrial production	1975=100	105.3	103.5	100.9	99.7	99.1	100.2	102.3	—	1
2 Unemployment (excl. school-leavers)	000s	1,647.6	1,699.0	2,019.8	2,304.4	2,506.4	2,627.1	2,728.9	2,764.3	2
3 " " " "	% of all employees	6.8	7.0	8.3	9.5	10.4	10.9	11.3	11.4	3
4 Retail sales (volume) <sup>2</sup>	1976=100	109.4	108.9	109.1	112.8	111.2	110.4	112.1	110.5	4
5 Exports f.o.b. <sup>3</sup>	£m	3,949	3,902	3,964	—	—	—	4,550	4,765	5
6 Imports f.o.b. <sup>3</sup>	£m	3,851	3,696	3,542	3,345	—	—	4,184	4,739	6
7 Balance of payments current balance <sup>4</sup>	£m	+260	+308	+705	—	—	—	+532	+193	7
8 £'s effective exchange rate (average for month)	1975=100	96.1	96.7	100.2	101.4	97.8	90.6	88.2	90.1	8
9 Official reserves <sup>4</sup> (end of period)	\$m	27,476	27,637	27,476	28,212	25,631	23,696	23,316	23,463	9
10 Money supply: Sterling M3 (end of period)	£m	66,900	63,800	66,900	68,010	70,850	74,580	75,780	76,110	10
11 Retail prices <sup>4</sup>	Jan 1974=100	263.7	268.9	273.9	280.4	294.0	299.1	303.7	306.9	11
12 Tax and price index <sup>4</sup>	Jan 1978=100	132.8	135.5	138.4	142.2	152.4	155.4	158.2	160.1	12
13 Average earnings (prod. industries) <sup>2</sup>	Jan 1976=100	183.9	189.4	193.2	200.0	203.0	213.0	217.4	—	13
14 Average earnings (whole economy) <sup>2</sup>	Jan 1976=100	182.0	188.1	193.3	196.7	201.1	209.6	213.4	—	14

PUBLISHED QUARTERLY	Unit	1980			1981					
		1st qtr	2nd qtr	3rd qtr	4th qtr	1st qtr	2nd qtr	3rd qtr		
1 Output (gdp) at constant factor cost	1975=100	107.2	109.7	108.1	106.3	104.7	104.2	103.8	104.5	1
2 Manufacturing industry's fixed capital expenditure	£m 1975 prices	3,578	959	918	893	808	781	761	717	2
3 Consumers' expenditure	£m 1975 prices	71,454	18,104	17,702	17,762	17,886	17,956	17,872	17,760	3
4 Balance of payments, current balance <sup>4</sup>	£m	+3,122	+63	+21	+924	+2,114	—	—	—	4
5 Balance of payments on invisible account	£m	+1,944	+448	+343	+304	+849	+1,323	+659	+303	5

1. Many of the most recent figures are provisional and may be subject to revision. 2. Excluding Northern Ireland. 3. Balance of payments basis. 4. Not seasonally adjusted. 5. Figures for December were 2,781,600 (11.5 per cent of all employees). 6. Owing to industrial action, figures for March-August 1981 are not available.

# Monthly Economic Assessment

Prepared by the Treasury on the basis of statistics available up to 5 January

- Latest figures confirm that total output is now rising, with recovery concentrated in manufacturing.
- Manufacturing productivity (output per head) rose 10 per cent between the fourth quarter of 1980 and the third quarter of 1981.
- Non-oil export volumes have regained their level of early 1980, despite the earlier loss of competitiveness and the world recession. However, the propensity to import has risen further.
- The latest Department of Industry investment intentions survey points to a modest recovery in capital expenditure in manufacturing, and to continuing growth in the distributive and service industries this year and next.
- Following a steep decline, company profitability has now begun to recover.
- Retail prices rose by 12 per cent in the year to November 1981.

## Financial developments

In the banking month of December, sterling M3 increased by around ¼ per cent after seasonal adjustment. Recorded growth over the first ten months of the current target period has now been about 12¾ per cent—equivalent to around 15½ per cent at an annual rate. The figures continue to be significantly affected by the recovery of taxes delayed by the civil service strike. Bank lending is still growing rapidly.

Interest rates were steady in the second half of November (the first two weeks of the banking month of December), but on 3 December the clearers cut their base rates by ½ per cent to 14½ per cent. Three-month rates had for some time been consistent with such a reduction. The present level of base rates compares with 14 per cent from the end of November 1980 to Budget time in March 1981, 12 per cent over the spring and summer, and 16 per cent in early October. In the gilt-edged market, yields on short-dated stocks were little changed, fluctuating over the banking month of December as a whole around 15¾ per cent (13¾ per cent in early 1981, 17 per cent last October). Yields on longs hovered around 15¼ per cent, (14 per cent in early 1981, 16 per cent last October), ending the month marginally higher.

Government borrowing figures remain severely distorted by the effect of the civil service dispute on receipts of tax and national insurance. In the eight months to November last year the central government borrowing requirement (CGBR) was about £9¼ billion, about one third of which was due to the civil service dispute. Thus the underlying figure was about £6 billion, much lower than the £10¾ billion for the same period in the previous financial year.

Sterling dropped sharply in mid-December on news of a fall in international oil prices, and, although it subsequently regained some of its losses, its recovery was stunted by the strength of the dollar, which reflected the renewed increase in US interest rates. Over the month,

†All figures are seasonally adjusted unless marked \*

‡Cumulative growth rates for other monetary aggregates, adjusted for the widening of statistical coverage which took place in November, are not yet available.

§For a detailed discussion of productivity see article on 'Recent trends in labour productivity' on page 1.

sterling fell from an opening level of \$1.96 (92.0 effective) to \$1.91 (90.9 effective) at the end. This compares with \$2.31 (101.4 effective) in the first quarter of 1981.

## Inflation and costs

The rate of price inflation, as measured by the 12-monthly increase in the retail prices index\* (RPI) in November was 12.0 per cent. The recent rise in mortgage rates and higher food prices increased the RPI in November by about ½ per cent, and there will have been a further effect in December.

Following their stabilisation in October, manufacturers' input prices\* fell by ½ per cent in November. This reflects a fall in the cost of imported raw materials and fuels (as sterling rose against the dollar), partially offset by higher coal, electricity and dollar oil prices. Manufacturers' output prices\* rose by 11 per cent in the year to November.

Average earnings of employees in Great Britain increased by 11.9 per cent in the year to October. After allowing for the uneven timing of settlements and other temporary factors such as back-pay, the underlying increase of around 11 per cent in October was much the same as in September. So far, too few pay settlements have been made to discern the general trend in the current pay round as compared with the previous round.

Entirely reflecting the 2 per cent rise in output and 7 per cent fall in employment between the fourth quarter of 1980 and third quarter of 1981, manufacturing productivity§ (output per head) increased by 10 per cent over the same period. Reflecting this and lower pay settlements, unit wage and salary costs in manufacturing were broadly unchanged earlier in the year and rose only gently in the summer. The 12-monthly increase in manufacturers' wage and salary costs per unit of output fell to 4 per cent in September.

The moderation of unit labour costs and the earlier fall in the exchange rate have led to an improvement in labour cost competitiveness, probably of over 10 per cent so far. Gross trading profits (net of stock appreciation) of industrial and commercial companies rose by about 10 per cent between the second and third quarter of this year, and have now been rising since the end of 1980. Excluding North Sea oil and gas activities, gross trading profits,

which were broadly unchanged between mid-1980 and mid-1981, also showed some improvement in the third quarter.

## Economic activity

Revised estimates of GDP (output)—usually regarded as the best indicator of short-term movements in activity—showed a rise of about ½ per cent in the third quarter over the second quarter. The rise in output was concentrated in industrial production, with little change in other sectors (see table 1). Most of the fall in output since the first half of 1979 (the peak of the last economic cycle) occurred in manufacturing and construction. Mineral oil and natural gas production had a substantially higher level of output in the third quarter of last year than in the first half of 1979, and output in the rest of the economy held up comparatively well.

Table 1 Recent movements in output

	1975 weights	% change	
		3Q 1981 on 2Q 1981	3Q 1981 on 1H 1979
<b>Industrial production:</b>			
Manufacturing	283	+2½	-14
Construction	74	+2½	-15
Mineral oil and natural gas§	0.1	+1	+14½
Other industries†	50	-2	-4
<b>Total</b>	<b>407</b>	<b>+2</b>	<b>-11</b>
<b>Rest of the economy‡</b>	<b>593</b>	<b>0</b>	<b>-1½</b>
<b>Total output**</b>	<b>1000</b>	<b>+½</b>	<b>-5</b>

§Exploration for, and extraction of mineral oil and natural gas (and condensates) on land and offshore.

†Gas, electricity and water, and mining and quarrying (excluding natural gas and North Sea oil).

‡Agriculture, forestry and fishing, transport and communications, distributive trades, public services and other services.

\*\*Gross domestic product, output based.

Latest (October) industrial and manufacturing production figures confirm the general trend in the third-quarter figures. Within manufacturing, the recovery has been fairly widely spread across most sectors, with a strong (and early) recovery in chemicals.

The major reason for the turnaround has been that industries are increasingly meeting demand from higher output, and very little from running down stocks. Revised figures show that destocking in the manufacturing and distributive industries in the third quarter ran at only one fifth of the rate in the previous 18 months (see table 2).

Table 2 Change in stocks held by manufacturers and distributors

£m, 1975 prices, seasonally adjusted

1979 (whole year)	1980				1981		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
740	-430	-220	-390	-840	-400	-560	-100

Consumers' expenditure in real terms has been maintained; in the first three quarters of 1981 it was

unchanged from the average level in 1980, and slightly higher than in 1979. Retail sales, although showing an erratic monthly pattern, were, on average, in the 11 months to November 1981, 2 per cent up on 1980.

## Investment

The total volume of fixed investment and, within this, the volume of investment in the manufacturing, distributive and service (MDS) industries have been broadly stable, though somewhat below the average for 1980. There has been a large fall in investment in housing and other buildings; but investment in plant and machinery has held up comparatively well (see table 3).

Table 3 The volume of investment, by type of asset

Per cent change, average of first three quarters 1981 on year 1980

	Total investment	Housing	Other new building	Vehicles and aircraft	Plant and machinery
Whole economy	-7¾	-22½	-4½	-20½	-1
MDS	-4½	-15		-2½	-2

In the whole economy, investment in plant and machinery in the first three quarters of 1981 was only marginally lower than in 1980, despite a fall in the total volume of investment, and was some 9 per cent higher than in the first half of 1979, the peak of the last economic cycle.

The decline in MDS investment has not been evenly spread. In the period covered, the volume of investment in the distributive and service industries increased by 2½ per cent; this was offset by a fall of 17 per cent in manufacturing investment. This largely reflects the decline in manufacturing output, but also the increasing importance of leasing. Preliminary estimates of investment in manufacturing for 1981 suggest that the volume of leased assets (mainly plant and machinery) will total £670 million (in constant 1975 prices), or almost 20 per cent of total manufacturing investment. This compares with 10½ per cent in 1979, and only 5 per cent in 1975. Even so, including leasing, investment in manufacturing is estimated to have fallen 13 per cent between 1980 and 1981.

## Investment prospects

The latest Department of Industry investment intentions survey supports the view that total investment in MDS has stabilised in 1981, and points to a 2 per cent increase in 1982, with a larger increase in 1983. The survey also sees some recovery in manufacturing investment during the course of 1982. The recovery is, however, liable to be more than offset by further falls in the first half of 1982, and, overall, it is estimated that the volume of manufacturing investment, including leased assets, will be slightly lower in 1982 than in 1981.

## Labour market developments

Despite the recent pick-up in manufacturing output, total employment in manufacturing continues to fall, although at a slower rate. In the three months to October, total employment in manufacturing in Great Britain fell by an average monthly rate of about 28,000 per month, compared with a rate of 47,000 per month in the previous three months.

While manufacturing employment continues to fall, other labour market indicators show some signs of im-

provement. In manufacturing, **total hours worked** have been stable since the middle of last year; **average hours worked** remained unchanged in October, after rising in the previous nine months; **short time working\*** is now running at only one quarter of the January peak level; in the three months to October, total **overtime hours worked** were 11½ per cent up on the previous three months.

**Unemployment** continues to rise, although at a much slower rate; the average monthly rise in the second half of this year was little over half that in the first half of the year. Adult unemployment stood at just over 2¾ million in December.

The level of **vacancies** has been improving since the middle of last year, albeit from a very low level.

### Balance of payments

Three months' figures — September, October and November — are now available. They remain extremely difficult to interpret, given the absence of complete data since February, normal monthly variability, and changed documentation procedures for exports in October.

The **current account surplus**, after rising sharply in October, fell to £193 million in November. The average monthly current account surplus between September and November was about £280 million, substantially below the levels recorded at the turn of the year.

Non-oil **export** and **import** volumes (excluding erratic items such as ships, aircraft, precious stones and North Sea installations) are shown in table 4.

Non-oil export volumes were, in the three months to November, considerably higher than the depressed levels at the start of 1981, and some 3 per cent higher than the level in the first half of 1980. The pick-up during 1981 appears to be fairly widely spread across all categories of goods and materials. This is despite the past loss of export competitiveness and the world recession.

There appears to have been a significant rise in the trend in non-oil import volumes, which were, in the three months to November, almost 8 per cent up on the first quarter of 1980. While this points to a further increase in the propensity to import over the past two years, it is consistent with the recent strengthening in manufacturing output and a reduction in the rate of destocking.

Table 4 **Export and import volumes excluding oil and erratic items**

1975=100, balance of payments basis, seasonally adjusted

				Increase in September — November over	
	1H 1980†	Early 1981§	Sept- Nov	1H 1980	Early 1981
Exports	122.2	113.2	125.6	2¼	11
Imports	140.9	120.7	152.1	8	26

§Exports refer to Jan and Feb; imports refer to Jan to April.

†Representative of the levels before the decline in the second half of 1980.

## Economic Progress Report index for 1981

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