Company profitability and finance

This article updates[1] and revises various estimates of the financial position and profitability of industrial and commercial companies. Estimates of profitability for particular sectors of the economy are updated to 1980. The main developments include:

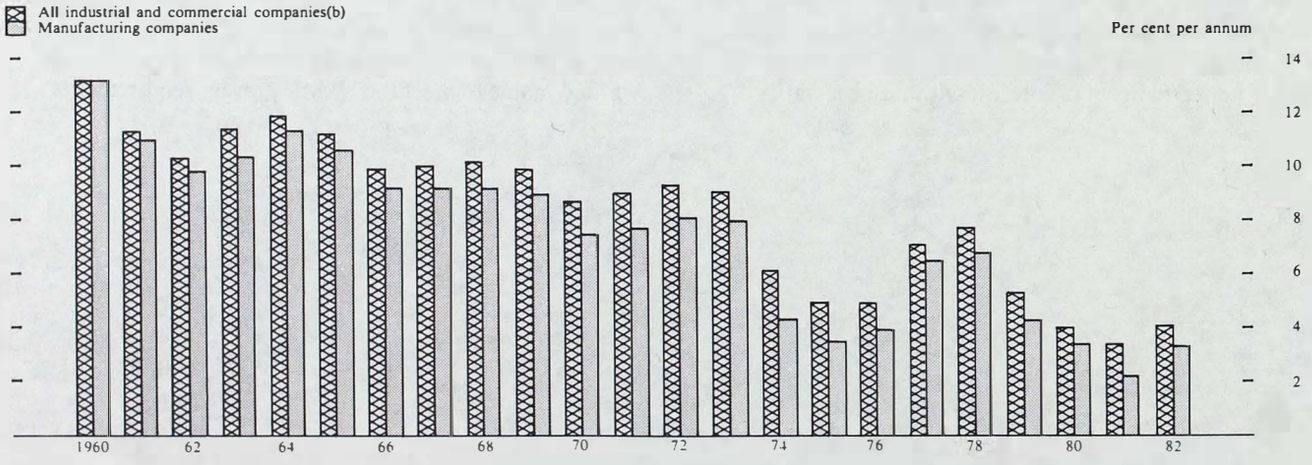
- *Some recovery in profitability since the middle of 1981, but from a very low base and largely confined to manufacturing.*
- *A lower financial surplus in 1982 than in 1981 and a sharp increase in the net borrowing requirement.*
- *Nevertheless, a turnaround from overall deficit to surplus and a fall in the borrowing requirement between the two halves of 1982, largely due to renewed destocking in the second half of the year.*

Profitability

Profitability is the ratio of profits earned to capital employed. The real pre-tax profitability of the non North Sea activity of industrial and commercial companies[2] has been in decline for over two decades, and reached a low in mid-1981 when low output and poor competitiveness resulted in a rate of return of 3¼% (Chart 1). Subsequently, there has been a modest recovery to 4% in 1982 due almost entirely to an improvement in manufacturing profitability from its low point of about 2¼% in 1981 to 3¼% in 1982. Profitability in non-manufacturing industries, while higher than in manufacturing, was little changed between 1981 and 1982 at about 5% per annum. Indeed, in the distributive trades sector there is little evidence from cost and price data of a widening in profit margins before the fourth quarter of 1982, but profits have been helped by the strength of retail sales from mid-year.

The improvement in the real rate of return in manufacturing occurred before any rise in output. In fact, by the end of 1982, industrial output (excluding oil and gas extraction) was 1% lower than in mid-1981, while manufacturing production had fallen by 2½%. The benefits from retrenchment and rationalisation, reflected in higher labour productivity (see Economic commentary page 163), may account for part of the modest recovery in the

Chart 1
Pre-tax real rates of return[a]



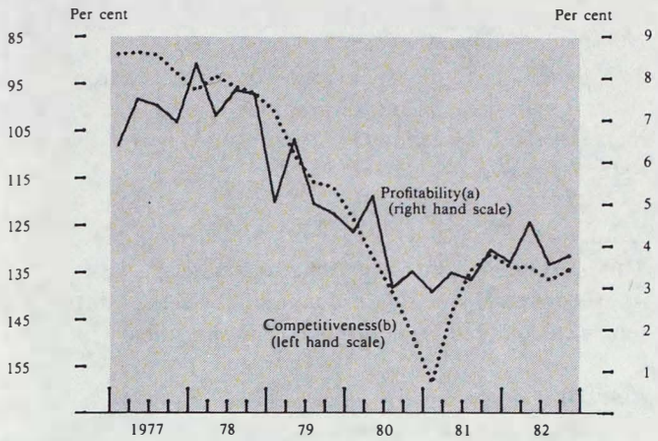
(a) The rates of return are based on national accounts data; those for the manufacturing sector are calculated by the Department of Industry.
(b) Excluding North Sea activity.

(1) Previous articles in this series have appeared in earlier June *Bulletins*.

(2) Real pre-tax profitability = $\frac{\text{Gross trading profits + rent − capital consumption at replacement cost − stock appreciation}}{\text{Net capital stock at replacement cost + stocks and work in progress.}}$

This is a current cost measure which adjusts both profits and the capital stock for the effects of inflation. For example, the gains which accrue from the appreciation in value of stocks during periods of inflation are excluded from profits. Similarly, the capital stock is valued at replacement cost rather than its original (historic) price. The figures quoted are based on national accounts data.

Chart 2
Competitiveness and profitability



(a) Pre-tax real rate of return; non North Sea activity of industrial and commercial companies.
(b) Normalised unit labour costs. An increase in the index implies a fall in competitiveness; the left hand scale is therefore inverted.

real rate of return. Companies also benefited from the fall in the exchange rate during 1981. The widening in *ex post* profit margins, however, may have been the result of slower growth in input costs rather than any lessening of competitive pressures associated with the lower exchange rate, at least until the third quarter. Certainly margins would widen if prices were determined by a mark up on historic and not current costs. By the end of 1982, manufacturers' buying prices were about 6% higher than a year earlier compared with a rise of 17% in the year to end-1981; unit labour costs in manufacturing were about 3% higher compared with about 20% at the end of 1981, while output prices were up $7\frac{3}{4}$%.

The depreciation of sterling since last autumn implies a further boost to competitiveness, and may afford some scope for increased margins on sales in both home and export markets. On the other hand, competitive pressures remain intense. By the end of 1982, competitiveness was still about 15% worse than in mid-1979, despite an improvement of 15% or so since early 1981 (Chart 2). The subsequent strengthening of the pound will have caused a further loss of competitiveness. Moreover, importers have taken part of the effects of sterling's depreciation on their margins since 1980—to a greater extent than previously—rather than risking losses of market shares.

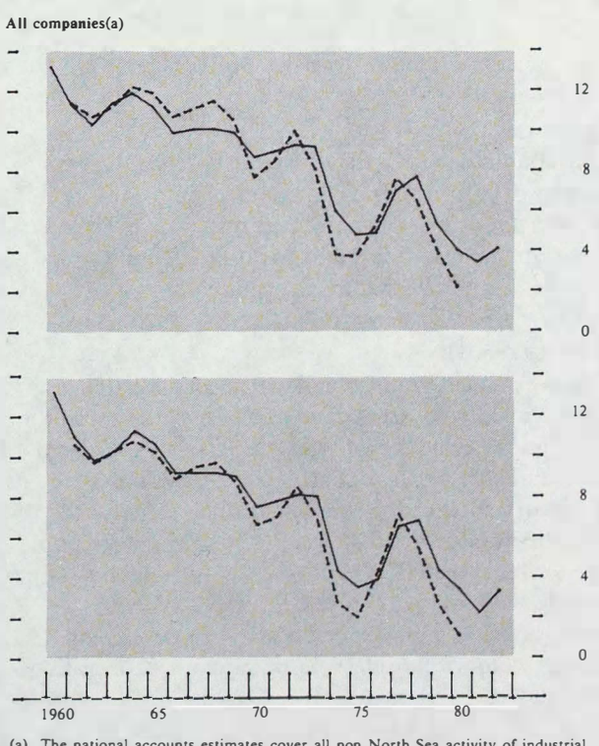
Profitability remains very depressed by historical standards (Chart 1)—the rate of return was well above 10% during the 1960s and even during the trough of the 1975–76 recession was almost 5%. Yet the current low estimates of profitability may be somewhat misleading because of statistical difficulties in measuring both profits and capital. One problem is the treatment of expenditure on closures and redundancies. Conceptually, these can be regarded as capital expenditure, raising *actual* profitability by cutting wage bills and other costs. In the national accounts, however, such expenditure is treated as current and excluded from profits, so initially *measured* profitability may be depressed.

A further problem is that the measure of the value of trading assets is likely to be over-recorded, because it is based on a perpetual inventory model which assumes 'normal' asset lives, and does not take account of any accelerated scrapping of capital which competitive pressures might induce. This could result in a downward bias in measured profitability.(1) Both these effects are likely to have become increasingly important in recent years as companies responded to competitive pressures and relative increases in labour and energy costs by rationalising and reorganising production.

Two estimates of real pre-tax profitability are shown in Chart 3. One series uses national accounts data and covers the whole company sector, while the other is derived from the accounts of a sample of 1,000 large listed companies included in the Department of Industry's *Business Monitor MA3,* 'Company finance'.(2) The main differences between these estimates are outlined on page 234. The two approaches give similar results for the trends in real profitability, although the levels differ slightly over the course of a cycle—the Business Monitor estimates of profitability tend to be rather lower than national accounts estimates in recessions.

Chart 3
Pre-tax real rate of return

---- Business Monitor estimates
—— National accounts estimates



(a) The national accounts estimates cover all non North Sea activity of industrial and commercial companies. The Business Monitor estimates cover manufacturing, distribution and service companies.

(1) Partially offsetting this, measured profitability does not take account of the reduction to profits caused by the increase in capital consumption due to accelerated scrapping.

(2) The Bank is grateful to the Department of Industry for providing these data (available up to 1980) and for other assistance. An article in the December 1979 *Bulletin*, page 394, gives earlier estimates.

Different estimates of real corporate profitability

Most of the measures used in the article are based on national accounts data for the company sector, and employ the methods outlined in previous *Bulletins.*[1] Rates of return and certain other summary measures have also been calculated from companies accounts, using results for a sample of 1,000 large listed companies included in the Department of Industry's Business Monitor MA3, Company finance.[2] Another measure of real profitability can be derived from a sample of companies' current cost accounts, using SSAP 16 conventions.[3] The three approaches yield different levels of profitability, but the trends are generally similar—particularly between the national accounts and Business Monitor estimates which can be compared over a long period (see Chart 3 on page 233). Estimates based on current cost accounting (CCA), and produced by companies, have only been available since 1979.

Pre-tax real rate of return to capital

Percentages

	1979	1980	1981	1982
National accounts:				
Non North Sea activity(a)	5.3	4.0	3.3	4.0
Manufacturing	4.3	3.4	2.2	3.3
Business Monitor:				
All companies(b)	4.0	2.1	..	..
Manufacturing	2.6	1.1	..	..
Companies CCA accounts:				
All companies(c)	8.2	7.4	7.5	..

.. not available.

(a) Non North Sea activity of industrial and commercial companies.
(b) Manufacturing, distribution and services.
(c) Excluding oils.

The main differences between the measures are:

Coverage

The national accounts data cover all non North Sea activity of industrial and commercial companies, whereas the other two sources are restricted to large listed companies—1,000 for the Business Monitor sample,[4] and 250 for the CCA sample.

Overseas activity

This is excluded from the national accounts estimates, but included in the CCA sample. The Business Monitor calculation excludes profits and assets of all associated companies, but those of consolidated subsidiaries are necessarily included so some element of overseas activities is incorporated. The Business Monitor sample also excludes the UK operations of companies operating mainly overseas (ie where less than 50% of their turnover arises in the United Kingdom), so that for certain sectors a considerable amount of UK operations is excluded.

Non-trading income

This is included in the CCA sample but excluded from the national accounts and Business Monitor estimates. It increases the CCA estimate of real profitability relative to the other two.

Land

This is excluded from the national accounts aggregate measure of fixed assets—the denominator in the rate of return calculations—but is included in the other two.

Asset lives

The national accounts estimates make no allowance for the accelerated write-off of obsolete capital, which may have become more pronounced in recent years. In the published accounts of the companies used to compile the Business Monitor and the CCA sample, asset lives used are apparently significantly shorter than assumed in the national accounts. There is some evidence to suggest that the lives implicit in the Business Monitor are somewhat longer than those implicit in the CCA sample. In both samples, companies may have written down buildings and equipment at a faster rate than the actual loss of economic efficiency.

Inflation adjustments

The three sources differ in the adjustment they make for the effects of inflation on historic cost or recorded figures. This is particularly noticeable in the revaluation of fixed assets where the ratio of the current cost figure to that published in the historic cost accounts, for the value of fixed assets, is about 1.5 in the CCA sample and 1.7 in the Business Monitor sample. In the national accounts the ratio to true historic cost estimates of the current cost value of fixed assets is 1.9.

In part, the difference between the national accounts and the two sample estimates reflects the fact that historic cost estimates in companies' accounts incorporate some revaluation of fixed assets. The difference between the Business Monitor and CCA samples may reflect a difference in the extent of these revaluations, different implicit assumptions about asset lives and the use of different price deflators.

Redundancy and closure costs

These are fairly consistently excluded from profits in the Business Monitor estimate, and as far as possible in the national accounts (see page 233). But in the CCA sample such expenditure is frequently not deducted as a cost before striking profits, which are therefore higher.

(1) See the June 1980 *Bulletin*, page 119.
(2) For a full discussion, see N P Williams, *Bank of England Discussion Paper No 15*, 'Influences on the profitability of twenty-two industrial sectors', and the December 1979 *Bulletin*, page 394.
(3) See the article on 'Current cost accounting' in the September 1982 *Bulletin*, page 376.
(4) From 1978, the Business Monitor sample is representative of the whole company sector. These results, however, are based on data for a subset of 1,000 large listed companies in order to be comparable with results for years up to 1978.

Both estimates show real profitability in manufacturing to have been lower and to have fallen proportionately more than in distribution and services. This is mirrored by the decline in manufacturing as a proportion of total output from almost 32% in 1971 to less than 24% in the last two years. In part, this reflects the greater exposure of manufacturing to competitive pressures from overseas. Manufacturing competitiveness deteriorated markedly between 1977 and early 1981. Indeed, those industries which are less exposed to international competition— and may indeed benefit from the availability of cheaper overseas tradeable goods—such as retail and wholesale distribution, had generally higher real rates of return from 1978 to 1980 than the average for all large listed companies (Table A).[1] But even in these industries real returns have declined quite markedly over time. The construction industry was also particularly badly hit by the decline in demand for new houses in 1980 and by the fall in public sector capital spending.

Table A
Real pre-tax rates of return on trading assets

Business Monitor sample of large listed companies

Percentages; annual averages

	1969–1971(a)	1978–1980
Manufacturing, distribution and services	8.9	4.2
Retail distribution	15.1	8.9
Wholesale distribution	9.8	6.8
Transport and communication	8.5	6.0
Construction	10.3	4.5
Manufacturing	7.4	3.0
of which:		
Food, drink and tobacco	*8.7*	*5.2*
Textiles, leather and clothing	*7.9*	*−2.2*
Metal manufacture	*4.4*	*−0.2*
Non-electrical engineering	*5.8*	*3.2*
Electrical engineering	*9.4*	*9.8*
Vehicles	*5.1*	*−6.0*
Chemicals	*7.1*	*3.2*
Bricks, timber and furniture	*8.9*	*3.9*
Paper, printing and publishing	*6.7*	*5.7*

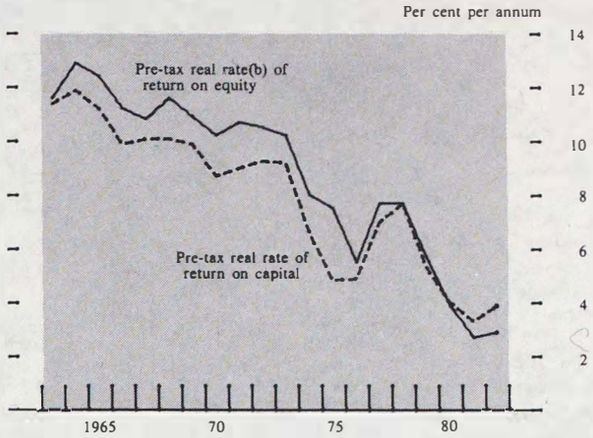
(a) Three years of cyclically low real returns (see Chart 3).

Within manufacturing, those industries most exposed to competitive pressures because their products are not highly differentiated, such as chemicals, metal manufactures and textiles, tended to suffer very low real returns between 1978 and 1980. And the well known difficulties of the vehicle industry are reflected in its negative real return on trading assets in this period. Electrical engineering, however, has maintained its real profitability.

Rates of return to the equity interest[2]

The rate of return to capital measures the return on trading assets irrespective of how they are financed. As such, it corresponds to the ratio of real operating profits to net debt plus the equity interest. The return to the equity interest is the ratio of real operating profits *minus* net interest payments to trading assets *minus* net debt. A gearing adjustment[3] is also applied to real equity profits to reflect the benefit to equity holders from the erosion of the real value of debt by inflation. The real rate of return to the equity interest has normally been higher than the equivalent return to trading assets by a factor reflecting capital gearing, because, until the last two years, the real interest rate (the real cost of servicing debt) has been lower than the real return on trading assets. Because equity profits are obtained by deducting interest payments net of interest receipts from operating profits, the differential is affected not only by real interest rates but also by changes in the spread of interest rates between those received on liquid assets and those paid on borrowings.

Chart 4
Rates of return[a] to equity, and on trading assets



(a) Excluding North Sea activity; national accounts data.
(b) Incorporating a natural gearing adjustment.

In the 1960s, the downward drift in real interest rates and rise in capital gearing cushioned the fall in the equity return compared with the return to trading assets (Chart 4). This effect was even more pronounced between 1973 and 1975. The reverse applied from 1975 to 1980, when real interest rates tended to rise, and capital gearing fell. Since 1980, the real rate of interest[4] has exceeded the real rate of return; and the return to equity has fallen below the return to capital, to under 3% in 1981 and 1982.

Industrial and commercial companies' (ICCs) income and appropriation account[5]

Industrial and commercial companies' total income is made up of gross trading profits, rent and non-trading income, and income from abroad. This total can be allocated between dividends, interest and current transfer payments, profits due abroad, payments of UK taxes on income, and the remainder, undistributed income (Table B).

(1) This broad ordering of real profitability by industry is similar to that reported in the September 1982 *Bulletin*, page 378, using companies' own reported current cost accounts.
(2) Non North Sea activity of industrial and commercial companies.
(3) The 'natural' gearing adjustment is calculated by applying a measure of the rate of inflation to the stock of net debt. Alternative gearing adjustments are discussed in the December 1978 *Bulletin*, page 513.
(4) The interest margin which directly affects the ratio of real returns to trading assets and to the equity interest is:

$$\frac{\text{Interest payments} - \text{interest receipts}}{\text{Gross debt} - \text{liquid assets}} - \text{Change over the period in the retail prices index.}$$

(5) All industrial and commercial companies, including North Sea activity.

Table B
Transactions leading to ICC's financial surplus /deficit

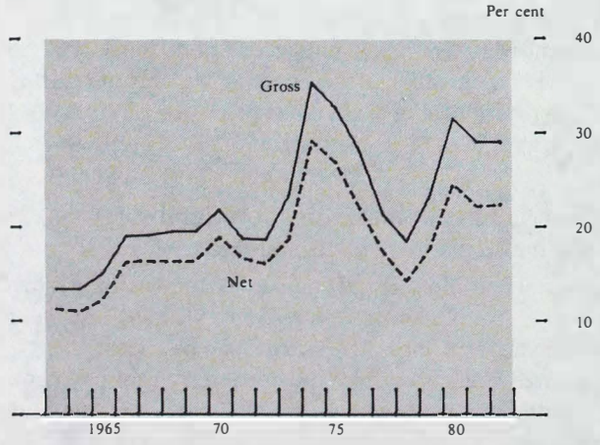
£ millions

	1980	1981	1982		
	Year	Year	Year	H1	H2
Nominal trading profits (net of stock appreciation):					
Non North Sea	18.8	18.9	21.6	11.0	10.7
North Sea	8.0	10.9	12.5	5.4	7.1
Total	26.8	29.8	34.1	16.4	17.8
Rent, non-trading income and income from abroad	8.0	8.7	8.1	4.2	3.8
Total income	**34.8**	**38.5**	**42.2**	**20.6**	**21.6**
Distribution of income:					
Dividends	4.2	4.5	5.7	2.9	2.8
Interest payments and royalties	8.9	9.2	9.9	5.0	4.9
Profits due abroad	4.6	4.4	4.5	2.1	2.4
Tax payments	5.6	7.4	8.9	4.6	4.3
Total allocated	**23.3**	**25.5**	**29.0**	**14.6**	**14.4**
Undistributed income	11.5	13.0	13.2	6.0	7.2
Total capital expenditure	**12.9**	**11.0**	**12.5**	**7.2**	**5.4**
Financial surplus(+)/ deficit(−)	**−1.4**	**2.0**	**0.7**	**−1.2**	**1.8**

Nominal trading profits (net of stock appreciation) rose by £4¼ billion (15%) in 1982; North Sea activity accounted for over a third of the improvement. Of the other sources of income, there was a slight rise in non-trading income, but a fall of almost £1 billion in income from abroad. Total income therefore rose by £3¾ billion, but a 26% rise in dividend payments[1] and a 20% increase in taxes paid on corporate income[2] (nearly all from North Sea activity) meant that undistributed income rose only marginally.

The dividend payout ratio,[3] already high in 1980 and 1981 when there was a step increase following the abolition of controls, rose further in 1982 to equal the previous peak (in 1974). This may reflect a policy of keeping dividends stable against fluctuating income (perhaps intended to signal companies' confidence despite poor levels of measured real profitability).

Chart 5
Income gearing[a]



(a) All industrial and commercial companies. Gross income gearing is measured as interest payments (including preference dividends) as a percentage of gross trading profits (net of stock appreciation) and other income, less tax payments and profits due abroad. Net income gearing expresses the interest payments, net of interest receipts, as a percentage of the denominator for the gross measure, but excluding interest income.

Interest payments were higher in 1982 than in the previous year, as higher bank borrowing more than offset the marked fall in nominal interest rates. Consequently, the share of companies' distributable income pre-empted by interest payments (income gearing) rose slightly, although it remains below the peak 1980 level (Chart 5). Moreover, the position improved considerably in the course of 1982 as borrowing decelerated and interest rates fell. By the fourth quarter, gross income gearing was some 10% lower than in the first and net income gearing was 8% lower.

ICCs' capital account and net borrowing requirement

Undistributed income, together with investment grants and other capital transfers, comprise the 'receipts' side of ICCs' capital account. On the 'expenditure' side is gross domestic fixed investment, stockbuilding and payment of taxes on capital. The difference between receipts and expenditure is the ICC sector's financial surplus or deficit.

There was little change in receipts in 1982 over 1981, but expenditure rose by £1½ billion with gross domestic fixed capital formation £½ billion higher and £1 billion less destocking. The financial surplus was therefore reduced from £2 billion in 1981 to £⅔ billion in 1982. Nevertheless, there was an improvement in company finance in the course of 1982, as a financial deficit of £1¼ billion in the first half was followed by a surplus of £1¾ billion in the second; the improvement was mainly due to a resumption of heavy destocking and higher North Sea profits.

The net borrowing requirement differs from the financial balance in allowing for the impact of net unremitted profits and several other financial flows (such as changes in tax balances, net identified trade credit, and investment at home and abroad) on companies' financial position. After making these adjustments, the two measures differ by the amount of unidentified transactions, which in recent years have increased the borrowing requirement substantially, by £3½ billion in 1981 and £6 billion in 1982.

Table C
Sources and uses of ICCs' funds

£ billions

	1978	1979	1980	1981	1982
Sources					
Internal funds(a)	16.2	17.5	13.7	15.5	13.4
Bank borrowing	3.0	4.8	7.2	7.1	7.3
Other loans and mortgages	0.5	0.7	0.3	1.1	0.9
UK capital issues	0.8	0.9	1.3	1.7	0.9
Investment from overseas	0.7	0.5	1.9	0.8	1.2
Import and other credit received	0.5	1.6	− 0.1	1.1	0.5
Uses					
Gross domestic investment	12.2	14.2	15.7	15.0	15.6
Stockbuilding	1.4	2.7	− 2.5	− 3.5	− 2.5
Investment in UK company securities	0.8	1.1	0.9	0.8	0.9
Direct and other investment overseas	2.0	3.3	3.0	3.5	2.4
Liquid assets	2.8	0.9	3.8	5.3	3.0
Other financial assets	—	− 0.3	0.4	0.4	− 1.4
Exports and other credit given	1.2	2.0	1.1	1.9	0.1
Unidentified	1.3	2.0	1.9	3.6	6.0

(a) After providing for stock appreciation; includes net capital transfers.

(1) On ordinary shares.

(2) Including advance corporation tax and petroleum revenue taxes.

(3) Equals: $\frac{\text{Dividends net of tax payments}}{\text{Total income − interest payments and royalties − profits due abroad − tax payments.}}$

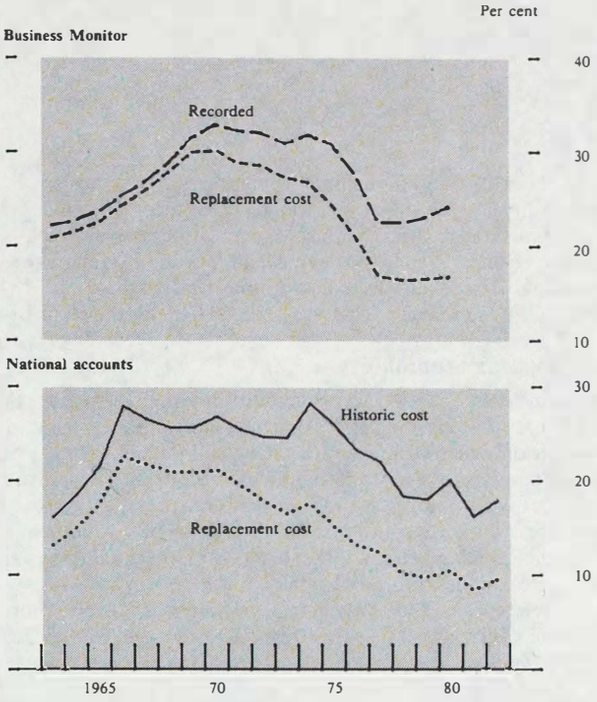
The net borrowing requirement rose steeply from £4.9 billion in 1981 to £8.6 billion in 1982, but the figures are rather distorted by the effects of the civil service dispute. Borrowing was reduced in 1981, when the collection of £2½ billion of tax payments was delayed, and clearing the backlog in the early part of 1982 caused additional borrowing. In the second half of the year borrowing was markedly lower.

Sources and uses of finance (Table C)

One fairly clear trend in sources of company finance is the growing importance of bank borrowing.[1] In nominal terms, bank borrowing has been very strong over the past three years, although this has been partly matched by a build up of liquid assets.[2] The simultaneous rise in bank borrowing and liquid assets may reflect uneven fortunes within the company sector, or an accumulation of gross liquidity for precautionary reasons (see page 157).

Despite high nominal levels of bank borrowing, capital gearing[3] remains low. (Chart 6 shows estimates in historic and real terms, based on national accounts and Business Monitor data). During the 1970s, capital gearing at replacement cost was halved as rapid price inflation boosted the replacement value of capital and caused the real value of debt to shrink; historic cost measures of capital gearing also fell between 1974 and 1979. In the 1980s, capital gearing has remained at extremely low levels, although it did rise again in 1982, particularly on the historic cost measure, as borrowing increased.

Chart 6
Capital gearing[a]



(a) Net debt as a percentage of trading assets measured at 'historic cost' or replacement cost. The Business Monitor recorded estimates incorporate any revaluation of fixed assets made by companies in their historic cost accounts, while the national accounts estimates are 'true' historic cost.

Table D
Debt structure of industrial and commercial companies

£ billions; amounts outstanding in fourth quarter

	Bank borrowing (a)	Debenture and loan stock	Other loans	Gross debt (columns 1+2+3)	Liquid assets	Net debt (columns 4–5)
	1	2	3	4	5	6
1966	5.0	3.2	2.2	10.4	3.4	7.0
1967	5.2	3.7	2.4	11.3	3.8	7.5
1968	5.8	4.1	2.6	12.5	4.1	8.4
1969	6.5	4.1	2.9	13.5	4.2	9.3
1970	7.6	4.6	3.3	15.4	4.1	11.3
1971	8.3	6.2	3.6	18.1	5.0	13.1
1972	11.2	6.4	3.8	21.4	7.2	14.2
1973	16.3	5.0	4.4	25.7	9.6	16.1
1974	20.6	3.2	4.9	28.7	9.4	19.3
1975	20.1	4.2	4.7	28.7	11.5	17.2
1976	23.8	4.2	4.8	32.4	13.4	19.0
1977	26.0	5.1	5.4	36.0	15.7	20.3
1978	28.7	4.6	4.9	37.7	17.7	20.0
1979	33.1	4.4	5.6	42.5	18.1	24.4
1980	39.7	4.1	5.3	48.6	21.3	27.3
1981	48.7	3.8	5.4	56.8	27.2	29.6
1982(b)	56.8	4.9	5.1	65.9	29.3	36.6

(a) Includes Bank of England holdings of commercial bills.
(b) Third quarter. There are breaks in a number of series from the first quarter of 1982.

Debt structure of ICCs (Table D)

Bank finance has accounted for an increasing proportion of companies' external borrowing since the early 1970s, while the corporate bond market has been virtually dormant for a decade. Uncertainty, compounded by high levels of inflation, and high and volatile interest rates, were the main reasons for this shift in debt structure. Companies were unwilling to commit themselves to long-term fixed interest debt repayments at the prevailing rate and other forms of finance such as variable-rate medium-term bank loans became important.

More recently, lower nominal interest rates and the gradual reduction in inflation and inflationary expectations have resulted in some small revival of corporate bonds, but these are still dwarfed by other borrowing and by equity issues.

(1) In these tables, bank borrowing includes the take up of commercial bills by the Issue Department of the Bank of England.
(2) The civil service dispute affected the rate of acquisition of liquid assets and, more markedly, the level of borrowing in 1981 and 1982.
(3) A summary measure – the ratio of net debt to the value of trading assets – of the extent to which the company sector is financed from non-equity sources.

Appendix
Post-tax profitability and the valuation ratio

Some of the assumptions behind the measures of post-tax profitability and the valuation ratio which were included in previous articles in this series have become progressively less realistic, as unrelieved tax losses have built up. The estimates are accordingly less reliable as indicators of actual post-tax profitability than earlier. They are updated here for the record.

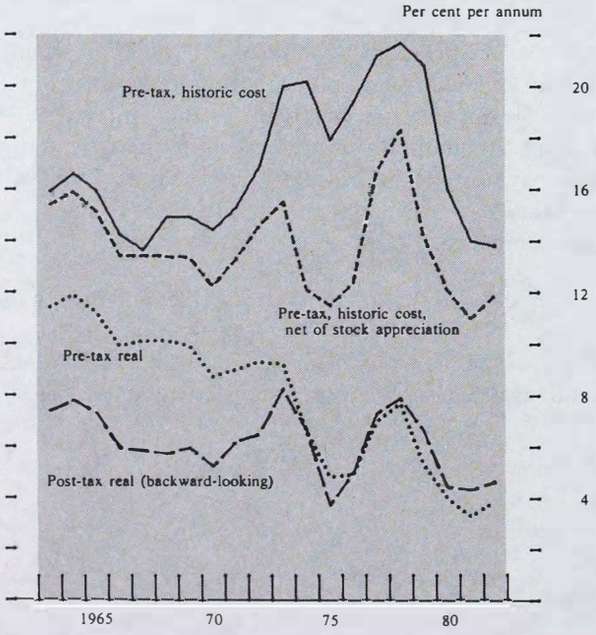
Real post-tax profitability

The post-tax estimate of real profitability attempts to measure the post-tax return to trading assets independently of the ownership structure of industrial and commercial companies. It assumes that the company sector as a whole earns sufficient profits to claim all available tax allowances. More precisely, companies with tax losses are assumed to transfer their losses to tax paying companies. While this does happen to some extent (via mergers, takeovers and leasing etc), the assumption that tax allowances can be fully used becomes less realistic as the general level of profits falls and more companies' income falls short of their tax allowances (see the June 1982 *Bulletin*, page 245, for details of unused tax relief).

To derive the post-tax measure from the pre-tax measure, tax accruals[1] are deducted from profits. Additionally, deferred tax liabilities are deducted from the capital base, on the grounds that these liabilities represent a part of the company's assets which is financed by the government, through, for example, capital allowances or investment grants.

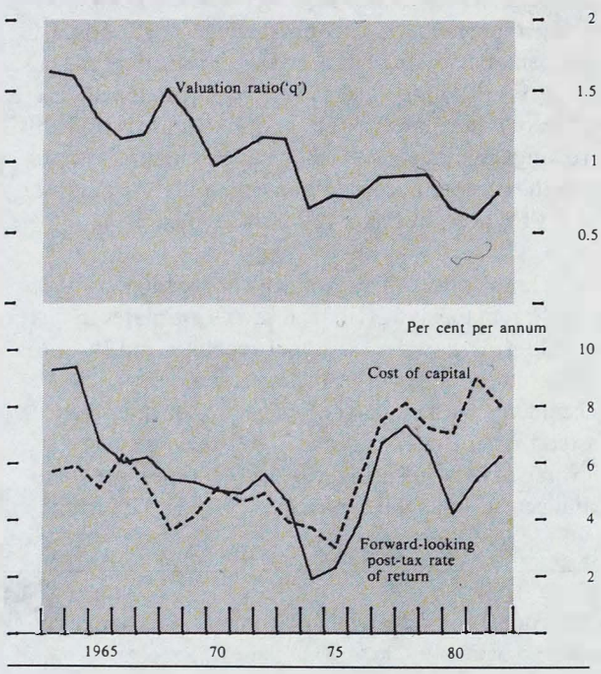
The difference between pre-tax and post-tax real profitability[2] in principle proxies the real tax burden on companies (Chart 7).

Chart 7
Rates of return on trading assets of industrial and commercial companies[a]



(a) Non North Sea activity of industrial and commercial companies.

Chart 8
Real rate of return, cost of capital and valuation ratio



This fell sharply during the early 1970s with the introduction of two forms of tax relief; in 1972, 100% initial allowances on plant and machinery became available, and in 1973/74 tax relief on changes in the value of stocks, whether due to stockbuilding or inflation, was introduced. As a corollary, firms faced a 'clawback' of stock relief when the value of stocks fell. This became a problem in 1981 when a heavy bout of destocking got under way. To prevent companies' real tax burden from rising, a new stock relief scheme was introduced at the end of 1980, with effect from the beginning of that year, which applied only to the price element in any increase in the value of stocks (stock appreciation).

In 1982, post-tax profitability rose slightly to $4\frac{1}{2}\%$, from its record low of $4\frac{1}{4}\%$ the year before.

The valuation ratio 'q'

The valuation ratio 'q' is the ratio between the return on trading assets and the cost of capital, or more simply, the ratio of market value of equity plus net debt to the replacement value of trading assets.

Rate of return

equals $\dfrac{\text{forward-looking real post-tax profits}}{\text{replacement value of trading assets less deferred tax}}$

Cost of capital

equals $\dfrac{\text{forward-looking real post-tax profits}}{\text{market value of equity plus net debt}}$

(1) Tax accruals and deferred tax liabilities are Bank estimates—see the March 1976 *Bulletin*, page 45.

(2) The preferred measure of post-tax profitability is the 'backward-looking' measure, so-called because it uses the tax system which was actually in force when each unit of capital was installed, so giving a measure of realised profitability. The 'forward-looking' measure, by contrast, uses current investment incentives and other forms of tax and subsidy, and is a more appropriate guide to expected returns on investment.

Valuation ratio 'q'

equals $\frac{\text{Real rate of return}}{\text{Real cost of capital}}$

equals $\frac{\text{Market value of equity plus debt}}{\text{Replacement value of trading assets}}$

The measure is often used as an indication of the incentive to invest. Conceptually, the incentive to invest [1] is given by the ratio of the return on an additional unit of capital—the marginal return—to the cost of financing the extra unit—the marginal cost—with a value greater than unity implying a positive inducement. In practice, however, 'q' compares the average return with the average cost.

During the 1960s, the valuation ratio gradually decreased, but still remained greater than unity until a deterioration in profitability in 1974 caused it to fall sharply (Chart 8). There was a partial revival up to 1979, but in 1980 and 1981 'q' dropped again to record low levels as profitability worsened and the cost of capital rose. In 1982 'q' recovered but is still low in historic terms.

The low values of 'q' recorded over the past three years might suggest an extremely weak incentive to invest, yet industrial investment has remained quite strong, perhaps illustrating the problems in measuring the replacement value of trading assets and the market value of equity.

For reasons mentioned on page 233, the existing capital stock may be overvalued resulting in an underestimation of 'q' (although any bias to the measured pre-tax rates of return on existing assets may be partly offset by a corresponding depreciation charge against trading profits). Further, there is a wide discrepancy between the market value of equities used in the past by the Bank (dividends divided by the dividend yield published in the *Financial Times*) and the more recent CSO balance sheet estimates which are substantially higher and, if used, would further reduce 'q'.

(1) For a discussion of the econometric evidence on the influence of 'q' on industrial investment in the United Kingdom, see N H Jenkinson *Bank of England Discussion Paper No 17*, 'Investment profitability and the valuation ratio'.