Industrial and commercial companies' gearing

The growing indebtedness of UK industrial and commercial companies has been a striking feature of the past three years. The sector's move into financial deficit, and the associated growth in debt as a proportion of its balance sheet, began at a time when trading conditions in both domestic and overseas markets were good. The move would therefore seem to have been voluntary. This article[1] looks at the evidence of rising indebtedness at both an aggregate and an individual company level, and examines some of the explanations for this development offered by academic commentators and by company managers.

Evidence from the national accounts

Industrial and commercial companies moved into financial deficit in 1988, after eight years of at times substantial surplus. The deficit reached an unprecedented 4% of GDP in 1989, and rose to 5% in 1990 (Chart 1). During 1988 and 1989 companies also engaged in a particularly large volume of cash-financed takeover activity (Chart 2). As a result, the sector's apparent net borrowing requirement rose to £63 billion in 1989, before declining to £39 billion in 1990 (Table A).

Chart 1
Industrial and commercial companies' financial surplus

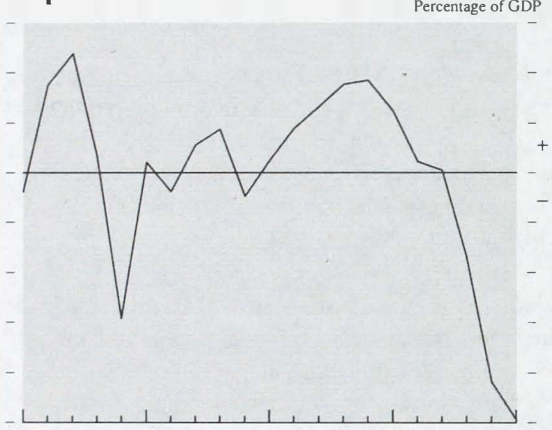


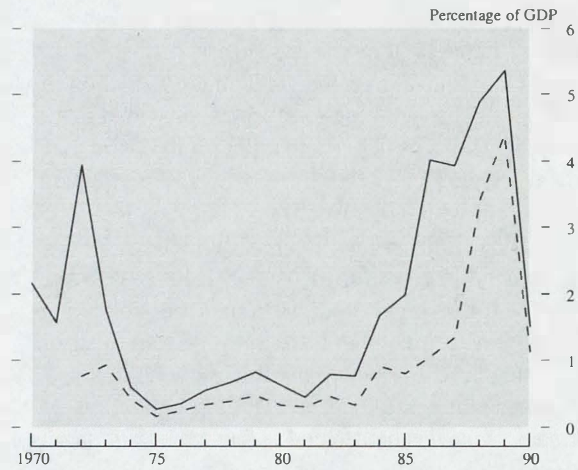
Table A
Industrial and commercial companies' borrowing requirement

£ billions

	1987	1988	1989	1990
Financial deficit (- = surplus)	-0.2	7.9	21.2	26.9
Memo item:				
Gross domestic fixed capital formation	*32.2*	*39.7*	*45.3*	*50.1*
Investment in UK company securities	5.3	12.0	18.5	1.8
Investment abroad	14.4	14.6	18.2	5.8
Other transactions (a)	3.7	6.3	5.0	4.5
Net apparent need of external funds	23.3	40.8	63.0	39.0
Identified net borrowing requirement	23.6	45.0	49.1	26.7
Balancing item	-0.4	-4.2	13.9	12.3

(a) Includes net unremitted profits and net identified trade and other credit.

Chart 2
Industrial and commercial companies' expenditure on domestic acquisitions

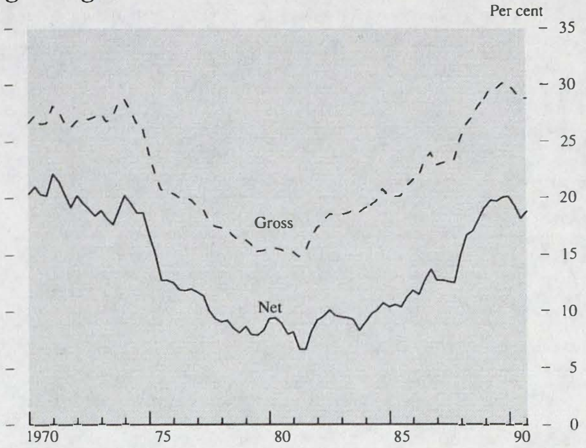


A large proportion of the required funds was raised in the form of debt. High levels of investment meant that there were also substantial increases in the capital stock, but industrial and commercial companies' capital gearing[2] nevertheless rose fast during 1988 and 1989, and by 1990 it was back at the level of the early 1970s. In the past year capital gearing has stabilised, as more measured growth in debt has been matched by increases in the capital stock (Chart 3).

Some indication of the problems these changes posed for the sector as a whole can be gained by looking at movements in the percentage of income absorbed by interest payments. As interest rates rose sharply in 1988 and 1989, income gearing[3] rose to levels higher than those seen in the earlier recessionary periods of 1974–75 or 1980–81 (Chart 4). It is

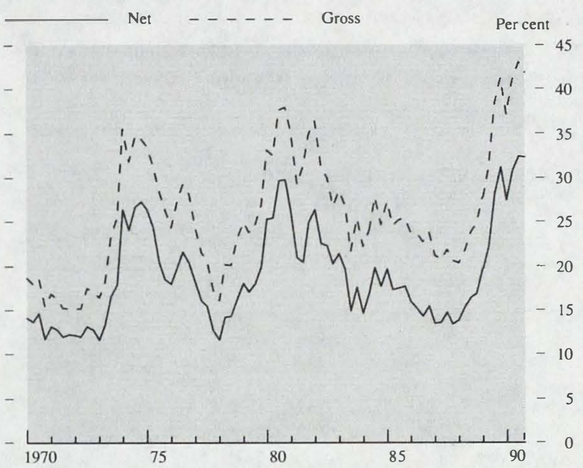
(1) Written by S A Wilson of the Bank's Economics Division.
(2) Debt at book value as a proportion of net capital stock at replacement cost.
(3) Interest payments as a proportion of post-tax income.

Chart 3
Industrial and commercial companies' capital gearing (a)



(a) Debt at book value as a percentage of net capital stock at replacement cost.

Chart 4
Industrial and commercial companies' income gearing (a)



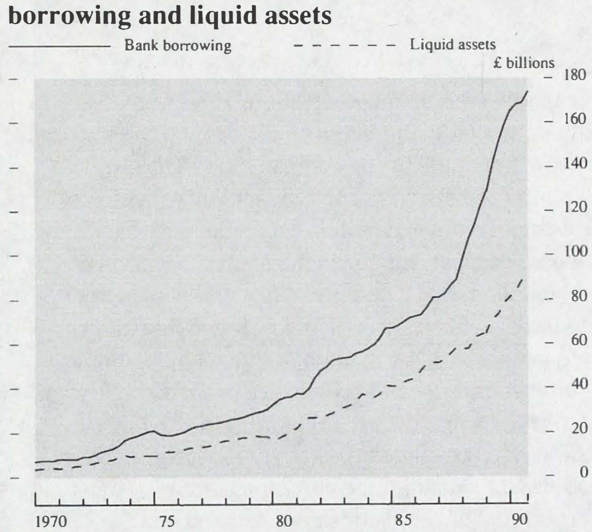
(a) Interest payments as a percentage of post-tax income.

notable that the voluntary nature of much borrowing meant that, on this occasion, income gearing rose sharply before there was any marked fall in income growth.

However, national accounts data may not be indicative of the situation as seen by companies themselves, owing both to difficulties in data collection and to the wide range of company experience and behaviour. First, large positive balancing items have persisted in industrial and commercial companies' financial account for the past two years (Table A). In other words, recorded expenditure has exceeded the sum of internally generated funds and identified net financial inflows. At least some part of this error is likely to lie in the financing data, which would mean that companies' net financial liabilities were *greater* than currently suggested by the financing flows. To the extent that the error is due to underrecording of *debt* liabilities, this would imply that companies had, on average, higher gross capital gearing than is suggested by the sector accounts. If, however, the error is due to overrecording of liquid assets, only *net* capital gearing would have been underestimated. Second, the manner in which interest payments and receipts are calculated in the national accounts may have led to inaccuracies in the recent past. This is because, although the interest rates used are instrument specific and the calculation of interest payments takes note of movements between types of debt, little account is taken of recent developments in capital markets, which may have enabled some firms to reduce interest payments for a given level and type of debt. The use of various derivative instruments is analysed more fully below.

Third, owing to variations between firms in the nature of their business and in their current and expected trading conditions, there is always great diversity in the extent of firms' indebtedness. Such diversity is likely if anything to have increased in the 1980s. As Charts 3 and 4 suggest, the distinction between gross and net debt became increasingly significant during the decade, as the company sector not only increased bank borrowing, but also accumulated substantial liquid assets, including bank deposits (Chart 5). This largely reflected the activities of different companies, which became either net borrowers or net depositors. Aggregate measures of capital gearing are therefore unrepresentative of the financial position of many firms.

Chart 5
Industrial and commercial companies' bank borrowing and liquid assets



Evidence from company accounts

In this section the accounts of large UK non-oil industrial and commercial companies are analysed using data supplied by Extel Financial Limited.[1] In addition to differences in coverage, data from this source are not directly comparable with those obtained from the national accounts for a number of reasons. First, the treatment of overseas subsidiaries differs: they are excluded from the measures of gearing constructed from the national accounts but included in those

(1) Companies included on the Extel database are either quoted on the International Stock Exchange or large private companies. Samples include a number of UK subsidiaries of overseas parent companies and, occasionally, both a UK parent company and its subsidiaries. The latter can give rise to double-counting, although the bias in the reported results is not thought to be large.

constructed from company accounts data. Second, stocks are measured differently: in the national accounts it is possible to separate stock appreciation from the value of a physical change in stock levels, whereas in company accounts this is not usually the case. Third, fixed assets are usually valued in company accounts at historic rather than replacement cost. Finally, company accounting years are not always equal to the calendar year and accounts are published with a lag. The most recent company accounts data shown here refer to 1989 and this includes all accounts with end-year between April 1989 and March 1990.

Within these constraints, measures of financial deficit, net capital gearing and net income gearing were constructed from company accounts. The definitions used were as near as possible to those used to construct the national accounts measures. Calculation of *net* gearing measures seems most appropriate because, where a company did accumulate both substantial borrowing and deposits, offsetting one against the other usually gives an accurate view of its financial position. For example, a company may be taking advantage of a differential between the rate at which it borrows funds and the return available on liquid assets, or it may be pre-funding an acquisition. There are occasions where this will be misleading. In particular, where a company has a number of subsidiaries or operates abroad, it may have financial assets and liabilities in distinct parts of the organisation and may, for administrative, risk management or tax reasons, be unable or unwilling to offset one against the other.

It was found that the financial deficit in 1989 was concentrated in non-manufacturing sectors and in small and medium-sized manufacturing companies.(1) The only manufacturing sectors with a deficit were motor vehicles, electrical engineering and building materials, while all non-manufacturing sectors, with the single exception of non-food retailing, had a deficit. When companies were split into three size categories,(2) it was found that all groups had a deficit except that containing large manufacturers. While companies as a whole continued to spend highly, and in this sense to incur a deficit voluntarily in 1989, these observations are broadly consistent with macroeconomic evidence about the path of the current recession. High interest rates first affected consumer demand and the property markets. This gradually affected the manufacturing sector but, given the improvement in the terms of trade during 1989, large manufacturing companies, which often have relatively good access to overseas markets, were able to offset some of the decline in domestic markets with increased overseas sales. In addition, the financial deficit of the non-manufacturing sector has been increased by the existence of an abnormal number of large-scale construction projects, with high levels of expenditure but initially no income.

Table B
Gearing by sector

	Number of companies in sample	Net income gearing		Net capital gearing	
		1987	1989	1987	1989
Manufacturing					
Food, drink and tobacco	87	7.6	19.1	9.6	26.8
Metal manufacture	49	10.8	15.4	13.1	18.2
Chemicals and pharmaceuticals	54	1.7	1.7	9.4	8.5
Motors	24	10.3	10.1	12.8	27.1
Mechanical engineering	99	10.1	10.6	8.7	9.8
Electrical engineering	151	4.5	11.0	3.7	20.7
Building materials	38	9.7	13.6	15.8	17.7
Textiles	81	11.3	17.4	8.7	19.4
Paper	72	8.2	8.8	13.0	14.2
Household	28	10.2	11.4	5.5	14.3
Non-manufacturing					
Civil engineering and construction	81	12.4	18.4	14.5	28.5
Property	38	24.3	52.4	110.5	111.5
Retail: Food	30	-1.9	-0.8	9.2	18.1
Stores	61	10.0	15.6	15.4	18.9
Other distribution	56	10.3	19.5	20.7	28.5

Note: Industrial classification is based on that used by the International Stock Exchange. Companies are classified according to their predominant activity. Oil companies are excluded.
Source: Extel Financial Ltd.

Table B shows net capital and income gearing by sector and Table C shows these two measures by size of company. In each case the data were constrained so that the sample of companies is unchanged between 1987 and 1989.

Table C
Gearing according to company size

	Number of companies in sample	Net income gearing		Net capital gearing	
		1987	1989	1987	1989
Manufacturing					
Small	268	5.4	9.4	7.0	16.6
Medium	341	8.4	12.4	10.0	15.8
Large	62	12.9	22.6	20.0	33.9
Non-manufacturing					
Small	268	16.6	32.7	13.0	56.4
Medium	213	14.9	18.4	16.1	27.2
Large	50	5.5	11.1	14.8	22.7

Note: Oil companies are excluded.
Source: Extel Financial Ltd.

Net capital gearing rose between 1987 and 1989 in all manufacturing sectors except the chemicals and pharmaceuticals industry. Furthermore, in this particular case the fall in gearing was due to a specific company, Glaxo Holdings PLC, which accumulated substantial short-term financial assets in 1989. Given that very few manufacturing sectors appear to have had a financial deficit in 1989, much of the rise in their gearing seems to be due to funding requirements on account of takeover activity. A breakdown of domestic takeover activity in 1989 supports this conclusion.(3) The total value of domestic acquisitions of independent and subsidiary companies by UK manufacturing companies was £15 billion during the year.

As a result of rising indebtedness and increasing interest rates, the net income gearing of all manufacturing sectors rose, or at best was unchanged, between 1987 and 1989.

(1) When analysing the financial deficit by sector the sample contained 1,712 companies. Analysis by size required the existence of employment data, and the sample was therefore reduced slightly to 1,562 companies.
(2) Small companies were defined as those with less than 500 employees, medium-size companies those with between 500 and 4,999 employees, and large companies those with at least 5,000 employees in 1989.
(3) *Business Bulletin*, issue 9/91, published by the Central Statistical Office.

Apart from the property sector, net capital gearing also rose in each of the non-manufacturing sectors shown in Table B. As measured here, gearing in the property sector was already very high by 1987, but the results for this sector are particularly distorted by omission of leased assets and of some assets under construction from the capital stock. The general rise in non-manufacturing companies' gearing appears to be due both to significant financial deficits in several sectors, and to takeover activity. Domestic acquisitions of independent and subsidiary companies by UK non-manufacturing companies had a value of £11 billion in 1989.

Non-manufacturing industry also experienced a rise in net income gearing between 1987 and 1989. The substantial interest receipts of many food distribution companies reflect the healthy cash-flow generated in this sector.

When the accounts are analysed according to company size, there is a a notable difference between the gearing of the manufacturing and non-manufacturing sectors. In the former, net capital gearing is lowest for smaller companies, although there was some tendency for small company gearing to rise relative to that of medium-sized companies over the period. This perhaps reflects the relative speed with which the current recession affected smaller manufacturing companies.

Among non-manufacturing companies, net capital gearing was similar across sizes of company in 1987, but the gearing of small companies had risen dramatically relative to that of medium-size and large companies by 1989. The explanation is that almost all the property companies and about half those from the civil engineering and construction sector are in the small company sample.

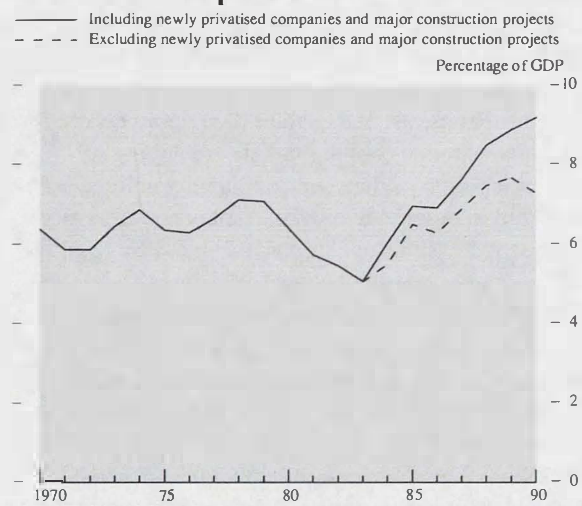
The rationale for a rise in gearing

It appears from the above analysis that a wide range of companies were willing to allow their indebtedness to rise in the late 1980s. This section looks at the possible explanations for a widespread increased acceptability of higher levels of capital gearing.

A principal suggested reason is the existence in the mid and late 1980s of relatively cheap debt, as competition in the banking sector meant that funds were readily available at attractive margins. Following the stock market crash of October 1987, equity issues also became expensive. In this climate, many companies had no difficulty in financing their expansion via borrowing, typically in the form of syndicated credits. They also sought to set up more general credit lines, through, for example, multi-option facilities. In addition, a growing number of companies issued long-term debt or introduced commercial paper programmes in both sterling and other currencies. The market in long-term sterling debt was helped by a gilts shortage and an inverted yield curve at the end of the 1980s. Commercial paper programmes developed as companies found that their ratings enabled them to obtain funds more cheaply in this manner than through the banking sector. Some developments also enabled companies to borrow without recording a commensurate increase in their gearing. For example, some types of subordinated debt were not always included as debt in the calculation of gearing, because of their equity-like characteristics, while companies issuing convertible debt sometimes assumed conversion to equity in the calculation of gearing.

Corporate spending patterns suggest that there was also a widespread belief among companies during the period that debt service would not be difficult in the future—implying that rapid economic growth and relatively low interest rates were expected to continue. Industrial and commercial companies' fixed investment expenditure reached a higher proportion of GDP in 1989 than at any time in the previous twenty-five years.[1] It did not begin to decline until the second quarter of 1990 (Chart 6). Companies were also willing to incur substantial debts through takeover activity up until the end of 1989, and they continue to make dividend payments that are historically high as a proportion of available income (Chart 7).

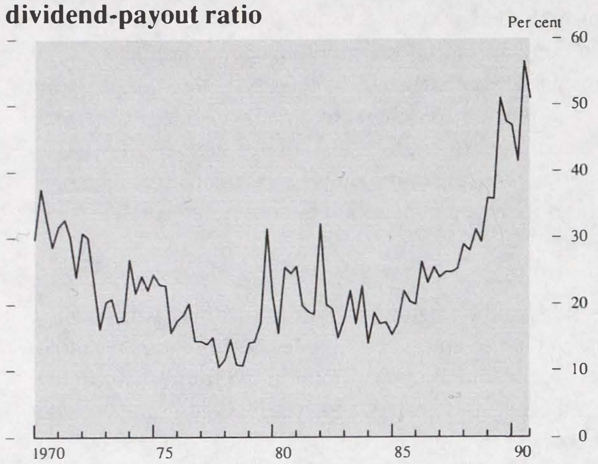
Chart 6
Industrial and commercial companies' gross domestic fixed capital formation



Changes in taxation might also provide a part of the explanation for a rise of gearing. Reforms to company taxation in 1984 had conflicting effects on the incentives for debt finance. The fall in the corporate tax rate increased the relative cost of debt finance, by reducing the advantage of tax deductible interest payments. However, lower depreciation allowances and the abolition of stock relief reduced the risk of tax exhaustion and this increased the incentive for debt finance. More recently, changes in the taxation of high income earners, including a reduced upper marginal tax rate and a higher marginal tax rate on capital gains, have lessened the advantages to these individuals of retained earnings as opposed to distributions. This may

(1) After excluding newly privatised industries and major construction projects.

Chart 7
Industrial and commercial companies' dividend-payout ratio



have caused firms to alter their target gearing level, by stimulating the issue of securities, including corporate bonds.

Third, it has been argued[1] that conflict between managers and shareholders over a firm's investment strategy may have intensified in the 1980s. In such situations shareholders may support an increase in the proportion of debt finance, as this forces managers to pay out a larger proportion of cash flow in interest payments, and enables them to invest only those funds that external capital markets are willing to provide in each period. Managers are thereby obliged both to perform well in order to avoid bankruptcy and to justify their investment decisions to external analysts. Suggested causes of *heightened* conflict between managers and shareholders include increasing numbers of 'maturing industries' and of conglomerates. In each case current cash flow may be substantial, but in 'maturing industries' there may no longer be profitable investment opportunities, while in conglomerates it is argued that such opportunities are not exploited, owing for example to diseconomies of scale. Cash-financed takeover activity where the cash is raised through debt is an example of financial restructuring that enables shareholders to gain greater influence over investment decisions. As mentioned above, such activity was widespread in the late 1980s.

Another partial explanation for the rise in gearing as measured above, which relates to takeover activity, is the existence of intangible assets, including goodwill. The measures of net capital gearing constructed using national accounts definitions deflate debt by the value of companies' tangible assets only. However, largely as a result of takeovers, a number of companies have significant intangible assets also. For example companies have acquired brand names and patents, the value of which forms part of their asset base and, although for accounting purposes most UK companies still write off goodwill immediately against reserves (a practice expected by SSAP22 to be 'normally' followed), at least for internal purposes they may adopt the alternative strategy of carrying it on the balance sheet and writing it off over a number of years through the profit and loss account. (The latter may in due course become standard accounting practice in this country. It is already so in the United States, and hence this distinction between published and 'internal' accounts seems most likely to occur for the growing number of UK companies currently publishing accounts using both US and UK accounting conventions, in order to provide appropriate information for both nationalities of investor.) Once companies have taken account of intangible assets it is therefore possible that their gearing is on average less than that implied by the figures given in the previous two sections.

Finally, it is suggested that companies may have been willing to take on more debt because they are better able to manage risk. During the 1980s tools for interest rate risk management proliferated. Large UK companies appear to have made extensive use of floating-rate agreements and interest rate swaps in particular. However, they have made only limited use of some other instruments, including futures and options. Although companies buy options for a number of reasons (including facilitating the provision of profits forecasts), it is an instrument that is particularly suited to certain types of company. For example those tendering for contracts may count the cost of an option rather as an insurance premium, which enables them to remain competitive.

There is little evidence that small and medium-sized companies have used the capital markets to manage interest rate risk. Many do not have the resources to run a treasury operation and, as small value transactions are relatively costly, the smallest firms may not find it profitable to buy capital market instruments. (For example, in the interest swap market, wholesale transactions rarely have a notional principal value of less than £500,000, and retail transactions are very infrequent.)

It is often argued that in those countries where corporate sector gearing has typically been higher than in the United Kingdom, risk has been managed by close relationships and hence a good information flow between the financial—principally banking—and corporate sectors. For example, in Germany banks control a significant proportion of the equity voting rights in the country's largest stock companies and also have a sizable number of seats on these companies' supervisory boards. Although some recent research[2] suggests that the consequent degree of control exercised by German banks may be less than is commonly assumed, it might be that UK companies have strengthened their banking relationships in the 1980s and that this has altered their target level of gearing. However, in practice, although some UK companies have maintained strong relationships with a relatively small number of banks, developments in the 1980s tended to diminish rather than strengthen such relationships for many others. In particular, market

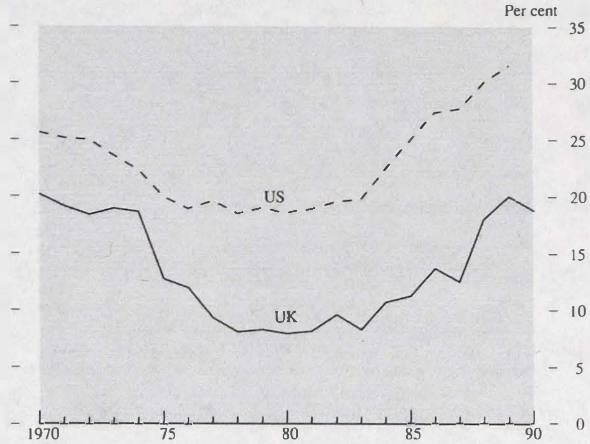
(1) See Jensen, M C, 'Agency costs of free cash flow, corporate finance and takeovers', *American Economic Review*, May 1986.
(2) See Edwards, J S S and Fischer, K, 'Banks, finance and investment in West Germany since 1970', *Centre for Economic Policy Research Discussion Paper No 497*.

conditions encouraged borrowers to shift to so called transactions banking, where the choice of lender was determined almost solely by fine pricing rather than by existing relationships. As a result, heavily indebted companies tended to expand their circle of bank lenders, sometimes beyond the bounds of manageability in the tighter conditions of the following recession.

In general, while it is possible to find several explanations for companies' willingness to become more indebted in the past few years, it is less clear that the shift in financial structure is actually beneficial in the long run. Companies may have made rational decisions regarding the short-term cost of funds, and well-informed shareholders and creditors may have been given more opportunity to allocate resources among firms most efficiently but, given that many firms seem to have made limited progress in improving the management of interest rate risk in the past decade, their resulting financial position makes them more vulnerable than otherwise in the face of economic downturn.

This has implications at a macroeconomic level, particularly as the evidence from company accounts suggests that firms in cyclical sectors have increased their gearing, as well as those from non-cyclical sectors. The macroeconomic effect will depend on the manner in which firms with a new financial structure adapt their behaviour. For example highly geared firms may react more quickly than others to any fall in demand, by shedding labour and cutting expenditure. Studies based on US data, which attempt to take account of the sectors in which highly geared firms are found and, in some cases, also of any adaptations in firms' behaviour, have found that higher gearing has served to magnify the multiplier in recession.[1] In relation to past experience, the extent of the rise in corporate sector indebtedness has been more limited in the United Kingdom than in the United States (Chart 8), but similar conclusions may be valid. Anecdotal evidence, on the causes of a number of recent company failures, suggests that relatively highly geared companies were often unable to survive in the face of sustained high interest rates and reduced demand during 1989 and 1990.

Chart 8
US and UK corporate sector capital gearing[(a)(b)]



(a) Net debt of non-financial corporate sector as a percentage of net capital stock at replacement cost. (End-year outstandings.)
(b) Data for 1990 is not yet available for the United States.

Conclusion

Evidence from the national accounts and from the accounts of individual companies shows that the UK corporate sector increased its indebtedness in the late 1980s, and that a wide spectrum of firms were involved. Although the timing of this development suggests that it was voluntary, it seems not in many cases to have been accompanied by a significant improvement in a firm's ability to manage the resultant risk. High gearing was also a common feature of a number of company failures during 1989 and 1990.

(1) See Bernanke, B, and Campbell, J, 'Is there a corporate debt crisis?', *Brookings Papers on Economic Activity*, 1988 No 1.
Bernanke, B, Campbell, J, and Whited, T, 'US corporate leverage: developments in 1987 and 1988', *Brookings Papers on Economic Activity, 1990* No. 1.
Cantor, R, 'A panel study of the effects of leverage on investment and employment', *Studies on Financial Changes and the Transmission of Monetary Policy*, FRBNY, May 1990.
Lee, W, 'Corporate leverage and the consequences of macroeconomic instability', *Studies on Financial Changes and the Transmission of Monetary Policy*, FRBNY, May 1990.