

# Companies' long-term financial decisions; dividends and debt

*This article summarises the findings of research undertaken in the Bank into factors underlying the long-term financial decisions of some 650 UK-based companies.<sup>(1)</sup> Information about these companies was taken from their published accounts and used to model their dividend payments and long-term debt flows. The article describes some of the reasons for pursuing this research and the approach to modelling the decisions, and briefly discusses the principal results.*

A clear understanding of the factors which influence companies' financing decisions is particularly important at the present time since the environment in which these choices are made has changed markedly in certain respects in recent years. The changes in the system of company taxation arising from the 1984 Budget may have had a profound impact on the dividend policy of firms and on the way they finance their expenditures. At the same time, the role of banks in the provision of corporate finance has been changing, with the drift towards securitisation—a trend which is likely to be accelerated by the institutional developments now taking place in the City. An earlier article<sup>(2)</sup> described research into companies' *short-term* financing decisions, that is choices between short-term bank borrowing, liquid asset accumulation and trade credit. This article describes the result of extending the earlier study by looking at some *longer-term* financing decisions, in particular those relating to dividend payments and longer-term debt flows.

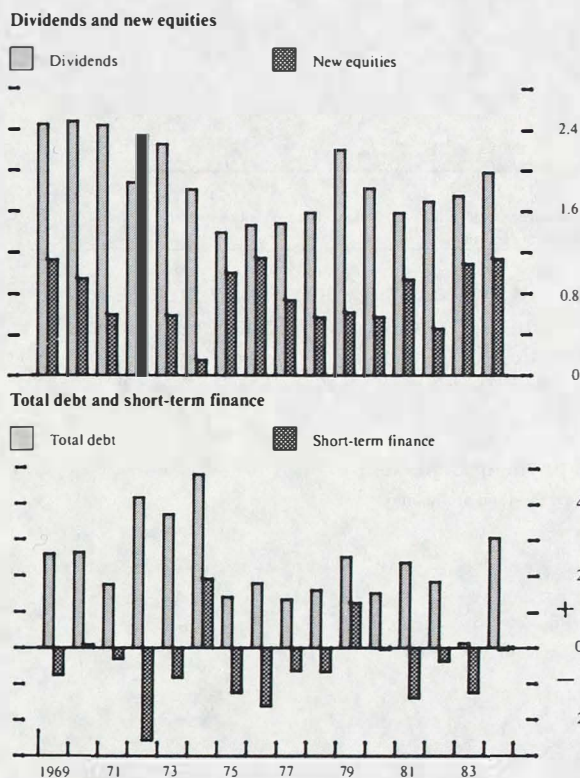
## Trends in company financing

As in the earlier study, the findings are based on information taken from the published accounts of some 650 UK-based companies as supplied by Datastream Ltd. The advantages of using company accounts data were discussed in detail in the earlier article. The sample comprised non-financial companies which had reported in each year from 1969 to 1984, and for which domestic sales accounted for a predominant share of total business. They were primarily quoted companies but also included a few private companies and some UK subsidiaries of overseas parents. In total their capital employed represented about 40% of the capital employed by all UK industrial and commercial companies.

The behaviour of the key financial flows of these companies is summarised in Chart 1. Short-term finance was particularly volatile, lending support to the hypothesis that it is these flows which provide the first line of adjustment for companies both in their short-term planning and when dealing with unexpected

**Chart 1**  
**Financial flows of companies in the sample**

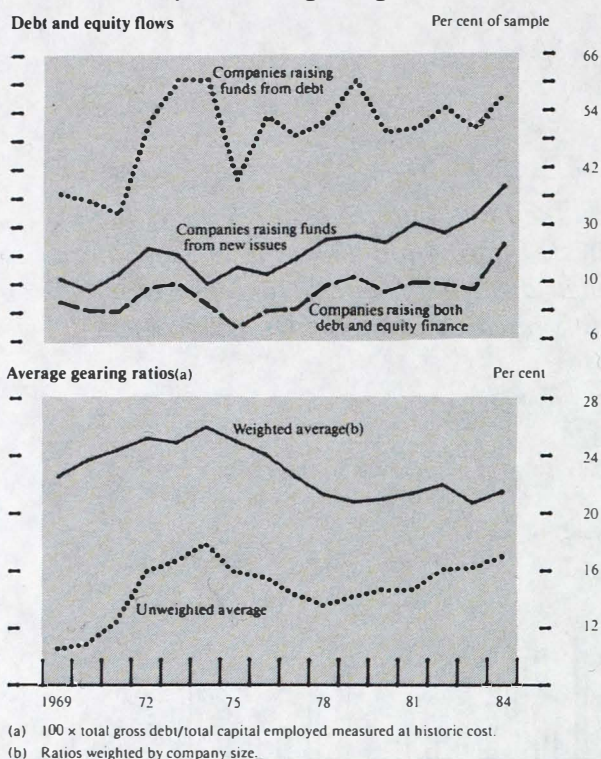
£ billions, 1980 prices



developments. Debt flows and new share issues were also variable, with companies financing a larger part of their requirements for outside funds with debt. However, some also relied on new issues; a sizable number of companies consistently issued debt and equity at the same time. Average capital gearing ratios, adjusted for company size, were reasonably stable over the period but this masked a rise in smaller companies' gearing and a reduction in larger companies' gearing (Chart 2). By contrast, dividend payments were rather less volatile than the other flows. This appears consistent with the view that shareholders may prefer a smooth, and therefore reasonably predictable, stream of income. The variability in the ratio of dividends to profits net of tax would seem

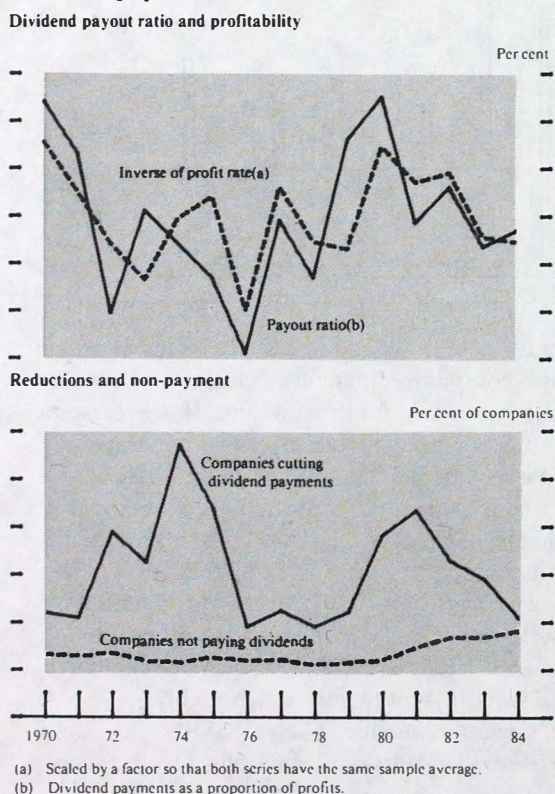
(1) A detailed description of the research will form the basis of a *Discussion paper* by G Chowdhury and D K Miles, to be published shortly.  
(2) See the article on 'Companies' short-term financial decisions' in the March 1986 *Bulletin*, pages 78-80, and *Discussion paper* No 26 by G Chowdhury, C G Green and D K Miles, on which that article was based.

**Chart 2**  
Debt and equity flows and gearing



to support this view and suggests, when compared with the rate of return on capital employed, that dividend payments reflect the longer-term prospects of the company. Despite this, companies do not seem

**Chart 3**  
Dividend payment behaviour



(1) Under the Trustee Investments Act (1961), trustees' wider-range investments are restricted to the listed shares of companies which have paid dividends in each of the five years prior to the investment.

particularly reluctant to cut dividends, although only very rarely do they pay no dividend (Chart 3). This seems consistent with the notion that companies with Trustee Investments Act status prefer not to lose that status by failing to pay a dividend.<sup>(1)</sup>

### Theoretical considerations

The starting point of the model used in the study is the following simplified flow of funds statement for a company:

$$d - b - e - f = p - t - i$$

where  $d$  is gross dividends paid  
 $b$  is the flow of new debt finance with residual maturity exceeding one year—called 'strategic' debt  
 $e$  is new equity finance (together  $d$ ,  $b$  and  $e$  constitute 'strategic' finance)  
 $f$  is the flow of net trade credit received plus short-term debt finance with maturity under one year minus net acquisitions of liquid assets; it is equivalent to the short-term financial flow described in the earlier article  
 $p$  is profits  
 $t$  is corporation taxes paid  
 $i$  is fixed investment and stockbuilding

It is reasonable to assume that companies adopt a hierarchical approach to decision making. Decisions on the productive activities of companies, embracing profits and capital expenditure and thereby tax payments, typically have a much longer gestation period, and because of the considerable cost of revising these plans afterwards they are likely to be made higher in the decision hierarchy than the financing decisions (productive activities are therefore assumed to be 'predetermined' in the statistical sense). It is also likely that strategic financial flows are determined simultaneously, and prior to the determination of short-term financial flows. Of the strategic flows it was decided to model dividends and long-term debt only. New equity issues were not modelled directly because in the sample period there were too few instances of equity issues to allow the meaningful estimation of a model. Because short-term finance acts as a buffer, no specific model for equity issues is implied; however, factors influencing equity issues will almost certainly influence dividend and long-term debt flows.

It was assumed that, in determining its dividend policy and its acquisition of long-term debt, a firm took account of its expenditures and receipts, the cost of funds as reflected by relative interest rates, its tax position and a consideration of its level of capital gearing, its liquidity position and risk as reflected by the volatility of its income. A company's response to changes in its operating environment may be gradual because of the uncertainties which are inherent in change, as well as the costs of

immediate adjustment—so the influence of financing flows, expenditures and receipts in the past were considered as well. Statutory controls on dividends and bank lending, in operation at various times during the 1970s, were also thought relevant.

A few caveats about the interpretation of the results may be noted. Whether or not a company is currently paying mainstream corporation tax influences its responses to changes in taxation, but that status proved hard to assess with the available information. In addition, one aspect of the effectiveness of dividend controls could not be identified accurately: namely, the extent to which the 'bite' of the controls changed from one period to the next during their operation.

### Summary of results

Estimates of the impact of factors determining companies' long-term financing decisions, both company-specific and economy-wide, were obtained by using econometric techniques suitable for disaggregated data.

The dividend and strategic debt decisions both responded with significant delay to changes in the company's circumstances, with a major part of the response to such changes still to emerge even after two years.

**Table A**  
**The effects of changes in expenditures and receipts on dividends and strategic debt**

Pence per additional £1 of expenditure/receipt

£1 change in:	Effect on dividend payments(a)		Effect on stock of strategic debt(b)	
	Short-run(c)	Long-run(d)	Short-run(c)	Long-run(d)
Gross profits	9(e)	12	-16(e)	-70
Investment	1(e)	1	26(e)	135
Financial assets	-6(e)	-9	12(e)	60
Tax payments	12(e)	23	19(e)	71
Interest payments	—	—	-14	-70

(a) Sample average £2.1 million.

(b) Sample average £14.9 million.

(c) Contemporaneous effect—within one year.

(d) 75% of the long-run effect occurs by the end of two years for dividend payments and by the end of seven years for the stock of strategic debt.

(e) Estimate statistically significant at the 95% level—long-run effects are calculated so standard errors are not applicable.

### Effect of expenditure and receipts (Table A)

In general, the responses in the long run were greater than those on impact, and strategic debt appeared more responsive than dividends to changes in expenditures and receipts.

Higher *profits* increased the payment of dividends in both the short and the long run. Higher profits reduced the stock of debt in the short run. In the longer term, higher profitability increased firms' confidence in holding larger stocks of debt but the reduction in the need for external finance more than offset this.

*Investment* expenditure had a powerful impact upon strategic debt flows. While around 25% of the extra funds

needed to finance new fixed capital expenditure was met by new debt issues, the proportion of the cost of acquiring financial assets met by heavier borrowing was very much smaller. Investment expenditure had a small, though very well defined, positive impact upon dividend payments. However, higher acquisitions of financial assets reduced dividend payments significantly.

Firms increased their strategic debt to finance higher *tax payments* in the short run. The consequent reduction in available income appeared to reduce their willingness to rely on debt but, nevertheless, firms were forced to issue more strategic debt in the longer run as well. Surprisingly, higher tax payments seemed to raise dividends by quite large amounts. A closer look at this point suggested that a company with high tax payments would be tax-exhausted with a smaller probability and this would increase the likelihood of its being able to offset advance corporation tax, thus giving an incentive to distribute income.

*Stockbuilding* was not examined on the assumption that, since it is such a volatile expenditure, it influences short-term as opposed to long-term finance.

### The effects of tax rates and interest rates (Table B)

Dividend payments appeared much more sensitive than strategic debt flows to changes in tax rates and interest rates and to the tax-paying status of the company.<sup>(1)</sup>

In estimating the effects of isolated changes in interest or tax rates, account was taken of the interaction which stemmed from the fact that the tax advantage of the interest deductibility of debt is linked to the level of interest rates as well as to the rate of tax. The effects of changes in the rate of corporation tax, of imputation, and of the average marginal income tax rate of shareholders on strategic debt flows and dividend payments were examined, as were the effects of changes in two short-term interest rates (banks' base rate and the three-month interbank rate), one long-term rate (the rate on five-year

**Table B**  
**The effects of changes in tax rates and interest rates on dividends**

	Long run(a) percentage change in dividends
<b>Changes in tax and interest rates</b>	
Cut in corporation tax rate from 50% to 40% with 5-year gilt at average(b) rate	+ 2.4
Cut in imputation rate from 33% to 30%	-10.1
Cut in marginal income tax rate from 30% to 29%	+21.0
Company becomes tax exhausted at current(c) tax rates	- 7.1
5-year gilt rate up 1 percentage point at average(b) tax rates	- 9.2
Interbank rate up 1 percentage point (relative to 5-year gilt)	+ 3.2
Dividend yield up 1 percentage point (relative to 5-year gilt)	- 9.2

(a) 75% of the long-run effect occurs by the end of two years for dividends.

(b) Average value from 1971 to 1984.

(c) At 1987 values.

(1) The responses of strategic debt are not reported in Table B since they were essentially negligible, apart from the corporation tax rate effect.

gilts) and also the cost of equity, proxied by the dividend yield.

With the levels of interest rates at the average recorded over the sample period, a cut in the corporation tax rate from 50% to 40% increased dividend payments by about 2½% and reduced the stock of strategic debt by about 10% in the long run (although the latter effect was not very precisely determined). Reductions in the imputation rate, with the other rates given, reduced dividend payments, while reductions in shareholders' average income tax rates with a given imputation rate increased dividends. Increases in the long-term interest rate appeared to reduce dividend payments substantially, while increases in the short rates relative to the long rates raised the pay-out ratio.

The net effect of changes in tax and interest rates upon dividend payments was a little sensitive to the point of departure and thus exact quantitative predictions about the effects of the major tax changes announced in the 1984 Budget cannot really be made. Nevertheless, the model does suggest that the kind of changes in the tax system which have occurred since 1984, namely a cut in corporate tax rates and a reduction in the extent of tax exhaustion, might cause a significant long-term reduction in capital gearing and an increase in dividends.

#### **Balance sheet position and risk**

Higher stocks of longer-term *debt* reduced the attractiveness of issuing more long-term debt to fund current requirements; but higher stocks of short-term debt encouraged the issue of longer-term debt as companies attempted to rearrange their portfolios. The maturity composition of debt appeared unimportant in the dividend decision, with companies reducing payments when stocks of total debt rose. Companies reduced their reliance on strategic debt and increased dividend payments as their stocks of *liquid assets* increased. It was also observed that, faced with greater risk in their operations (as measured by higher capital gearing and greater variability of income), companies were likely to reduce both their dividend payments and their reliance on new strategic debt.

#### **Effect of statutory dividend and lending controls**

Statutory limits on dividend growth were in force continuously from 1973 to 1979. It was widely believed that some companies found ways to exceed these limits and, indeed, that the controls may well have encouraged companies to pay higher dividends than they might otherwise have done (with the dividend control seen as a norm rather than a ceiling).<sup>(1)</sup> Nevertheless, this study suggests that the introduction of dividend controls reduced payments by 20% on impact, leading to a 40% reduction on average over the longer term. Companies

appeared to pay off some part of the back-log of dividends in each of the years following the abolition of controls, with the full catch-up finally complete in 1984. Dividend controls had a negligible effect on strategic debt flows.

The operation of the 'corset' in the late 1970s had no discernible effect on strategic debt or dividends although the introduction of *Competition and credit control* did. The latter seemed to reduce the need to make dividend payments by rendering bank borrowing more accessible, thus reducing the reliance on equity.

#### **Diversity in company financing**

The results presented so far describe the average response of the companies in the sample. The results stood up well to various tests of their robustness and representativeness. There was evidence, however, that the *size* of a company influenced its long-term financing decisions, just as it influenced its short-term financing decisions. The smaller companies in the sample appeared more risk-averse, reducing dividends and strategic debt finance by more than larger firms when measures of risk rose. In general, larger companies seemed happier with higher levels of strategic debt, financing rather more of their investment expenditure in this way and paying out somewhat more of their income as dividends. Responses to tax and interest rate changes also appeared to differ between companies, with larger companies responding to a greater extent.

#### **Conclusions**

The study demonstrates how company accounts information and economy-wide data can be combined effectively to produce a much more accurate description of a company's long-term financial decisions than would have been possible with aggregate data. It shows, too, that dividend policy and the acquisition of new long-term debt depend on both the company's financial position and the general economic environment.

Perhaps the most noteworthy results to emerge are: (i) levels of capital and income gearing and variability of income, which were taken to indicate considerations of risk and the threat of insolvency, appear to be central to the financing decisions; (ii) powerful effects of changes in tax rates and of relative interest rates are apparent, although the interaction of the two makes it difficult to derive simple predictions about the impact of such changes and the process is complicated by the incidence of tax exhaustion—these effects therefore need to be interpreted with caution; (iii) long lags of company income and of dividend payments appear to be relevant in determining current dividend flows, suggesting that the smoothing of payments is a common phenomenon; and (iv) dividend controls significantly reduced payments during the control period but the effects unwound gradually but completely after their removal.

(1) See 'Dividend payments: some recent trends' in the March 1980 *Bulletin* pages 33–41, especially Chart A.