LEVERAGE: THEORY AND PRACTICE

WHY DO MANAGERS CHOOSE TO FINANCE THEIR FIRM THE WAY THEY DO? **PROFESSOR D R MYDDELTON** TACKLES THE COMPLEXITIES OF CORPORATE FINANCE.

Many writers continue to emphasise how much we still don't know about why managers choose to finance their firms the way they do. The 'theory of capital structure' is often regarded as starting with Modigliani and Miller[1] (MM), showing that, under certain 'perfect' conditions, a firm's market value is independent of its capital structure. The MM assumptions, though 'unrealistic', may serve as guidelines about where to look for relevant 'imperfections'. (Two of the main 'imperfections' in finance stem from government, namely inflation and taxation.)

Most modern text books still use as a starting point the notion of optimal capital structure as a trade-off between the tax advantages of debt and its extra risk of leading to financial distress. But there are various messy tax problems, and the costs of financial distress seem too small to matter as a rule. In recent years, the focus has shifted away from what 'optimal' overall capital structure companies ought to aim for towards looking at the process by which managers actually decide how to finance their business at the margin.

A further change of emphasis has been away from an overall 'gearing ratio' towards studying the complex structure of specific claims against a firm. Clearly, 'debt' has several important aspects, including currency and maturity; covenants and security; convertibility and call provisions; and single versus multiple lenders.

DEFINITIONS. In testing theories empirically, different ways of defining and measuring gearing may give different answers, both as to the direction of any effects and as to their extent. There are two basic ways to define 'balance sheet' gearing (or 'leverage'): debt/equity or debt/capital employed. There are three main ways to define 'debt', which in the UK tends to be seen as 'negotiated interest-bearing borrowing':

- long-term – long-term debt;
- total – long-term debt plus short-term debt; and
- net – long-term debt plus short-term debt less cash.

In addition to the balance sheet, measures of financial gearing may be based either on the profit and loss account or on the cash flow statement. The simplest, interest cover, compares profit before interest and tax to interest payable. Cashflow measures might also cover commitments to repay principal as well as interest.

The key question on measurement is whether to use the book value of equity or market value. (Book value is nearly always used for debt, sometimes as a proxy for its market value.) Theories often use market value of equity; but practical rules of thumb usually use book values. This may be because book values represent 'assets in place', whereas market values represent the present value of future growth opportunities (PVGO), which, in the event of financial distress, would be more likely to lose a large part of their value. (Using market value of equity necessarily includes intangible assets.)

OPTIMAL CAPITAL STRUCTURE? We need to look at incremental (marginal) decisions not at average debt/equity ratios, but estimating the marginal tax rate may be difficult. Companies used debt even when there was no tax advantage. Similarly, 'debt plus preference' capacity may be greater than 'debt capacity' alone, even though preference capital has no tax advantage. Income bonds are rare even though they seem to combine the tax advantages of debt with minimal financial distress.

The most basic rule is that firms with high 'business risk' should take on less financial risk (debt) than companies with low business risk, because adding financial risk increases the chance of financial distress.

Direct bankruptcy costs seem to be small, but there may also be significant 'indirect' costs of financial distress, which can occur even for companies which do not actually go bankrupt. These might include: damage to supplier-customer relationships; loss of employee morale; losses through distress sales of assets; and a temptation for managers to omit or postpone desirable expenditures.

There is some evidence that industries may tend to have similar debt ratios, although defining an 'industry' may not be easy. However, there is also evidence to the contrary. For example, a well-known text book, Arnold[2], shows 10-year average debt ratios for 1,200 medium-sized companies in 13 different industries. Not only are there large differences between industries, but so there are between the average debt ratio for a specific industry in the East Midlands as compared with the West Midlands!

'HIGH LEVERAGE MAY HELP COMPANIES TO REMAIN INDEPENDENT BECAUSE IT COMMITS MANAGERS TO MAKING THE IMPROVEMENTS THAT WOULD OTHERWISE BE MADE BY POTENTIAL RAIDERS'

In practice, the weighted average (marginal) cost of capital (WACC) may be virtually flat over a wide range of 'moderate' gearing. The extra risk as gearing increases may offset the lower marginal after-tax cost of debt (as compared with equity). So perhaps financial managers aim for no particular level of gearing, but are indifferent over a wide range. Minimising WACC is equivalent to maximising firm value if – a big 'if' – changing capital structure does not affect operating profit. This view is close to the original MM position, but without the extremes of very low or very high gearing.

INCREMENTAL FINANCING PROCESS. Donaldson[3] focussed on the process by which companies choose what type of finance to raise, when they need it. He noted that the chief financial officer might need to negotiate not only with external lenders, but also with internal managers. (For example, a company might choose to cut levels of investment in working capital instead of raising external finance.)

Differences of view between managers and shareholders might explain why managers seemed to prefer: (1) retained earnings to (2) debt and (3) new issue of equity. Diversified shareholders, in contrast, might often prefer debt to retained earnings due to the high opportunity cost of equity. Managers like to retain flexibility ('financial slack'). 'Financial distress' – certainly bankruptcy – has costs for managers too.

Dividend policy clearly affects financing, since it also amounts to policy on how much earnings to retain. Lintner's[4] model suggests that dividends are 'sticky', but firms' cash flows fluctuate. So from time to time firms will either have surplus funds or need to raise external funds, which leads to the 'incremental financing' approach.

In two further areas, discussion has moved beyond MM:

- for incentive reasons managers may sometimes fail to invest in 'profitable' projects, or may be keen on projects that are 'too risky'; and
- problems of incomplete information may make it difficult (at least in the short-term) for managers to raise external funds for investment even in 'profitable' projects (in other words, there may be 'capital rationing').

If managers' financing policy significantly falls short of 'maximising shareholders' wealth' over long periods, why doesn't the capital market force a change, either in the managers or in their behaviour? It is hardly convincing to say that very profitable companies 'don't need' to borrow, hence end up with low debt. In the longer-run, such companies could increase their dividend payout ratios to reduce their cumulative retained profits enough so that they did need to borrow. And even in the shorter-run, such firms could borrow to buy back equity.

Widespread holding of debt may be 'tougher' than concentrated lending (where renegotiation is possible);and, for control reasons, it may pay to have significant, rather than only widely diversified, shareholders. (Which, of course, would cast doubt on the relevance of CAPM for such shareholders, as well as for owner-managers generally.)

SHAREHOLDERS VERSUS MANAGERS OR LENDERS. Choice of management incentives and of capital structure might signal ('asymmetric') information to the market. If insiders can make profits by dealing in shares, that would suggest that managers may sometimes know 'better' than outside shareholders about a firm's prospects.

Managers may prefer to issue equity if they think the company's shares are over-valued and debt if they think the shares are undervalued. Hence, the capital market usually regards debt issues by a company as 'good' news and equity issues as 'bad' news.

Jensen[5] suggested that gearing up is a way to prevent managers squandering cash (this is the rationale behind junk bonds and leveraged buyouts). Debt substitutes legally-binding payment of interest (and repayment of principal) for equity's discretionary dividends and 'permanence'. (Under UK company law shareholders cannot vote to increase dividends, which would be another way to achieve the same aim.) High leverage may help companies to remain independent because it commits managers to making the improvements that would otherwise be made by potential raiders.

There can be conflicts of interest between managers (acting on behalf of shareholders) and lenders, so lenders use 'covenants' to protect themselves against shareholders.

A firm with debt may have incentives to reject positive-NPV projects which will benefit lenders at the expense of shareholders. A firm can control this incentive problem:

- by including less debt in its capital structure;
- by including restrictive covenants; or
- by shortening the effective maturity of its debt.

BETTER UNDERSTANDING. In recent years, academics have put forward many ingenious theories about corporate financing. These theories, often based on agency costs, are not mutually exclusive, but most of them are hard to test properly. At least we can now understand better how many different influences on corporate financing there are. My own (unoriginal) view is that, within reason, the level of a company's gearing is unimportant, and that, as a rule, how companies choose to invest and manage those investments, matters far more than how they finance them.

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NOTES

[1] Modigliani, F. and Miller, M.H. : *The Cost of Capital, Corporation Finance and the Theory of Investment*, American Economic Review, June 1958, pp261-97.
[2] Arnold, G: *Corporate Financial Management*, FT/Pitman 1998.
[3] Donaldson, G: *Financial Goals: Managers versus Stockholders*, Harvard Business Review, 41, May-June 1963.
[4] Lintner, J.: *Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes*, American Economic Review, May 1956, pp97-113.
[5] Jensen, M.C.: *Agency Costs of Free Cash Flow, Corporate Finance and Takeovers*, American Economic Review, May 1986, pp323-39.