



STUDY NOTE - 2

FINANCIAL MANAGEMENT DECISIONS

SECTION - 1

CAPITAL STRUCTURE THEORIES

AND PLANNING

This Section includes

- **Theory of Capital Structure**
- **Agency Theory**
- **Conclusions**

1.1 THEORY OF CAPITAL STRUCTURE

- 1.1.1 One of the key elements of financial analysis of a company is to look at the capital structure of the company.
- 1.1.2 Companies potentially have a choice between various sources of funding, right from short-term bank overdrafts to perpetual equity. How can an organization choose between the alternatives, and add value by strategic financing decisions is called capital structuring.
- 1.1.3 The capital structure of a company can be expressed in the form of a number of ratios for comparison between companies or over a period of time. The main ratios are:
- a. Gearing
 - b. Net gearing
 - c. Leverage (gross)
 - d. Leverage (tangible)
 - e. Leverage (tangible including contingents)
 - f. Debt / Equity or Debt / (Debt + Equity)
- 1.1.4 The traditional view was that the cost of equity and the cost of loan capital are determined independently. It is expected that as it represents a more risky investment, the cost of equity would be greater than the cost of loan capital. Accordingly, the more highly geared the company becomes, i.e., the more loan capital vis-à-vis equity it obtains, the lower its cost of capital. There must be a cut-off point to this process otherwise all organizations would be looking for total debt financing. Therefore, at some stage the proportion of loan capital increases the level of risk to the potential lender as well as the equity holders. This increased level of risk would cause the overall cost of capital to rise. Thus, it can be assumed that a rational organization will



have a time tested mechanism to have an ideal mix of debt and equity to keep the cost of capital in control.

1.1.5 Look at the following illustration:

Company	A	B	C		
Debt	0	5000	7000	8%	Interest
Equity	10000	5000	7000	50%	Tax
Total	10000	10000	10000		
PBIT	1000	1000	1000		
Interest	0	400	560		
PBT	1000	600	440		
Tax	500	300	220		
PAT	500	300	220		
ROE	5.00%	6.00%	7.33%		

In the above example, though all the three companies have the same total capital requirement, due to the difference in debt equity mix, company C, with higher amount of debt, has been able to enhance the ROE to 7.33%. But, in the subsequent year, let us say that the PBIT falls to 400, only Company A will be able to survive.

1.1.6 When it is definitely advantageous for a company to have as much a debt as possible, then why do companies stop short of having a heavily geared capital structure? The answer probably lies in the high costs of debts also associated with possible bankruptcy. due to increased liability in times of slow down in operations.

1.1.7 Bankruptcy costs can be classified into two types:

1. Direct costs:

- Legal fees
- Accounting fees
- Costs associated with a trial (expert witnesses)

2. Indirect costs:

- Reduced effectiveness in the market.
- Lower value of service contracts, warranties, decreased willingness of suppliers to provide trade credit.
- Loss of value of intangible assets - e.g., patents, human capital.

1.1.8 The years in which EBIT drops, the company would not be able to get tax relief immediately and the cash cost of debt would be quite high. Further, if the company had no reserves to meet its interest commitments, it would default on its repayment obligations and might be forced into liquidation. The higher the debt / equity ratio, the more likely a default on debt payments. Such a possibility will in turn lead to penal interest being charged by the lenders.



- 1.1.9 Therefore, in order to maximize value by altering capital structure, organizations should balance the present value of the tax advantage of debt against the present value of the costs of higher gearing, viz., liquidation costs and higher interest rates.
- 1.1.10 Modigliani and Miller (MM) developed a very complex and rigorous theory in 1958, which argued that except at extreme levels of gearing, the capital structure has very little effect on the overall cost of capital. The theory states that the total value of the firm depends on its expected performance and its risk and is completely independent of the way in which it is financed.

1.2 AGENCY THEORY

- 1.2.1 The managers or directors who are responsible for the day to day operations of the business are the Agents of the owners viz; Shareholders. The agency theory model of financial strategy looks at not only maximizing value, but also the potential for conflict between managers and investors. The agency theory considers what happens when the market mechanisms fail to operate effectively and managers, who act as agents for the shareholders, are not necessarily motivated to act in the best interest of the shareholders.
- 1.2.2 In order to guard against this kind of an opportunistic behaviour of the managers, investors take steps to minimize the costs associated with the separation of ownership and control by various means such as having external auditors, non-executive directors, accepting covenants in loan agreements which effectively restrict managers' potential actions etc;

1.3 CONCLUSIONS

- 1.3.1 It is difficult to determine the optimal capital structure a company should adopt. The optimal capital structure for an actual company has never been specified, nor has the precise cost of capital for any given capital structure. Decisions concerning a company's capital structure are a matter of judgment. There must be ideally a decent spread between cost of capital and Return on capital employed. The higher the spread the better is the ultimate profitability.
- 1.3.2 Where a company expects sufficient level of taxable profits, the company should take on appropriate amount of debt to reduce the tax liability. Thus, it may be practicable for low-risk businesses such as utilities to accept relatively more debt. However, companies with a high degree of volatility in earnings and cash flows will have to pay higher rates of interest due to the higher risk of default. Such companies have to rely more on equity finance. Companies in their early stages of development will also be unwilling to take on a high debt.
- 1.3.3 The short article given at the end of the chapter throws some further light on the concepts discussed in this chapter.
- 1.3.4 The student is also advised to read the article titled "Stock Market Development and Corporate Finance Decisions" included in the Reader.

Value Creation is a continuous process by way of:

- Constantly measuring the cost of debt, cost of equity, weighted-average cost of capital and assessing the optimal capital structure;
- Adjusting the costs of debt and equity for leverage;
- Ratings and debt pricing;
- Corporate taxation and capital structure; and
- Profitability and process improvements for achieving operational efficiently.

Illustration of Capital structure Design			
Total Capital	300000		
Sources	Cost	Weight	Amount
Debt	9%	33%	100000
Equity		67%	200000
Total			300000
Number of equity shares		2000	
Tax rate	40%		

EBIT	100000
Interest	9000
EBT	91000
Tax	36400
EAT	54600
EPS	27.3

EPS at Different levels of EBIT

EBIT	EPS
100000	27.3
60000	15.3
65000	16.8
70000	18.3
75000	19.8
80000	21.3
85000	22.8
90000	24.3
95000	25.8
105000	28.8



EPS at Different levels of Debt to Equity

Debt / equity-EPS	
	27
0.1	22
0.2	24
0.3	26
0.4	30
0.5	35
0.6	42
0.7	54

EPS at Different levels of interest rates

Cost of debt	EPS
9%	27.30
8%	27.60
10%	27.00
11%	26.70
12%	26.40
13%	26.10
14%	25.80
15%	25.50

Interpret the above tables, explaining the relationship between EBIT/EPS and the drivers of EPS, namely, EBIT, Debt to equity ratio and the cost of debt. You can construct similar tables on impact of tax and EPS etc.

Case Study

What Do We Know about the Capital Structure of Privately Held Firms? Evidence from the Surveys of Small Business Finance

by Rebel A. Cole, 2007.

May 2008

Published by U.S. Small Business Administration's Office of Advocacy

Introduction

This paper seeks to shed light on what factors determine the capital structure at privately held firms. The capital structure decision—a fundamental issue facing financial managers—is, in its simplest form, the selection of a ratio of debt to equity for the firm. This seemingly simple decision about the best mixture of capital sources to be employed in financing the firm's operation and growth has confounded researchers since the seminal “capital structure irrelevance” theory of Modigliani and Miller (1958).



Existing empirical studies that test capital structure theories have relied on data from large corporations that issue complex financial securities for both debt and equity. Unresolved is the question of whether these theories are useful for understanding the capital structure of small privately held firms, which are primarily limited in their external borrowing to financial intermediaries such as banks, finance companies, and other business lending institutions.

Using data from a set of four nationally representative samples of small businesses surveyed for the Federal Reserve Board and the Small Business Administration over a 15-year period, this study contributes to the capital structure literature in at least three important ways.

First, it provides results from the first test of two major competing hypotheses—the peckingorder theory and the trade-off theory—based upon data from small privately held U.S. firms. This previously unaddressed segment of the market provides a new laboratory for reexamining the findings from prior studies that examine publicly traded firms. The focus on private firms eliminates the “noise” introduced by more complicated securities, such as preferred stock and convertible bonds, reducing the errors-in-variable problems associated with empirical studies of capital structure at larger firms.

Second, the study provides new evidence of the degree of leverage used by small privately held companies and how their use of leverage differs from small publicly traded firms. Samples of data on small privately held firms are compared with data on small publicly traded firms taken from the Compustat database.

Third, the study presents new evidence on how the use of financial institutions influences capital structure, testing whether firms that obtain financial services from a larger pool of financial institutions are able to employ more leverage.

Overall Findings

This study tests predictions from the two competing theories, using descriptive statistics and then more sophisticated multivariate techniques to disentangle various forces influencing the capital structure decision. The results tend to favor the pecking-order theory over the trade-off theory. The analysis reveals that firm size is perhaps the most important determinant of leverage, with firm age also significant. Unprofitable and riskier firms consistently use greater leverage. These findings are consistent with predictions from the peckingorder theory.

Highlights

- The population of small businesses in the United States is not a homogeneous group. From 1987 through 2003, the median ratio of total loans to total assets ranged from a high of 25.1 percent in 1993 to a low of 7.4 percent in 2003, while the median ratio of total liabilities to total assets ranged from a high of 47.4 percent in 1993 to a low of 27.5 percent in 2003. The distribution of these leverage ratios is heavily skewed by bookvalue insolvent firms—firms reporting that their liabilities exceeded their assets. This is evident from the mean leverage ratios, which are significantly larger in each year than the corresponding medians.
- Compared with small publicly traded firms, small privately held firms exhibit similar leverage ratios in aggregate, but not by industry—contradicting a key prediction of the trade-off theory, which posits “target leverage ratios” that differ across industrial classifications.



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- Firm size is perhaps the most important determinant of leverage. Larger firms consistently use less leverage than smaller firms, whether size is measured by total assets, annual sales, or total employment.
 - Firm age also is a significant determinant of leverage. Older firms use significantly less leverage than younger firms. This is consistent with the pecking-order theory but inconsistent with the trade-off theory.
 - Profitability influences leverage. Splitting firms into profitable and unprofitable groups reveals that unprofitable firms consistently use greater leverage than profitable firms. This supports the pecking-order theory and goes against the trade-off theory.
 - More liquid firms use less leverage, consistent with the notion from the pecking-order theory that financial slack is valuable and enables firms to avoid issuing debt.
 - Riskier firms consistently use greater leverage, no matter how risk is measured. This contradicts the trade-off theory but is consistent with the pecking-order theory.
 - Firms obtaining financial services from a larger number of bank and nonbank financial institutions employ more leverage.
 - Multivariate results indicate no significant differences in capital structure attributable to race, ethnicity, or gender, if other firm characteristics are controlled for. These results are inconsistent with other studies that purport to find evidence of discrimination against minority-owned firms.