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## WHY PECKING ORDER THEORY SHOULD BE INCLUDED IN INTRODUCTORY FINANCE COURSES

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### ABSTRACT

The majority of students majoring in various business administration emphases take only one finance course (Introductory Financial Management) while completing the requirements of their degrees. A primary topic commonly covered in most introductory finance courses is capital structure, with a discussion that often culminates with a discussion of *optimal capital structure*. Invariably the leading textbooks present optimal capital structure within the framework of the agency cost/tax shield trade-off model that evolved from Modigliani and Miller's capital structure irrelevance hypothesis. While this approach has solid grounding in value maximization arguments and capital market equilibrium theory, it nonetheless fails to explain several commonly observed - and reported - practices in modern corporate finance. Pecking order theory offers an intriguing addition to the explanation of optimal capital structure, even in an introductory course. However, few introductory textbooks give the theory much more than a cursory mention, if it is indeed mentioned at all. The purpose of this paper is to make a case for including pecking order theory in any discussion of optimal capital structure.

### I. INTRODUCTION

Studying capital structure is an important component of any typical introductory finance course. The topic provides closure to a representative unit about capital budgeting and cost of capital as students discover the parameters faced by financial managers as they determine how best to finance capital projects that will hopefully enhance the value of their firms. Such a unit also amplifies the importance of, and provides a stronger theoretical foundation for, financial analysis students are likely to encounter in subsequent courses such as Business Policy or Strategic Management. The traditional approach found in most introductory textbooks is to present Modigliani and Miller's capital structure irrelevance hypothesis (Modigliani & Miller, 1958) and then build in the effects of taxes, financial distress, and agency costs until the "mainstream" model of optimal capital structure emerges. It is a tidy approach (often referred to as the "Trade-Off Model") that is easily understood under the basic underlying tenet of optimizing value - and thus shareholder wealth - by choosing a capital structure combination which elicits the lowest possible cost of

capital for the firm. Once the firm finds this optimal combination of financing sources (that is, the mix of debt and equity sources that equates the benefits of the tax shield provided by debt with the increased costs of financial distress borne by the firm's equity holders) the assumption is that every new dollar of financing is raised in the same proportions of debt and equity financing. However, this approach falls short in two different and important categories: reported and observed practice!

## II. REPORTED PRACTICE

Two separate surveys examining capital structure decisions revealed very similar results. In each survey financial executives were asked which of two major criteria determined their financing decisions: 1) maintaining a target capital structure or 2) following a hierarchy of financing. Further, those who followed a hierarchy were asked to rank the order in which they would use various internal and external sources of funding. The first survey (Pinegar & Wilbricht, 1989) was of Fortune 500 firms and the second (Hittle, Haddad & Gitman, 1992) was of the 500 largest Over-The-Counter firms. The results regarding which criterion was most often followed are shown in Table 1 below:

Table 1. Reported Use of Financing Decision Methodologies

| SURVEY AUTHORS      | RESPONDENT GROUP  | % USING TARGET CAP STRUCTURE | % USING HIERARCHY |
|---------------------|-------------------|------------------------------|-------------------|
| Pinegar & Wilbricht | Fortune 500 Firms | 31%                          | 69%               |
| Hittle, et al.      | Large OTC Firms   | 11%                          | 89%               |

It is easy to see from the data in Table 1 that in real-world practice financial managers are much more likely to use a hierarchical approach than a target capital structure rationale when making financing decisions. While this would seem to be inconsistent with value maximization arguments, this behavior is actually very rational given the motivations of managers and the vagaries of the U.S. capital markets.

## III. OBSERVED PRACTICE

There are three observed real-world phenomena that are difficult to explain under the agency cost/tax shield trade-off model. These include: 1) in many industries the most profitable firms often have the lowest debt ratios - which is the opposite of what the

trade-off model would predict (Sunder & Myers, 1999); 2) large positive abnormal returns for a firm's stockholders are associated more frequently with leverage-increasing events (such as stock repurchases or debt-for-equity exchanges) than leverage-decreasing events (such as issuing stock) (Dann, 1981 and James, 1987); and 3) few American companies issue new stock as frequently as once per decade. Taken together, these observed practices of American firms further support the notion that target capital structure is not the primary criterion used by financial managers when making financing decisions. (Megginson, 1997)

Thus, while the trade-off model is useful for explaining how financial managers *can* make financing decisions, it appears to have marginal explanatory value for how many financial managers *actually do* make these decisions in the real world. With this in mind a case for introducing students to pecking order theory to complement trade-off theory can be made. Table 2 below shows a sampling of how several popular financial management textbooks address the issue of optimal capital structure.

Table 2. Sampling of Textbook Approaches to Optimal Capital Structure Discussion

| TEXTBOOK                     | PRESENTS ONLY TRADE-OFF | PRESENTS BOTH MODELS |
|------------------------------|-------------------------|----------------------|
| Brigham, Gapenski & Ehrhardt |                         | X                    |
| Brigham & Houston            | X                       |                      |
| Brealey & Myers              |                         | X                    |
| Lasher                       | X                       |                      |
| Gitman                       |                         | X                    |
| Moyer, McGuigan & Kretlow    |                         | X                    |
| Ross, Westerfield & Jordan   | X                       |                      |
| Van Horne & Wachowicz        | X                       |                      |

As Table 2 shows, many of the popular financial management and corporate finance textbooks do not present any competing theory to the traditional trade-off model. Of the textbooks that do present both models the discussion of pecking order is often much briefer than that of the trade-off model. Thus, many students never get exposed to any other model than the trade-off and are left with the incorrect impression that it is the only valid capital structure model in existence. This could lead to incorrect assumptions regarding capital budgeting later on.

#### IV. PECKING ORDER THEORY OVERVIEW

Pecking order theory of capital structure states that firms have a preferred hierarchy for financing decisions. The highest preference is to use internal financing (retained earnings and the effects of depreciation) before resorting to any form of external funds. Internal funds incur no flotation costs and require no additional disclosure of proprietary financial information that could lead to more severe market discipline and a possible loss of competitive advantage. If a firm must use external funds, the preference is to use the following order of financing sources: debt, convertible securities, preferred stock, and common stock. (Myers, 1984) This order reflects the motivations of the financial manager to retain control of the firm (since only common stock has a “voice” in management), reduce the agency costs of equity, and avoid the seemingly inevitable negative market reaction to an announcement of a new equity issue. (Hawawini & Viallet, 1999)

Implicit in pecking order theory are two key assumptions about financial managers. The first of these is *asymmetric information*, or the likelihood that a firm’s managers know more about the company’s current earnings and future growth opportunities than do outside investors. There is a strong desire to keep such information proprietary. The use of internal funds precludes managers from having to make public disclosures about the company’s investment opportunities and potential profits to be realized from investing in them. The second assumption is that managers will act in the best interests of the company’s existing shareholders. The managers may even forgo a positive-NPV project if it would require the issue of new equity, since this would give much of the project’s value to new shareholders at the expense of the old. (Myers & Majluf, 1984)

#### V. CAPITAL MARKET TREATMENT OF NEW SECURITY ISSUES

The two assumptions noted above help to explain some of the observed behavior of financial managers. More insight is gained by looking at how the capital markets treat the announcement of new security issues. Announcements of new debt generally are treated as a positive signal that the issuing firm feels strongly about its ability to

service the debt into the future. Announcements of new common stock are generally treated as a negative signal that the firm's managers feel the company's stock is overvalued (i.e. earnings are likely to decline in the future) and they wish to take advantage of a market opportunity. So, it is easy to see why financial managers use new common stock as a last resort in capital structure decisions. Just the announcement of a new stock issue will cause the price of the firm's stock to fall as the market participants try to sort out the implications of the firm choosing to issue a new equity issue.

## **VI. HOW PECKING ORDER IS SUPERIOR TO THE TRADE-OFF MODEL**

While the trade-off model implies a static approach to financing decisions based upon a target capital structure, pecking order theory allows for the dynamics of the firm to dictate an optimal capital structure for a given firm at any particular point in time. (Copeland & Weston, 1988) A firm's capital structure is a function of its internal cash flows and the amount of positive-NPV investment opportunities available. A firm that has been very profitable in an industry with relatively slow growth (i.e. few investment opportunities) will have no incentive to issue debt and will likely have a low debt-to-equity ratio. A less profitable firm in the same industry will likely have a high debt-to-equity ratio. The more profitable a firm, the more *financial slack* it can build up.

Financial slack is defined as a firm's highly liquid assets (cash and marketable securities) plus any unused debt capacity. (Moyer, McGuigan, and Kretlow, 2001) Firms with sufficient financial slack will be able to fund most, if not all, of their investment opportunities internally and will not have to issue debt or equity securities. Not having to issue new securities allows the firm to avoid both the flotation costs associated with external funding and the monitoring and market discipline that occurs when accessing capital markets.

Prudent financial managers will attempt to maintain financial flexibility while ensuring the long-term survivability of their firms. When profitable firms retain their earnings as equity and build up cash reserves, they create the financial slack that allows financial flexibility and, ultimately long-term survival.

Pecking order theory explains these observed and reported managerial actions while the trade-off model cannot. It also explains stock market reactions to leverage-increasing and leverage-decreasing event, which the trade-off model cannot.

## **VII. LIMITATIONS OF PECKING ORDER THEORY**

Pecking order theory, however, does not explain the influence of taxes, financial distress, security issuance costs, agency costs, or the set of investment opportunities

available to a firm upon that firm's actual capital structure. It also ignores the problems that can arise when a firm's managers accumulate so much financial slack that they become immune to market discipline. In such a case it would be possible for a firm's management to preclude ever being penalized via a low security price and, if augmented with non-financial takeover defenses, immune to being removed in a hostile acquisition. For these reasons pecking order theory is offered as a complement to, rather than a substitution for, the traditional trade-off model.

## VIII. CONCLUSIONS AND IMPLICATIONS

While the traditional trade-off model is useful for explaining corporate debt **levels**, pecking order theory is superior for explaining capital structure **changes**. By including a discussion of pecking order theory in the capital structure unit students will be exposed to a broad base of both theory and practice that will enable them to better understand how important financing decisions are made. In addition to the traditional discussion of the impact of taxes, financial distress, and agency costs upon capital structure decisions, students will gain insight to how management motivations and market perceptions also impact these decisions. Students will readily appreciate the concern managers have regarding the reporting requirements required to access capital markets. They will also be able to explain why observed practice does not seem to always follow theory.

Furthermore, the addition of pecking order theory into the basic discussion of capital structure provides one more opportunity for *critical thinking* to occur. For example, the instructor can show how the debt ratios of leading companies in particular industries differ from the so-called industry averages to which most companies are usually compared during a cross-sectional financial analysis. Thus, a given ratio (such as a debt ratio only half the industry average) might be argued as a "good" thing (since the firm has a large supply of financial slack and financial flexibility) rather than as a point of concern (the firm has opportunity costs due to not making efficient use of debt). Students will have to critically evaluate that particular condition to judge which conclusion is correct.

To summarize, by studying pecking order theory in conjunction with trade-off theory students will have a more rounded exposure to optimal capital structure. This will prepare them well for not only future courses in which they will apply this knowledge, but also for their careers in the "real world" of business. Table 3 summarizes the important differences between the two theories.

Table 3. Comparison of Trade-off and Pecking Order Theory Traits.

| TRADE-OFF THEORY  | PECKING ORDER THEORY   |
|---|--|
| Conforms with value maximizing construct                                    | Considers managerial motivations   |
| Assumes a relatively static capital structure                               | Allows for a dynamic capital structure   |
| Considers the influence of taxes, transaction costs, and financial distress | Considers the influence of financial slack and availability of positive-NPV projects |
| Ignores the impact of capital market “signals”                              | Acknowledges capital market “signals”  |
| Ignores concerns regarding proprietary data                                 | Acknowledges proprietary data concerns   |
| Cannot explain many real-world practices                                    | Explains many real-world practices   |

As Table 3 indicates, by including a combination of both the trade-off and pecking order theories, students will receive a more rounded view of capital structure theory and practice. This view will better serve them both as they work their way through the upper-division coursework in business and as they begin their professional careers.

Accordingly, authors of textbooks aimed at the introductory finance course are encouraged to give adequate exposure to pecking order theory as well as the traditional trade-off approach. And instructors of introductory finance courses are urged to include pecking order in any discussion of capital structure theory. To do any less presents an unrealistic view of this important topic.

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