



Financial Flexibility Treasury Resilience

Capital Structure Design – Art or Science?

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Capital Structure Design – Art or Science?

Introduction

Following the dictum ‘Structure follows strategy’ CFOs and Treasurers should seek to design a capital (and debt) structure that underpins their company’s business strategy by providing the necessary capital to finance its uninterrupted implementation. In doing so, they get to choose from several different capital structure theories which offer useful prescriptions about how to optimally structure the balance sheet. Research shows us that the Trade-Off and Pecking Order theories of capital structure have been somewhat preferred in the South African market. However, the evolution of the capital structure theory over time has led to an increasing recognition of the central role that financial flexibility plays in minimising the risk of liquidity crunches that can result from unanticipated shocks to managerial expectations. This article contextualises this emergent thinking within the concept of the flow of capital within the firm, briefly describes the most widely employed capital structure theories in practice, provides an overview of the existing research on capital structure design practice in South Africa and describes De Angelo and De Angelo’s Financial Flexibility Theory of Capital Structure (2006).

The Flow of Capital

Fig 1 illustrates the complex, integrated, dynamic and uncertain flow of capital that needs to be continuously managed within the broader context of business operations, the investment opportunity set, banking and capital markets conditions, the business cycle, and relevant industry

and macroeconomic factors. Using the key dimensions of Capital Sources, Capital Allocation, Internal Funds and External Funds, we can gain some useful insights for the purposes of capital structure design. Firstly, internally generated funds together with existing cash balances serve as an effective constraint on capital allocation capacity without the introduction of externally sourced funds. Secondly, the mix between internal and external sources may not always be completely at the discretion of management (and the Board) as external capital will sometimes be necessary when internally generated funds are insufficient to meet total capital allocation demands. Thirdly, unlike with internal funding sources where management has total control of this capital, there is a need to continuously

persuade the providers of external capital to invest/reinvest in the business. Accordingly, management’s performance with regards to the application of both internal and external sources of capital will collectively determine their future ability to secure external capital on a cost-efficient basis, as both actual and perceived disruptions in the returns to investors can significantly compromise the company’s access to it in the future when it matters most. For the above reasons, creating and maintaining financial flexibility in a firm’s capital and debt structure is of the utmost importance in preventing unwanted financing liquidity effects such as cut-backs on capital investment, forced asset sales, restructuring and in the extreme, liquidation of the business.

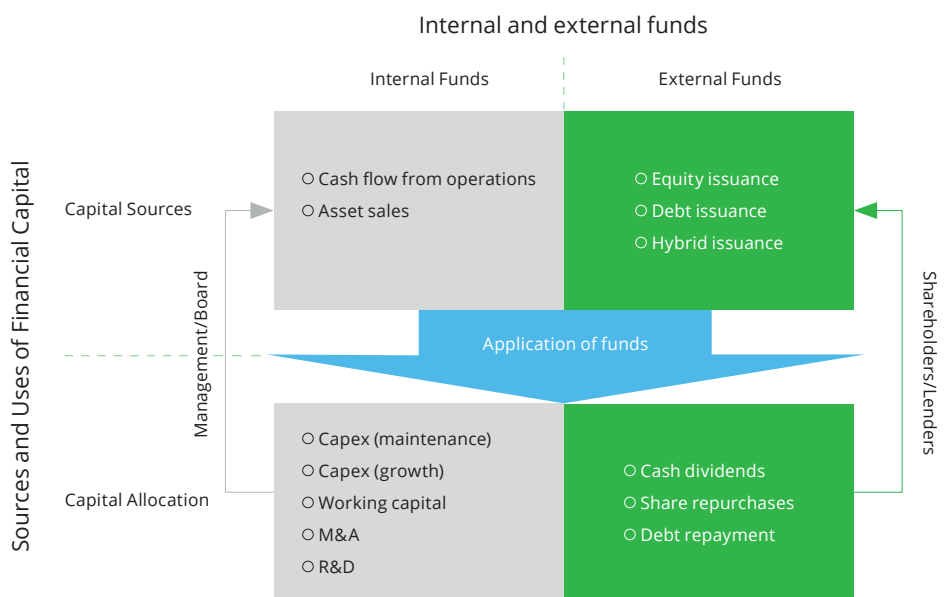


Fig 1 - The Capital Cycle

The Capital Structure Design Process

The capital and debt structure design process starts with the forecasting of all the cash flows expected as a consequence of implementing the chosen business strategy, including cash flow from operations, asset acquisitions/disposals/maintenance, R&D and working capital investment. These cash flows not only determine the demand for external sources of finance, but they also provide information about the risk-adjusted returns that investors should expect to earn by investing in the business. After this, management should identify the key determinants of the capital structure based on the specific characteristics of the business and the industry it operates within, which includes factors such as the nature of the operating assets, the investment horizon, the ability to utilise the interest tax shield, the level of competition, employee bargaining power and the volatility of cash flows amongst others. With this information in hand, management can proceed with the task of structuring the balance sheet through the application of its preferred capital structure theory. This is a dynamic and iterative process, with continuous adjustments to the capital structure being required over time.

The Evolution of Capital Structure Theory

As can be seen in Fig 2, the capital structure theory has evolved over time since the ground-breaking capital structure irrelevance work of Miller & Modigliani in 1958.

Some of the more popular capital structure theories in practice include the Trade-Off (Kim, 1978), Pecking Order (Myers, 1984) and Market Timing (Baker and Wurgler, 2002) theories. The Trade-off theory develops the classic Miller-Modigliani Proposition II (with taxes) theory to explain the trade-off between the tax deductibility of interest against bankruptcy costs and its effect on capital structure. It concludes that when companies are subject to bankruptcy costs, their debt capacities will be reached prior to 100% debt financing. The Pecking Order theory states that there are two kinds of equity, internal and external which

result in a sequence in funding: internal financing at the top of the pecking order, then debt and lastly, external equity at the bottom of the pecking order resulting in an observed debt ratio reflecting the firm's cumulative requirements for external financing over time. The Market Timing Theory (Baker and Wurgler, 2002) traces the consequences of equity market timing through to the resulting capital structure with the critical assumption that managers believe they can beneficially time the market with the issuance of equity (even if this is not true).

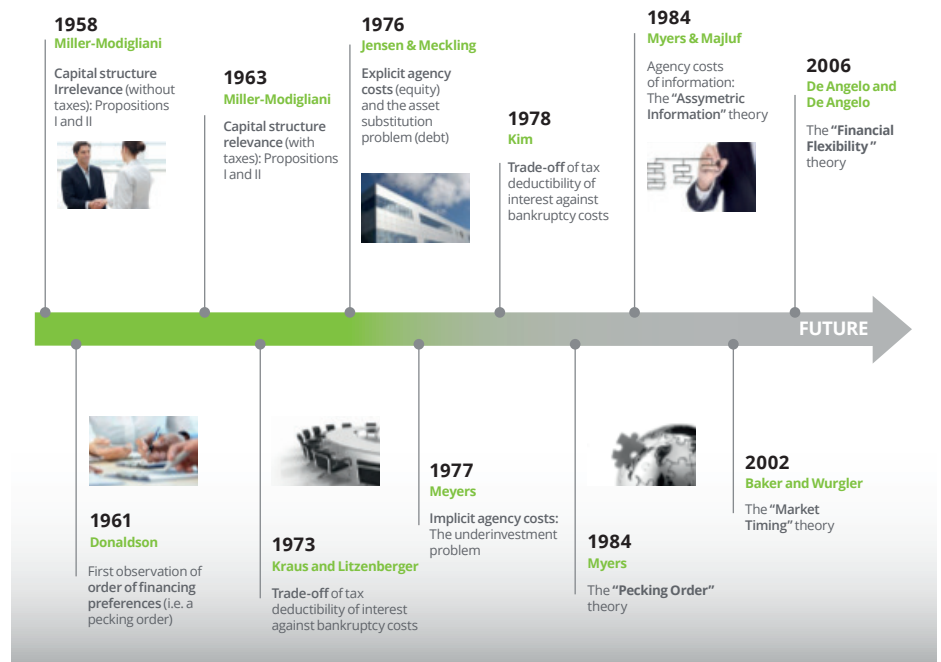


Fig2 - Evolution of the Capital Structure Theory

Empirical Research

The preference for certain capital structure theories in South Africa has been empirically observed. Correia and Cramer (2008) conducted a study on 28 CFOs of JSE listed companies which supports the Pecking Order theory since the target debt-equity ratios appear to be low in relation to what would be predicted by the Trade-Off theory. Moyo et al. (2013) conducted a study on 49 manufacturing, 24 mining and 23 retail company's listed on the JSE during the period 2005 – 2010 and identified the most significant company-specific determinants of company leverage as being liquidity, capital expenditure, ordinary share price and financial distress. They concluded that company-specific determinants and macroeconomic factors were most influential in management's capital structure design practices, rather than adherence to any formal capital structure theory. More recently, De Wet and Gossel (2016) conducted a study on 33 CFOs of JSE listed companies, showing that there is moderate support for both the Pecking Order and the Trade-Off theories when considering target debt ratios. Overall however, the four most significant factors that influence the debt decisions of the respondents of this survey were:

(1) the level of forecasted cash flows from investment projects that the debt would be used to fund, (2) the volatility of earnings, (3) cash flow and (4) financial flexibility. The study strongly suggests that large companies are more likely to follow the Trade-Off theory while small companies are more likely to follow the Pecking Order theory.

One major shortcoming of these traditional theories of capital structure is that they do not explicitly incorporate a liquidity buffer as a response to unanticipated shocks as a key determinant of capital structure. This is potentially problematic because in practice it appears that managers widely consider financial flexibility as one of the most important determinants of their capital structure (Graham and Harvey, 2001; Bancel and Mittoo, 2004; and Brounen, De Jong and Koedijk, 2006). DeAngelo and DeAngelo (2007), Gamba and Triantis (2008) and Byoun (2008) all state that the motives to attain financial flexibility are related to the company's future ability and need to raise external funds and restructure their financing at low cost. Companies with financial flexibility have access to unused debt

capacity which can be used in responding to unanticipated funding requirements, thus maximising shareholder wealth and avoiding suboptimal investments and poor performance (Arslan, Florackis and Ozkan (2014). Ayaydin et al. (2014) concur with this in a study on 1,068 East Asian company's over the period 1994–2009 with particular emphasis on the periods of the Asian crisis (1997–1998) and the recent Credit Crisis (2007–2009). Their results conclude that companies that are financially flexible prior to a crisis (1) have a greater ability to take investment opportunities, (2) rely much less on the availability of internal funds to invest, and (3) perform better than less flexible companies during the crisis.

The Financial Flexibility Theory of Capital Structure

Responding to the growing need for a more holistic theory incorporating financial flexibility as a key determinant of capital structure to better reflect current market practice, De Angelo and De Angelo developed the Financial Flexibility Theory of Capital Structure (2006) which is represented in **Fig 3** below.

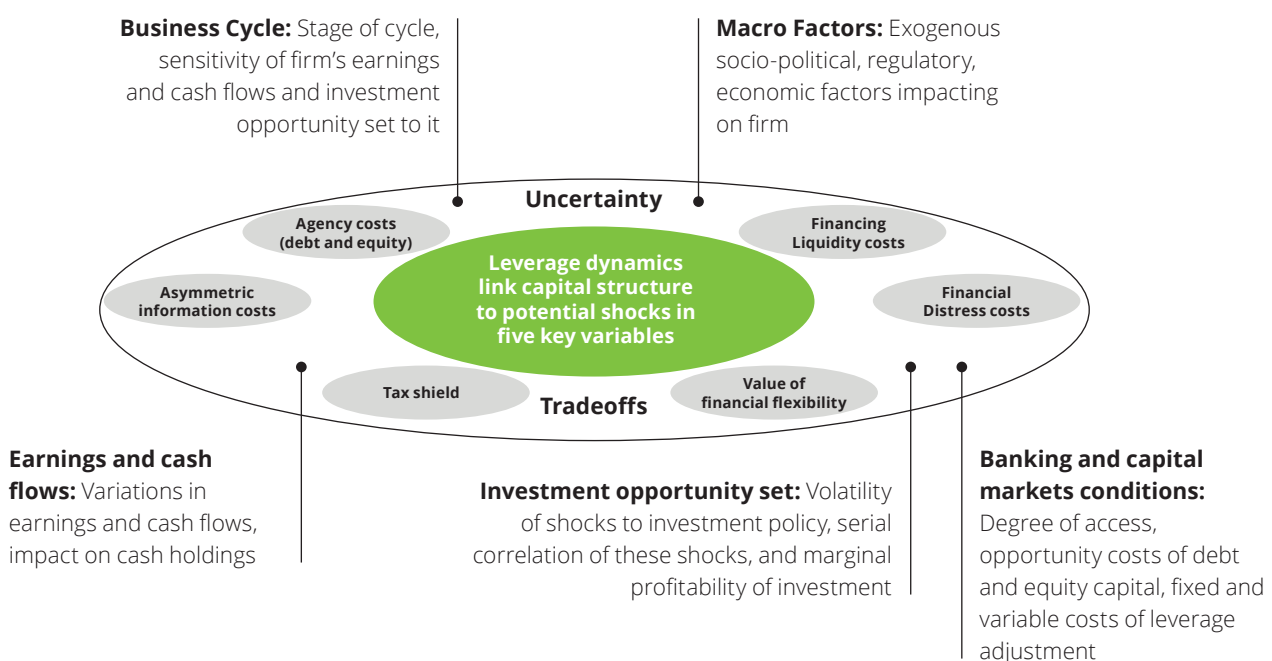


Fig3 - Financial Flexibility Theory of Capital Structure

De Angelo and De Angelo argue that uncertainty about earnings, investment opportunities, and future security prices (i.e. the costs of capital) give managers incentives to select financial policies that provide the flexibility to respond to unanticipated shocks to these factors. Their view is that financial flexibility is the critical missing link in providing an empirically viable theory that deals with (1) the inability of the Pecking Order theory to explain why equity issues are commonplace, and are not exclusively the financing vehicle of last resort, and (2) the failure of the Trade-Off theories to explain (i) why firms do not “lever up” after large stock price increases, (ii) why many profitable firms maintain low debt, thus foregoing interest tax shields available at little risk of financial distress, and (iii) why leverage rebalancing is difficult to detect and, when detected, why it occurs with a delay that is not plausibly explained by adjustment costs.

In their model, debt no longer dominates equity issuance simply because it is easier to value, since with multiple uncertain financing needs arriving over time, utilisation of debt capacity today risks future investment distortions because it can leave a firm hamstrung for capital tomorrow. So, today's borrowing cost is

seen as including the opportunity cost of an inability to borrow tomorrow when the firm may need to issue debt to avoid investment distortions. So, managers build, preserve, and re-build debt capacity in 'normal' periods to give themselves the option to borrow in “abnormal” periods to meet unanticipated capital needs. This means lower leverage than that predicted by the other theories is desirable today because it provides the option to borrow tomorrow when equity is relatively more expensive (or less available) than it is now.

In the De Angelo and De Angelo theory, firms will preserve financial flexibility by maintaining unused debt capacity today when the value of the future investment distortions thereby avoided exceeds the value of the foregone tax benefits. So, the value of such flexibility can be viewed as a deterrent to increasing leverage in the same sense that financial distress costs are a deterrent in traditional Trade-Off theories. While this logic implies that many firms will view low leverage as the theoretical ideal even in the face of corporate tax benefits of debt, this will not be true for all firms, or for a given firm at different points in time. In general, the long-run leverage target depends on the firm-specific value of financial flexibility (in the form of unused debt capacity which can be

deployed if equity is more expensive at that time) versus the tax benefits of debt.

Conclusion

Designing an appropriate capital structure to fund the business should be viewed as one of the key responsibilities of the CFO or Treasurer, and accordingly it is important to dedicate the necessary time and resources to get it right. Failure to do so can result in insufficient liquidity to cover operating expenses, invest in growth assets, repay investors, and will most likely negatively impact upon equity value. Fortunately, there are some useful prescriptions from the capital structure theory for managers to draw upon in their quest to optimise their company's balance sheet and by extension, maximise shareholder value. In this regard, these managers would be well-advised to consider the merits of De Angelo and De Angelo's Financial Flexibility Theory of Capital Structure, which goes beyond the better known Trade-Off and Pecking Order theories by specifically incorporating financial flexibility as a key determinant of capital structure, and more accurately reflects current market practice by corporate financiers.

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