THE FINANCING OF ENVISAGED CAPITAL **INVESTMENTS IN SOUTH AFRICA**

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Abstract

The envisaging of capital investments is of prime importance for the economic growth and business development of a country, as it represents the starting point of the entire capital investment process. This paper focuses on the financing of envisaged capital investments and addresses amongst others the various sources of financing and the finance cost thereof, the related capital structure theories, as well as the determinants of the capital structure of an enterprise, which comprise of the economic and firmspecific factors. The objective of this research paper embodies the improvement of the financing decision-making when enterprises are envisaging capital investments. A literature study provided the secondary data and formed the basis of this research. To achieve the research objective, an opinion survey was done to obtain the perceptions of the business leaders in South Africa regarding the importance of the economic and firm-specific factors for the financing of envisaged capital investments, the associated problem areas as perceived by the firms, as well as the frequency of envisaging various types of capital investment projects by the respondents.

Keywords: Capital Investments, Capital Structure, Debt Capital, Equity, Financial Leverage, Weighted Average Cost of Capital

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1. Introduction and Objective of Research

Capital investments are very important to obtain economic growth in any country and to further the financial performance of enterprises. Before a capital investment can be planned in detail, it is necessary to envisage the financing thereof. This process entails a choice between equity and debt financing and to determine how much of equity and/or debt will be used to finance the particular envisaged capital investment.

The combination of equity and debt financing leads to the capital structure of a firm. It is important for every firm to obtain an optimal capital structure in order to maximise the value thereof. Due attention is paid in this paper to the main capital structure theories which explain the rationale of the financing decision.

There are also a number of economic and firmspecific factors which management should take into account for the financing of envisaged capital investments.

The objective of this paper is formulated as the improvement of the financing decision-making by enterprises when they are envisaging capital investments. Secondary as well as primary data are necessary to reach this objective. The secondary data will consists of a literature study which focuses on the sources and costs of financing, the main capital structure theories, as well as the economic and firmspecific factors which determine the capital structure of an enterprise. The primary data consists of an opinion survey which focused on the top listed companies on the Johannesburg Stock Exchange (JSE) in South Africa. These companies are regarded



as the business leaders in South Africa. The opinion survey highlights the importance of the economic and firm-specific factors for the financing of envisaged capital investments, the problem areas when financing envisaged capital investments, as well as the frequency of envisaging various types of capital investment projects.

2. Sources and Costs of Financing

The sources of finance consist of equity and debt financing. Equity can be divided into external and internal equity, where external equity relates to the issued ordinary and preference share capital of a company, and internal equity consists of the reserves of a company which can be applied for the internal financing of capital investments. Debt capital consists of external capital obtained from various types of debt providers.

The capital structure of a firm may have only equity capital, but firms usually choose to employ equity and debt capital in order to achieve an optimal capital structure to enhance value-maximisation (Brigham & Daves, 2004:310). By including debt capital in the capital structure of a firm, the benefits of financial gearing (or financial leverage) can be obtained (Els, 2012:336).

When an enterprise employs more than one source of finance, the cost of each source should be seen as the rate of return which is required by each provider of capital. The cost of each source of finance must be weighted according to its contribution to the capital structure of an enterprise. The following equation can be used to determine the weighted average cost of capital (WACC) of a firm (Els, 2012:323):

WACC = { $k_e v_e + k_p v_p + k_d (1-t) v_d$ } / { $v_e + v_p + v_d$ } Where:

 $k_e = cost of ordinary shares$

 $k_p = \text{cost of preference shares}$

 $k_d(1-t) = \cos t$ of debt after tax

 v_e , v_p and v_d are the weights used for shares, preference shares, and debt ordinary respectively based on their book or market value.

Dividends payable on issued ordinary and preference share capital are paid on an after tax basis and therefore do not receive any tax benefits. It should however be borne in mind that the interest payable on the debt is usually deductible for tax purposes which lower the after tax cost thereof (Sheikh & Wang, 2011:119). Although the employment of debt capital may provide a lower cost after tax, it may also lead to bankruptcy. When the bankruptcy of an enterprise occurs, the creditors of a firm may initiate a legal process to terminate the enterprise, while agency costs may be generated when a conflict between the providers of debt capital and the shareholders takes place due to a risk of default (Moyer et al., 2007:429; Sheikh & Wang, 2011:119-120). The capital structure theories are addressed in the following section.

3. Capital Structure Theories

There are many theories to explain the different capital structures and the financing decision which led to them. Although the Modigliani-Miller theory is well-known and was based on various assumptions (Firer et al., 2004:531-541; Modigliani & Miller, 1958:261-297), the trade-off theory and the pecking order theory may have more recent supporters.

The trade-off theory relaxes the assumption of Modigliani-Miller theory concerning the no bankruptcy costs (Brigham & Daves, 2004:499-501). When higher levels of debt are employed by an enterprise, the legal obligation of higher interest payments also increases, while the risk of bankruptcy simultaneously intensifies (Brealy et al., 2006:476-477; De Wet, 2006:6). As the level of debt increases, the bankruptcy costs may later become so crucial that it may even reduce the tax benefits which the interest payments provide. The conclusion of the trade-off theory is therefore that a firm should make a trade-off between the tax benefits of the interest payments being tax deductible and the higher bankruptcy costs which an increase of the debt level bring about (Rao et al., 2007:3).

The pecking order theory assumes that asymmetric information exists between managers and the investors as the investors do not know the true value of new investments which management wants to finance (Brigham & Houston, 1998:518; Myers, 2001:91). The management therefore sends a signal to the market when they require a particular source of finance for new investments. According to De Wet (2006:8) as well as Sheikh and Wang (2011:120) the sequence in which new investments should be financed according to the pecking order theory is as follows: employ retained earnings, followed by debt, and in the last instance apply equity. The rationale for the pecking order is as follows:

• If a really profitable investment opportunity exists, the enterprise will prefer to use retained earnings to finance the investment in order to retain all the profits (without paying any interest to debt providers).

• When a firm employs debt, it signals to investors that it is confident that the interest payments will not lead to the bankruptcy of the enterprise.

• If a firm issues new equity, the market price per share may decrease as the number of issued shares will increase, and the risk is spread amongst the shareholders (Rao et al., 2007:3.

After describing these two dominant capital structure theories which explain the decisions regarding capital structures, the various determinants of a capital structure are addressed in the following section.



4. Determinants of a Capital Structure

The determinants of an enterprise's capital structure can be classified in two categories, viz. the economic factors as well as the firm-specific factors which are linked to the particular enterprise. These factors are discussed in the following sections.

4.1 Economic factors

The economic factors which are not controllable by a firm, include the interest rate, the inflation rate and the foreign exchange rate. The interest rate is used to determine the cost of debt financing and it also plays a vital role when an enterprise's weighted average cost of capital is calculated. As the trade-off theory states that a firm should make a trade-off between the tax benefit of the interest payments and the risk of bankruptcy, a positive relationship between the level of the interest rate and the level of the bankruptcy risk may occur. On the other hand, a negative relationship may exist between the level of the interest rate and the extent to which a firm applies the financial leverage. It can therefore be concluded that the interest rate may have an impact on the financing decision of envisaged capital investments.

As an *inflation rate* decreases the purchasing power of money, it may negatively impact on the economic development of a country. The expected *real* income of an envisaged capital investment may be lower, while the monetary investment amount needed for the financing of the capital investment may increase due to the inflation rate. The Fisher effect is thus emphasised which states that an inflation rate reduces the nominal interest rate to provide a lower real interest rate (Els, 2012:243). It can therefore be concluded that inflation may enhance the application of debt capital to finance envisaged capital investments as the real cost of debt will be lower.

A foreign exchange rate indicates the respective value of two currencies when transferring monetary assets as well as equity and debt capital between the two countries (Gitman, 2000:833). Foreign exchange rates are influenced by various factors, amongst others the preference of consumers for specific products or services, particular government and economic policies or by employing speculative opportunities (Lasher, 2011:775). This determinant for the financing of envisaged capital investments is of prime importance when the source of the equity and/or debt capital is in another country while the funds are needed in the home country of the enterprise, or vice versa. The foreign exchange rate between the home and the host countries may either be beneficial or detrimental concerning the financing needed in the currency of the other country. Enterprises should therefore take the foreign exchange rates into account when the financing of envisaged capital investments is considered.

4.2 Firm-specific factors

The firm-specific factors that are important when an enterprise envisage capital investments focus on the following aspects, viz.:

The *profitability* of the envisaged capital investment which represents the main concern of an enterprise and embodies the prime objective for its existence. The profitability of the capital investment may be enhanced by applying a positive financial leverage. As interest payments are tax deductible, profitable enterprises may be keen to finance envisaged capital investments with debt capital (Drobetz & Fix, 2003:16; Sbeiti, 2010:60). The tradeoff theory should however be borne in mind which states that the risk of bankruptcy increases when more debt capital is employed. According to the pecking order theory, an increase in profitability over the long term may lead to higher retained earnings, which may eventually result in less debt capital needed to finance envisaged capital investments. Drobetz and Fix (2003:16) emphasised that the level of financial leverage may be lower when an enterprise's level of profitability increases.

A higher *liquidity* level should lead to a • lower cost of bankruptcy as an enterprise should be in a better position to pay the periodic interest payments of debt capital. This conclusion supports the trade-off theory which emphasises that there should be a tradeoff between the level of the debt capital employed by a firm and the level of the bankruptcy risk which the debt capital causes. There may be a positive relationship between the levels of liquidity and financial leverage (Sheikh & Wang, 2011:123). According to Sbeiti (2010:62) the pecking order theory however leads to the conclusion that enterprises with a high level of liquidity may employ less debt capital as firms with a high level of liquidity will prefer to employ retained earnings to finance envisaged capital investments.

• The *volatility* of an enterprise's *cash flow* plays an important role in this regard. Firms with a highly volatile cash flow may use a low financial leverage. According to the pecking order theory, an enterprise with a highly volatile cash flow may use a lower level of financial leverage, as the cost of the debt capital may be fixed higher for the enterprise to compensate the provider of the debt capital for the higher associated risk (Drobetz & Fix, 2003:17).

• As *solvency* is the ability of an enterprise to meet all its obligations when the entire activities cease, it plays a vital role in the financing decision of envisaged capital investments (Lambrechts, 1990:119). When a firm's enjoys a high solvency, it should be able to obtain more debt without sacrificing the control of the enterprise (McGuigan *et al.*, 2009:485).

• *Future growth opportunities* may have a negative relationship with financial leverage (Sheikh & Wang, 2011:123; Titman & Wessels, 1988:4). The

trade-off theory expects that higher future growth opportunities, which are seen as intangible assets, may lead to lower financial leverage, because the future growth opportunities cannot be collateralized by the enterprise. The pecking order theory holds the opposite view, as enterprises with higher future growth opportunities which may exceed their available retained earnings, may need debt capital to finance their envisaged capital investments (Drobetz & Fix, 2003:15-16).

The preceding discussion of the firm-specific factors which impact on the determination of a firm's capital structure, sometimes highlight conflicting conclusions due to the application of the trade-off theory or the pecking order theory. Enterprises should therefore consider the conflicting conclusions and thereafter decide which approach represents the most appropriate way to finance their envisaged capital investments.

5. Research Methodology

The objective of this research paper was initially defined as follows, viz. the improvement of the financing decision-making by enterprises when they are envisaging capital investments. To accomplish the objective, it was necessary to obtain and analyse secondary as well as primary data. The preceding sections of this paper contain the results of the secondary research. An empirical survey was employed to acquire the primary data. The top 20 companies listed on the Johannesburg Stock Exchange were identified as the sample of the empirical study as they are perceived to be the business leaders in South Africa (Financial Mail, 2011). The opinions of the business leaders are of prime importance as they should indicate the appropriate financing decision-making process for the business sector at large.

The results of the secondary data were used to compile a questionnaire which was sent to the chief financial officers of the top 20 companies, accompanied by a cover letter. One of the chief financial officers chose not to partake as the empirical survey was not applicable to that company's line of business. After following up, 12 completed questionnaires were available which represents a response rate of more than 63%.

A five point Likert interval scale was used for some of the questions of the questionnaire. These responses could be weighted as it was explicitly stated on the questionnaire that the five point Likert interval scale forms a continuum (Albright et al., 2002:224-229 & 245). The weights which were assigned to the responses of the respondents appear in Table 1.

Table 1. The weights assigned to the answers of the respondents

Answers of the respondents:	Weights assigned:		
Extremely important	Always	5	
Highly important	Very often	4	
Moderately important	Sometimes	3	
Little important	Seldom	2	
Not important	Never	1	

The following sections contain the results obtained by the empirical survey.

6. Empirical Results

The results of the empirical survey which appear in the next sections will focus on the following aspects, namely:

• The importance of general economic and firmspecific factors for the financing of envisaged capital investments,

• The problem areas when financing envisaged capital investments, as well as

• The frequency of envisaging various types of capital investment projects.

6.1 The importance of general economic and firm-specific factors for the financing of envisaged capital investments

The factors which are important when the executive managers are considering the financing of envisaged capital investments are classified according to the general economic factors as well as firm-specific factors. The importance of these factors as perceived by the respondents is depicted in the following table.

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General economic factors	Extremely important	Highly important	Moderately important	Little important	Not important
A change in the applicable interest rates	1	3	3	3	2
A change in foreign exchange rates	1	2	5	4	
A change in inflation rates		4	6	2	
Firm-specific factors					
Improvement of the profitability of the firm after the envisaged capital investment	8	4			
Improvement of the solvency of the firm after the envisaged capital investment	2	3	4	3	
Improvement of the liquidity of the firm after the envisaged capital investment	3	2	5	2	
Improvement of the net cash inflow of the firm after the envisaged capital investment	7	2	2	1	
The utilisation of expected growth opportunities after the envisaged capital investment	6	3	3		
The utilisation of the financial leverage due to the envisaged capital investment	2	5	3	2	
The tax implications of the envisaged capital investments	1	6	5		

Table 2. The importance of general economic and firm-specific factors for the financing of envisaged capital investments, as perceived by the responding companies

It is interesting to note that the improvement of the profitability of the firm after the envisaged capital investment was undertaken, was perceived as extremely important by eight of the 12 respondents, while the remaining four respondents were of the opinion that this factor is highly important. All the responses which appear in the preceding table were weighted as discussed in Section 5 of this paper and the results appear in Table 3.

Table 3. The weighted responses on the importance of the general economic and firm-specific factors for the financing of envisaged capital investments, as perceived by the responding companies

Total weighted score calculated	Declining order of importance	General economic and firm-specific factors		
56	1	Improvement of the profitability of the firm after the envisaged capital investment		
51	2	Improvement of the net cash inflow of the firm after the envisaged capital investment		
51	2	The utilisation of expected growth opportunities after the envisaged capital investment		
44	4	The tax implications of the envisaged capital investments		
43	5	The utilisation of the financial leverage due to the envisaged capital investment		
42	6	Improvement of the liquidity of the firm after the envisaged capital investment		
40	7	Improvement of the solvency of the firm after the envisaged capital investment		
38	8	A change in inflation rates		
36	9	A change in foreign exchange rates		
34	10	A change in the applicable interest rates		

It was already indicated that the improvement of the profitability of envisaged capital investments seems to be very important. It therefore did not come as a surprise that this factor received the highest total weighted score calculated according to the preceding table, as higher profitability may enhance shareholders' value to finance envisaged capital investments by means of internal financing.

The following two factors provided the same and second highest total weighted score calculated, viz. improvement of the net cash inflow of the firm after the envisaged capital investment as well as the utilisation of expected growth opportunities after the envisaged capital investment. It is quite logic that the improvement of the net cash inflow should be very important because enterprises need cash inflows to finance their envisaged capital investments. The growth opportunities may refer to an overall growth of the enterprise, a growth of the earnings of the firm or a growth of its market share to finance its envisaged capital investments.



Based on the perceptions of the respondents, the tax implications which should benefit the financing of the envisaged capital investments, received the fourth highest total weighted score calculated. The reason for this perception may indicate that the respondents are looking for opportunities to decrease their tax payments by receiving tax allowances for the depreciation of additional property, plant and equipment.

It should be mentioned that the four preceding factors are classified as firm-specific factors according to Table 2. The three general economic factors in Table 2, namely the change in the inflation rates, the foreign exchange rates and the interest rates, received as a group the lowest total weighted scores calculated. It should therefore be clear that the executive managers perceive the general economic factors as uncontrollable factors which they should accept and therefore manage the financing of their envisaged capital investments within the parameters provided by the general economic factors.

6.2 The problem areas when financing envisaged capital investments

The financing of envisaged capital investments may provide particular problem areas when they are implemented. The number of respondents who indicated the various problem areas is shown in the following table.

Table 4. Problem areas when financing envisaged capital investments, as perceived by the respondents

Problem areas	Number of respondents who indicated the problem area		
The availability of debt capital	8		
Change in the foreign exchange rates	6		
Change in tax rates and regulations	6		
Change in the risk of default and bankruptcy	6		
Change in the applicable interest rates	3		
The availability of equity capital	2		
Change in the inflation rates	1		
Imposts posed by local communities	1		
Investment climate and general business confidence	1		
Evaluation of the return on investment	1		
Political risks in the country	1		

The problem areas which were mentioned by 50% or more of the respondents are as follows:

• The availability of debt capital is the specific problem area indicated by the majority of respondents. It may be difficult for an enterprise to obtain debt capital to finance an envisaged capital investment. The provider of the debt capital may require additional security which can be applied in the event of default, or it may charge higher interest rates to compensate for increased financial risks.

• A change in the foreign exchange rates may be beneficial to a firm when the envisaged capital investments are abroad, but it can also be detrimental to the particular enterprise. The prediction of the foreign exchange rate's trend is therefore of prime importance when considering the financing of envisaged capital investments abroad.

• The tax rates and regulations of a country may change which may have a positive but sometimes also a negative impact on the financing of envisaged capital investments. The attitude of a particular government and the tax policies which authorities apply, may impact on the long-term financial feasibility of an envisaged capital investment.

• Firms are continuously subjected to a change in the risk of default and bankruptcy. The financing of

envisaged capital investments may increase the probability that an enterprise may experience default and bankruptcy, especially when the envisaged capital investments provide inadequate profit and net cash inflows.

6.3 The frequency of envisaging various types of capital investment projects

Various types of capital investments can be envisaged by executive managers, of which the applicable types are capital investments in the home country *or* abroad, as well as capital investments in die current line of business *or* in new lines of business. While capital investments abroad will emphasise the application of foreign exchange rates for the financing thereof, capital investments in new lines of business may bring new financial and business risks which may need a different capital structure and financing policy. The following table provides the frequency of envisaging various types of capital investment projects by the respondents.



Types of capital investment projects	Always	Very often	Some-times	Seldom	Never
Capital investment projects in South Africa	6	3	3		
Capital investment projects abroad	4	5	3		
Capital investment projects in the current line of business	5	7			
Capital investment projects in new lines of business	2	2	4	4	

Table 5. Frequency of envisaging various types of capital investment projects by the respondents

The answers of the respondents were weighted by applying the weights discussed in Section 5 of this paper. The weighted responses on the frequency of envisaging various types of capital investment projects are depicted in Table 6.

Table 6. The weighted responses on the frequency of envisaging various types of capital investment projects by the respondents

Total weighted score calculated	Declining order of importance	Different types of capital investment projects
53	1	Capital investment projects in the current line of business
51	2	Capital investment projects in South Africa
49	3	Capital investments projects abroad
38	4	Capital investment projects in new lines of business

The total weighted scores calculated show that capital investments in the *current* line of business are most frequently envisaged by the respondents. It is therefore clear that the respondents want to stick to the lines of business as well as the associated financial and business risks which they know very well. It is also interesting to note that *domestic* capital investments have the second highest total weighted score calculated. Although the respondents are also considering capital investments abroad, the total weighted score calculated indicates that the respondents envisaged capital investments in South Africa more frequently.

7. Conclusions

This research paper should reach its stated objective, which embodies the improvement of the financing decision-making by enterprises when they are envisaging capital investments. The literature study formed the basis of the research, followed by an empirical survey which took the perceptions of the business leaders in South Africa regarding the research topic into account. South Africa is a developing country with an emerging market economy and the following conclusions of this research paper should therefore also be important to other countries which are classified similarly:

(1) The improvement of the profitability of envisaged capital investments is perceived to be the most important factor which enterprises take into account during the particular financing decisionmaking process. The following two factors seem to be equally important and are regarded as the second most important factors which the enterprises consider, viz. the improvement of the net cash inflow of the enterprise as well as the utilisation of the expected growth opportunities of the firm in order to finance its envisaged capital investments. The tax implications of the envisaged capital investments are also perceived to be important and is classified as the fourth important factor, as a decrease of the tax payments may benefit the financing of the capital investments.

(2) When considering the financing of envisaged capital investments, the following problem areas were indicated by at least 50% of the respondents:

• The availability of debt capital against the background of the additional security required by the debt provider or the charging of a higher interest rate by the lender to compensate for increased financial risks.

• A detrimental change in the foreign exchange rates when the financing of the envisaged capital investment occurs abroad.

• The tax rates and regulations of a country may sometimes have a negative impact on the financing of envisaged capital investments.

• A change in the risk of default and bankruptcy, especially when the envisaged capital investments do not provide enough profit or net cash inflows.

(3) It is important to note that capital investments in the *current* line of business are most frequently envisaged by enterprises, probably as the associated financial and business risks are known to them. It should also be emphasised that *domestic* capital



investment projects are popular when firms are envisaging capital investments, although they are also paying attention to capital investments abroad.

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