RISK FINANCING FOR CAPITAL INVESTMENTS TO ENHANCE SHAREHOLDERS' VALUE

C Stander*, J H Mostert**, F J Mostert***

Abstract

The purpose of any company should be the maximization of shareholders' wealth, which implies a higher return on equity and less risk associated with the capital invested. Capital investment opportunities however impact on both the return on equity and the associated company-specific risks. These two factors need to be played of against each other, because higher return on equity usually requires higher associated risks. Given the risks associated with capital investments, equity capital or risk financing instruments can be used to provide the protection needed. Until recently the main focus was on the traditional approach, making use of equity capital instead of risk financing instruments. This research puts the emphasis on the improvement of financial decision-making by companies, through the use of risk financing instruments instead of equity capital, freeing the equity for other strategic investments.

Keywords: Captive insurance, Contingency fund, Equity programme, Futures contracts, Insurance

** Department of Business Management*
University of Stellenbosch
Private Bag X1
Matieland
7602
South Africa
Tel.: +27 84 584 1479
Fax.: +27 21 808 2226
E-mail: 14556820@sun.ac.za
****Department of Business Management*
University of Stellenbosch
Private Bag X1
Matieland
7602
South Africa
Tel.: +27 21 808 2219
Fax.: +27 21 808 2226
E-mail: fjm@sun.ac.za
Correspondence should be addressed to F J Mostert.

***Department of Business Management*
University of Stellenbosch
Private Bag X1
Matieland
7602
South Africa
Tel.: +27 21 915 5765
Fax.: +27 21 808 2226
E-mail: jmostert@absa.co.za

1. INTRODUCTION AND OBJECTIVE OF RESEARCH

Every company, industry or country should perceive wealth creation as of key importance for economic and financial development. On the level of a single company, the shareholders are interested in a particular type of wealth creation, called shareholders' value, that is mainly determined by the following three factors, which are:

- the return obtained on the equity of a company;
- the company-specific financial and business risks; as well as
- the associated risks of the market which cannot be managed by an individual company.

Every company should therefore strive to *increase* the return on equity while taking the associated level of risk into consideration. An enterprise should also *distinguish* between value-adding risks (due to positive net present value activities and/or competitive advantages) and passive risks on the other hand (that does not add any value to the company), and *decrease* the passive financial and/or business risks of the company (Merton, 2005:86).

A company has the option to invest its capital in financial instruments or physical assets in order to create shareholders' value. The emphasis of this

research is on capital investments (compared to investments in financial instruments) to enhance the return on equity while a positive leverage prevails. By doing this, the financial and business risks of a particular company may also increase, due to the utilisation of the positive leverage. The higher financial and business risk may be countered in two manners, viz.:

- the application of additional equity to advance the company's solvency ratio (that is the shareholders' interest divided by the debt capital), or by
- the application of risk financing instruments where the periodic cash flow of a company plays a vital role.

Comparing the risk financing alternative with the application of additional equity to strengthen the solvency of a company, it should be clear that risk financing will make the additional equity available for other capital and/or financial investments. A company's return on equity may therefore be improved by the additional strategic investments.

The *research objective* focuses on the improvement of the shareholders' value of a company by investing in physical (real) assets and applying risk financing instruments to counter the associated financial and business risks. The objective of this research is achieved by having a literature study as the starting phase, followed by a case study of a leading South African listed company, which is currently occupied in an extensive capital investment program of more than R1 billion.

2. RETURN ON VERSUS RISKS OF CAPITAL INVESTMENTS

Capital investments impact on both the return on equity and the associated company-specific risks. The two manners according to which capital investments can enhance the return on shareholders' equity, as well as the associated risks, are discussed in what follows.

2.1 Utilising financial leverage

Financial leverage originates from the application of *loan capital* as well as *preference (preferred) share capital*. As both forms of financing have a relatively constant cost of capital, a positive financial leverage occurs when a company earns more by investing the loan capital or preference share capital, than the cost thereof (Brealey, Myers & Allen, 2006:789-791; Brigham & Daves, 2004:494-496 ; Damodaran, 2001:204; Firer *et al*., 2004:525-529). This will lead to an increase in the return on equity, but on the other hand, the *financial risk* of the company will also be higher when loan capital, which has a legal obligation, is invested. As *cumulative* preference share capital ensures that all arrear preference dividends must first be paid before the common shareholders receive any dividends, the common shareholders have higher financial risks due to the application of this form of financing. It is therefore necessary to balance the positive and negative effects when employing financial leverage.

2.2 Utilising operating leverage

The operating leverage is the result of investing capital in *capital intensive operations* to obtain fixed costs, which stay the same while the production capacity of a company remains within particular margins. A positive operating leverage occurs when the percentage increase in sales leads to a higher percentage increase in operating profit, which should eventually increase the return on equity (Brealey, Myers & Allen, 2006:225-226; Brigham & Daves, 2004:491-494; Damodaran, 2001:202-203; Firer *et al*., 2004:338-341). The operating leverage will, however, increase the *business risk* of a company due to the higher level of fixed costs. Business risks are very prominent when the interruption of business activities occurs. Balancing the positive and negative effects of the operating leverage is therefore important in order to enhance the shareholders' value of a company.

3. RISK FINANCING

When risks are increased by employing capital investments, additional equity can be applied to boost the solvency of a company. Instead of utilising additional equity, risk financing will enable the company to control the impact of the company-specific financial and business risks, while setting the additional equity free for other strategic applications.

Risk financing embodies the utilisation of periodic cash flow. When *internal* risk financing occurs, the company *still* manages, controls and accepts the responsibility of the company-specific risks, sometimes with the assistance of third parties. *External* risk financing represents the *transfer* of risk-related activities and/or possible detrimental financial consequences to a third party, and by making periodic payments to the third party for services rendered by them. The following sections focus on the most prominent manners of risk financing.

3.1 Arranging loan facilities

A company has the option to arrange loan facilities with a financial institution before the occurrence of a detrimental event which leads to financial and/or business risks. The company will usually have to pay a periodic availability fee to ensure that when a disaster leads to financial and/or business risks, the loan facility will be available. The drawback of this type of risk financing is that the level of the interest rate will only be set when the loan is granted. The financial institution may also refuse a moratorium period, forcing the company to start the periodic repayments when it is actually at a low solvency level. The interest component of the periodic payments will usually be tax deductible.

3.2 Implementing an equity program

In the case of an equity program, a company pays an annual fee to an institutional investor, who in return undertakes to subscribe to a predetermined number of shares of the company at a predetermined price when a specific detrimental event occurs which leads to financial and/or business risks (Zolkos, 1996:1-3). The company is therefore sure that its solvency will be enhanced when a disaster happens, but on the other hand, the issuing of shares to the institutional investor may influence the control of the company. To counter the latter drawback, it may be stipulated in the contract that the shares to be issued will not have any voting rights. It must be emphasized that the issuing of equity *only* occurs when a disaster happens, compared to the alternative for risk financing where additional equity is issued to enhance a company's solvency throughout the lifespan of the capital investment.

3.3 Establishing a contingency fund

A company may establish a contingency fund by depositing periodic payments in a fund owned by itself and which can provide cash flow when needed, due to a detrimental event (Mostert, 2003:274-288; Zolkos, 1998:3-4). It is logic that the fund will be interest-bearing, which will be taxed by the state. The periodic payments can be increased according to the company's discretion to take the effect of inflation into account. It must be emphasized that the periodic deposits in the fund are cash flow available after taxation, so no tax benefit will be applicable. The downside of this type of internal risk financing is that a contingency fund usually starts from scratch and that detrimental events within the first years of the fund's lifetime will not be fully covered. The establishment of a contingency fund may be appropriate for capital investments which are geographically diversified (like shopping centres) where the financial and/or business risk of a natural disaster is spread between the various capital investments.

3.4 Obtaining captive insurance

A parent (holding) company (or a few companies) may establish a captive insurance company, which is a fully owned subsidiary of the parent company (or companies) (Le Roux & Mostert, 2005:18-28). It is important to emphasis that the captive insurer underwrites only the financial and/or business risks of the parent company and receives premiums only from the parent company.

Onshore, offshore and cell captive insurers are various forms of this type of risk financing. Where an onshore captive insurer is located in the same country as the parent company and is therefore taxed by the same authority, an offshore captive insurer often cannot be taxed by the tax authority of the parent company. This may lead to problems concerning the tax deductibility of the premiums paid by the parent company to the offshore captive insurer.

A cell captive insurer embodies a company which consists of various cells which are individually owned by different companies (Pilla, 2001:85-86). As different classes of preference (preferred) shares are issued to the different companies, the cells are independent when bankruptcy occurs. A cell captive insurer is jointly registered as an insurer and may also undertake the administration on behalf of the different companies. A cell captive insurer is thus a cheaper option for an owner of a particular cell, compared with an onshore or offshore captive insurer.

The benefits of captive insurance are that more flexible coverage of financial and/or business risks should be accessible, and coverage not otherwise available may be provided. The premiums may be lower due to the payment of dividends by the captive insurer to its parent company, and the benefits of tax havens may be employed by offshore captive insurers.

3.5 Utilizing swap agreements

In order to counter the impact of financial and/or business risks, a company may utilize swap agreements (for example equity swap or interest rate swap agreements) to exchange the periodic returns on assets or a number of products in respect of a specified notional (principal) amount (Bodie, Kane & Marcus, 2001:362-363; Chance, 2003:270-272; Hull, 2000:121; Merton, 2005:90). It is important to realize that no initial payments are made by any one of the parties, and that the subsequent periodic payments only involve the difference between the periodic returns. As only the positive differences in the periodic returns are payable, the company which has the obligation to pay, will be able to do so. No tax benefits will emerge from this type of risk financing as the returns of the companies will be on an after tax basis. Credit default swap agreements are also available, but represent an insurance contract to indemnify the insured for financial risks involved when a creditor does not pay a particular debt (Merton, 2005:90).

3.6 Utilizing option contracts

Option contracts provide one of the parties the right (the choice) to buy or sell an asset or a number of products (respectively called a call option and a put option) within a predetermined period of time at a particular price, countering the potential impact of financial and/or business risks (Bodie, Kane & Marcus, 2001:51-53; Chance, 2003:160-162; Du Plessis, 1990:6; Hull, 2000:151). The level of underlying risk linked to a capital investment can therefore be controlled to a certain extent by the holder of the option right. There is, however, a cost linked to acquiring an option.

3.7 Utilizing futures contracts

When a futures contract is bought, it obliges one of the parties to buy or sell an asset or a number of products within a stated period of time at a specified price, fixing the financial and/or business risks of the particular company (Bodie, Kane & Marcus, 2001:54; Chance, 2003:82; Du Plessis, 1990:6; Hull, 2000:4-5). Futures contracts can usually be traded on a recognized exchange under specified conditions and terms.

3.8 Outsourcing of activities

A company can decrease its level of risk by outsourcing some of a capital investment's activities that contain unacceptable financial and/or business risks (Jenster & Pedersen, 2000:147-154; Kakabadse & Kakabadse, 2005:183-204). Although the company is forfeiting potential profit simultaneously, it may hold the opinion that the amount of profit does not compensate adequately for the associated risks. The level of unacceptable risk will vary from company to company according to their aversion to risk.

3.9 Obtaining insurance from an insurer or reinsurer

The possible detrimental financial and/or business consequences of stipulated events can be transferred to a direct insurer or a professional reinsurer where the insured has to pay periodic premiums to compensate the insurer or reinsurer. As premiums are considered to be of a recurring nature, the authorities usually accept the tax deductibility thereof. The downside of this type of external risk financing is that an excess (deductible) is usually payable by the insured when a claim is made. By giving proper notice to the insured, the insurer or reinsurer may also increase the periodic premiums.

4. RESEARCH METHODOLOGY

The method of empirical investigation is by means of a case study, involving a structured questionnaire based on the literature, and an interview. The enterprise which is chosen for the case study is a leading South African company listed on the JSE Securities Exchange with the following characteristics that is of prime importance for this research:

- The company made capital investments of more than R1 billion during the past three years which were financed with short-term debt and equity.
- Capital investments in excess of R1 billion, partly funded by additional equity and the rest by means of debt, are planned for the next five years. The capital investments are part of the future strategy of the company to create additional manufacturing capacity and to enhance production efficiencies to cater for anticipated strong growth in consumer spending. Capital investments which play a vital role in this research are therefore a prime focus point in this particular company.
- Due to the proposed capital investment program and the fact that they are already capital intensive, financial and business risks are involved for the company. The company employs risk financing instruments to counter these risks and as a result is exceptionally suitable to this research.

The interview was conducted with the financial director of the company who has more than 20 years of experience and is highly acclaimed in his company and his field of specialization. No interpretation problems were experienced by any one of the parties and the reliability of the information is beyond any doubt.

5. EMPIRICAL RESULTS

The following results are obtained with regards to the perceived importance of the risks relating to capital investments, and the perceived importance of the risk financing instruments to counter these risks. Risks regarded as extremely and highly important are emphasised in the following discussion as they are exceptionally important for the future development of the company.

5.1 The perceived importance of risks relating to capital investments in general

The following table provides the company-specific risks which are encountered by the company making the capital investments. The perceived importance of each risk differs, due to the extent of the risk associated with the capital investments.

The following risks are regarded as *extremely important*, namely commodity price risks, profitability risks and cash flow risks. These risks are of extreme importance to the company due to their interdependency upon each other.

Commodities are the company's single largest expenditure and a small percentage change in the purchase prices of raw materials typically has a significant impact on the profitability and cash flow of the company. Commodity price risks are therefore of particular importance for the sustained financial performance of the enterprise.

The impact of commodity price, inflation rate and foreign exchange rate risks on the *profitability* of the company is closely related to its ability to timeously recoup increased raw material costs in the market. This in effect may have an impact on *cash flow* through the investment in working capital, influencing the amount of cash available for other vital payments.

Table 1. The perceived importance of risks relating to capital investments in general

Risks	Extremely important	Highly important	Moderately important	Little important	Not important
Inflation rate risks (known as CPIX in South Africa)		X			
Commodity price risks	X				
Foreign exchange rate risks		X			
Interest rate risks			X		
Credit risks			X		
Profitability risks	X				
Solvency risks			X		
Cash flow risks	X				

The following risks are regarded as *highly important*, viz. inflation rate risks (known as CPIX in South Africa) and foreign exchange rate risks. *Inflation rate risks* are related to the increases in consumer prices due to the increased cost of raw materials, labour and transport. The company is exposed to *foreign exchange rate risks* arising from various currency exposures, primarily with respect to the US dollar and the euro, because it procures internationally and exports. The prices of commodities are determined internationally which imposes a risk on the company, because if the exchange rate weakens, they have to pay more rands resulting in higher working capital requirements.

The following risks are regarded as *moderately important*, namely interest rate, credit and solvency risks. The *interest rate* features in new borrowings and the refinancing of existing borrowings. The company borrows at both fixed and variable rates of interest and hedges 50 per cent of its interest-bearing commitments.

Assets that play a role in the company's *credit risk* consist principally of cash, short-term deposits and trade receivables. The company's cash equivalents and short-term deposits are placed with respectable financial institutions. Trade receivables are subject to credit limits, control and approval measures. The level of credit risk with respect to trade receivables is limited, due to the large number of customers comprising the company's customer base and their distribution across different industries and geographical areas.

The degree of *solvency risk* the company is exposed to is regarded as moderate. The company's debt to equity ratio is about 35% and the company has therefore capacity to cover all borrowed capital with assets. In general, a satisfactory level of solvency exists when the company is able to acquire more borrowed capital, without sacrificing control of the company.

5.2 The perceived importance of risk financing instruments used to counter risks relating to capital investments currently, and five years from now

The following risk financing instruments, as it appears in Table 2, are considered by the company to counter against risks relating to capital investments. The importance perceived of each instrument currently, and five years from now, appears in the following table.

Based on the information in Table 2, the only risk financing instrument that will change in importance over the next five years is *loan facilities*. Currently loan facilities are regarded as extremely important due to increased raw material costs and a resultant increase in working capital requirements in a world that changed significantly during the past five years. The company subsequently restructured its capital structure to secure funding and to better match long-term capital requirements with long-term debt. The capital restructuring entailed an issue of equity and the conversion of a significant portion of short-term banking facilities into long-term debt.

Loan facilities five years from now are seen as highly important. The decline in importance of loan facilities during the next five years is due to the anticipated reduction of debt as loans get amortized.

Future and option contracts are of high importance to the company. These contracts are used to hedge against possible commodity price increases, as well as against changes in foreign exchange rates, thereby reducing the effect of such changes on the cash flow, profitability and solvency of the company. The company also makes use of a combination of option contracts to create so-called "zero cost" collars which involve the receipt and payment of option premiums to provide protection against a hike in interest rates beyond a certain level (the cap) in exchange for benefits that are sacrificed should interest rates drop below a certain level (the floor).

Table 2. The perceived importance of risk financing instruments used to counter risks relating to capital investments currently, and five years from now

Risks financing instruments	Extremely important		Highly important		Moderately important		Little important		Not important	
	Currently	5 years	Currently	5 years	Currently	5 years	Currently	5 years	Currently	5 years
Captive insurance							X	Y		
Contingency funds									X	Y
Equity programme									X	Y
Futures contracts			X	Y						
Loan facilities	X			Y						
Option contracts			X	Y						
Swap agreements					X	Y				
Insurance from direct insurers or professional reinsurers					X	Y				
Outsourcing of activities							X	Y		

5.3 Risk financing instruments which are perceived as (at least) highly important to counter inflation rate risks, commodity price risks, foreign exchange rate risks, interest rate risks and credit risks

Table 3 provide the responses on the risk financing instruments which are perceived as (at least) highly important in order to counter inflation rate risks, commodity price risks, foreign exchange rate risks, interest rate risks and credit risks.

Table 3. Risk financing instruments which are perceived as (at least) highly important to counter inflation rate risks, commodity price risks, foreign exchange rate risks, interest rate risks and credit risks

Risk financing instruments	**Inflation rate risks**	**Commodity price risks**	**Foreign exchange rate risks**	**Interest rate risks**	**Credit risks**
Captive insurance					
Contingency funds					
Equity programme					
Future contracts		**X**	**X**		
Loan facilities	**X**	**X**	**X**	**X**	**X**
Option contracts		**X**	**X**	**X**	
Swap agreements				**X**	
Insurance from direct insurers or professional reinsurers					
Outsourcing of activities					

It is clear from this table that *loan facilities and option contracts* are perceived as (at least) highly important to counter commodity price risks, foreign exchange rate risks and interest rate risks.

It must be emphasised that *commodities* are the company's single largest expenditure and that a small percentage change in the purchase prices of raw materials will have an enormous effect on the profitability and cash flow of the company should it

not be able to timeously recoup costs in the market. An increase in the price of commodities may impact on the price of the final products, influencing the sales of the company.

Due to doing business internationally and exposing working capital to *foreign exchange rate risks*, the company employ future and option contracts as well as loan facilities to hedge against this risk. The company therefore utilises mainly the same risk financing instruments to counter foreign exchange rate risks than which are used to hedge against commodity price risks.

As the proposed investments will be partially financed with long-term debt and due to the fact that the movement of *interest rates* cannot be controlled by the company, the effect of changes in interest rates are countered by employing loan facilities, option contracts and swap agreements.

It is obvious that *inflation rate risks* are countered by using loan facilities, as interest-bearing debt may have a fixed interest rate or a variable interest rate between particular margins, which will secure the interest rate on an acceptable level. By employing loans, a company may transfer the *credit risk* to a limited extent to the providers of the debt capital. It should however be mentioned that credit risk is limited for the particular company, because only a negligible amount of debt (expressed as a percentage of total debtors) is irrecoverable each year.

The five risks discussed in this section will impact on the profitability, the solvency and the cash flow of the company. The following sections therefore focus on the perceived importance of the risk financing instruments used to counter the *profitability, solvency and cash flow risks* relating to capital investments.

5.4 The perceived importance of risk financing instruments used to counter profitability risks relating to capital investments

Profitability risks relating to capital investments are regarded by the company as extremely important with reference to Table 1. Due to high commodity price risks, this can potentially have a huge impact on the profitability of the enterprise. The following table pays attention to the perceived importance of the risk financing instruments which may be utilised to manage profitability risk.

Table 4. The perceived importance of risk financing instruments used to counter profitability risks

Risk financing instruments	Extremely important	Highly important	Moderately important	Little important	Not important
Captive insurance			X		
Contingency funds					X
Equity programme					X
Future contracts		X			
Loan facilities		X			
Option contracts		X			
Swap agreements			X		
Insurance from direct insurers or professional reinsurers					X
Outsourcing of activities					

The following risks financing instruments are regarded as highly important when managing profitability risks, namely futures and option contracts, as well as loan facilities. Future and option contracts are also used to hedge against commodity price increases which may impact negatively on the company's profitability. Surplus short-term loan facilities are available to the company when required.

5.5 The perceived importance of risk financing instruments used to counter solvency risks relating to capital investments

Relating to capital investments, solvency risks are regarded as moderately important. Solvency risks are not perceived as that important by the company, as indicated in Table 1. Consulting the following table, the perceived importance of those risk financing instruments to counter solvency risks, is provided.

Table 5. The perceived importance of risk financing instruments used to counter solvency risks

Risk financing instruments	Extremely important	Highly important	Moderately important	Little important	Not important
Captive insurance					X
Contingency funds					X
Equity programme			X		
Future contracts			X		
Loan facilities			X		
Option contracts			X		
Swap agreements			X		
Insurance from direct insurers or professional reinsurers					X
Outsourcing of activities					X

None of the risk financing instruments is regarded as extremely or highly important. The company has a satisfactory level of solvency which means that it is able to acquire more borrowed capital without losing control of the company. The company is more than able to cover its borrowed capital with its assets, which means that risk financing instruments are not perceived as extremely or highly important by the company.

5.6 The perceived importance of risk financing instruments used to counter cash flow risks relating to capital investments

Cash flow risks are regarded as extremely important when capital investments are undertaken, according to Table 1. Cash flow is interdependent upon the profitability of the company and commodity prices. The following table provides the perceived importance of risk financing instruments utilized to counter cash flow risks.

Table 6. The perceived importance of risk financing instruments used to counter cash flow risk

Risk financing instruments	Extremely important	Highly important	Moderately important	Little important	Not important
Captive insurance					X
Contingency funds					X
Equity programme			X		
Future contracts		X			
Loan facilities		X			
Option contracts		X			
Swap agreements			X		
Insurance from direct insurers or professional reinsurers			X		
Outsourcing of activities					X

The following risk financing instruments are regarded as highly important, viz. future and option contracts, as well as loan facilities. Future and option contracts are of high importance to the company, because these instruments are use to manage the potential impact of commodity price changes, foreign exchange rate and interest rate risks on the company's cash flow. Surplus short-term loan facilities are available when needed, if the company experiences any cash flow problems in the future.

6. CONCLUSIONS

This paper emphasizes the following important conclusions which should improve shareholders' value and lead to the application of risk financing

instruments to manage associated financial and business risks:

(1) Shareholders are interested in the creation of shareholders' value which is mainly determined by three factors, viz. the return on equity, the company-specific financial and business risks, and the associated risks of the market that cannot be managed by an individual company.

(2) A distinction should be made between value-adding and passive risks. By taking on more value-adding risks, and managing the associated activities, companies can create positive returns in excess of the cost of capital. Passive risks should be eliminated.

(3) By employing risk financing instruments, passive risks are eliminated, making equity available for other strategic capital and/or financial investments which should add value to the enterprise.

(4) The preceding case study leads to the following important conclusions which should be taken into account by other companies when utilizing *commodities* in their production process, while being occupied in *international* operations:

- The commodity price risks, profitability risks and cash flow risks are regarded as extremely important, due to their interdependence upon each other. Inflation rate risks and foreign exchange rate risks are perceived as highly important as they impact on the prices of the commodities and the international operations of the company.
- Future contracts, loan facilities and option contracts are rated as highly important in order to manage commodity price and foreign exchange rate risks. Future and option contracts are used to manage the prices of commodities, as well as to secure foreign exchange rates on acceptable levels. Loan capital, especially committed credit lines, may also be applied to manage these risks.
- Loan facilities, option contracts and swap agreements are rated as highly important to manage interest rate risks.
- Inflation rate risks and credit risks are hedged by employing loan capital, transferring the risks to a limited extent to the providers of the loan capital.
- When managing profitability risks, as well as cash flow risks, the company utilizes future contracts and option contracts, as well as loan facilities.
- As the particular company has a satisfactory level of solvency, none of the risk financing instruments is regarded as extremely or highly important for this case study.

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