Small and medium sized enterprises (SMEs) and their cost of capital

MSMECON 10

International Conference on Management of SMEs 2010

Institute of Management Technology – Nagpur (India)

September, 17th – 18th 2010

Small and Medium Sized Enterprises (SMEs), and Their Cost of Capital

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Abstract

Existing finance literature is inadequate with respect to its coverage of the capital structure of small and medium sized enterprises (SMEs). This lack of coverage means that SMEs are provided with little or no guidance for optimising their cost of capital. This paper is an attempt to provide such guidance.

For unlisted SMEs the cost of equity cannot be derived from the capital market, nor can it be ascertained by asking the entrepreneurs, since their decision to invest is usually driven by many other factors, over and above the simple (financial) return on investment requirement. A further problem in quantifying cost of equity results from the fact that entrepreneurs can be asked to provide additional (informal) investment in the form of personal guarantees. We put forward a model that attempts to solve these problems. Firstly, our model determines a "legitimate" expected return for the entrepreneur, by considering the probability of liquidation of the venture and the loss incurred by the entrepreneur in this event. The former can be derived by looking at the specific survival rate of firms; the latter, is based on how much the potential bankruptcy affects the wealth of the entrepreneur. Secondly, we suggest taking into consideration the personal collateral provided by the entrepreneur, as if it were additional equity invested in the venture. To calculate such an amount, we suggest taking into account only the amount of collateralised debt that cannot be covered by the revenue from the sales of the firm's assets in case of liquidation.

Keywords: SMEs, Capital Structure, Entrepreneur

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1. Introduction

It is possible to distinguish two separate strands in the literature on firms' capital structure. On the one hand, there is the research rooted in Modigliani and Miller's (1958) model, which is based on the assumption of perfect markets. This stream of research focuses mainly on modelling theoretically the decisions on capital structure of large corporations. On the other hand, there is the empirical research on capital structure of SMEs and on SMEs lending relationships. This research tends to consider the owner and the manager of the firm as one actor and is mainly concerned with investigating how external actors (banks, trade creditors, etc.) deal with the information asymmetries resulting from the opaqueness of SMEs. Although SMEs can rely on various sources of finance such as trade credit (see for instance Rodriguez-Rodriguez, 2006) and bootstrap finance (Wingborg & Landstrom, 2000, Voordeckers & Steijvers, 2006), this stream of research stresses the core role played by bank finance. By focusing on the SMEs, the present paper presents a model for determining the cost of capital for the owners/managers of unlisted SMEs.

We suggest modelling entrepreneurs' behaviour as that of a peculiar provider of funds, who asks for a premium linked to the probability that their venture goes bankrupt and for the impact that such a potential adverse outcome has on their personal wealth, by considering both the equity invested in the venture and the personal collateral provided to banks. Clearly, the impact of an adverse outcome on entrepreneurs' personal wealth is expected to be particularly high and the expected premium requested should mirror this. In addition, we consider that long- and short-term debt have different costs.

Before moving forward and explicating the model, an additional explanation is necessary. In this paper, the words entrepreneurial firm and SME are used interchangeably as are the words entrepreneur and owner-manager. In fact, the model elaborated in this paper is applicable to investors in any firm whose shares are not traded on a stock exchange.

This paper is structured as follows: Section 2 provides a review of the literature on firm financing in general and SMEs in particular. Section 3 elaborates the assumptions of the model. Section 4 presents the model and discusses it. In section 5 conclusions and the implications for future research are drawn.

2. Literature Review

The capital structure of firms is often defined as a "puzzle". The metaphor shows effectively how difficult it is to find the ideal financing structure for firms and projects. Fundamental finance literature considers theoretical modelling of the optimal capital structure for corporations and is based on Modigliani and Miller's (1958) seminal work. Later research investigates the role of taxes (Boyce & Kalotay, 1979 and Brick & Ravid, 1985), the impact of refinancing costs (Jun & Jen, 2003) and the probability of going bankrupt (Philosophov & Philosophov, 2005). Further research addresses the agency costs and the moral hazard risk (Myers, 1977). The role of the cost of financing the firm is the key factor in pecking order theory (Myers & Majluf, 1984).

The above mentioned research and models, though, are developed by looking at large corporations. What about SMEs? Research on SMEs capital structure approaches the topic mainly empirically: either it focuses on empirically testing the models developed for large corporations or it develops econometrically tested hypotheses. The latter stream of research tries to take SMEs special features into account. In fact, finance access for SMEs is influenced by entrepreneurs' personal wealth (Avery, Bostic & Samolyk, 1998) and there is evidence of lack of separation between business and personal risk (Ang, Wuh Lin & Tyler, 1995). Information asymmetry faced by banks and providers of funds is a common characteristic of SMEs and affects how entrepreneurs decide to finance the venture (Heyman, Deloof & Ooghe ,2007). SMEs capital structure is found to be country specific (Hall, Hutchinson & Michaelas, 2004, Psillaki & Deskalakis, 2009) and to be influenced by asset structure (Örtqvist, Masli, Rahman & Selvarajah, 2006). In addition, in SMEs, the financing decisions are (at least partially) constrained: raising arm's length finance is subject to constraints for small opaque firms that suffer from big information asymmetries (Berger, Klapper & Udell, 2001) and is impossible for the very small ones. Only when firms become older, larger and informationally more transparent, can they access public equity funding as well as public debt (Gregory, Rutherford, Oswald & Gardiner, 2005). Thus, Holmes and Kent (1991) propose a restricted version of the pecking order theory, and argue that the equity market is expensive for SMEs.

Ang (1992) points out that SMEs are characterised by a mix between personal and firm's wealth, by short expected life, by the importance of personal relationships, by a great potential for making mistakes and by inter-generational issues. Raising additional equity by opening the shareholding to new shareholders, implies a dilution of control of the firm. Lopez-Garcia and Sanchez-Adujar (2007) examine this point and stress differences between family and non-family SMEs: the entrepreneurs in family run firms are very concerned with not losing control of the firm, in order to pass it on to the next generation. La Porta, Lopez-de-Silanes and Schleifer (1999) by looking at large corporations, find that often the entrepreneur/family hold a large majority of the shares and their possibility of selling the shareholding is very limited. If this holds true for the large family run corporation, it will be true for the small family run ones where, according to Romano, Tanewski and Smyrnios (2000), the desire of the family and entrepreneur to maintain the control of the firm is a very important determinant in avoiding opening up shareholding. Moreover, Chittenden, Hall and Hutchinson (1996) suggest that a complex mix of social, family and personal relationships affect capital structure in SMEs. Finally, the very existence of the entrepreneurial firm is linked to the entrepreneur and, often, it is impossible to think about the firm without the entrepreneur: the entrepreneur often cannot give up the shareholding without compromising the value of the firm. Thus, the entrepreneurs cannot easily sell their stake when the firm is unlisted and even when firms are listed on regulated markets, there can be some problems in selling shares (Kahl, Liu & Longstaff, 2003). Thus, these firms tend to rely more on internal financing.

Notwithstanding of the peculiarities of entrepreneurs and entrepreneurial firms, some empirical research has tried to determine entrepreneurs expected return by working out the premium they gain compared to that of the shareholders (investors) of a diversified portfolio of shares (see for instance, Heaton & Lucas, 2000, Moskowitz & Vissing-Jorgenssen,

2002, Kerins, Smith & Smith, 2004, Haney & Holmes, 2008, Mueller, 2010). Kerins, et al., (2004) finds that the return for an under-diversified entrepreneur/investor is two to four times higher than that expected by a well-diversified investor. Mueller (2010) focuses on the fact that the entrepreneurs suffer from high idiosyncratic risk and they are under-diversified: she calculates that for each 10% increase in the concentration (that is reduction in diversification of investments) there is an increase of about 15% in the expected return on the invested funds. On the contrary, Moskowitz and Vissing-Jorgenssen, (2002) do not find any significant difference in the return on investment between investing in non-traded shares and the traditional investment in a portfolio of traded shares. Thus, no final answer has been provided by empirical research. In fact, there is definitely a chasm between the expected return of entrepreneurs and the return generated by investing in a portfolio of listed shares. In other words, in the case of entrepreneurial firms, the expected return can hardly be measured according to the return the firm generates year after year and the capital gain the entrepreneur could receive in the case of the sale of the firm, as suggested by traditional neoclassical models. Thus, associating the return of the investment with that expected from the investor is correct when we look at the investor and at liquid stock markets (where investors can "vote with their feet" simply selling the shares if they are not happy with the firm's performance). Associating the return on the investment with that expected from the entrepreneur is not correct when we look at the entrepreneur who has a stake in a firm with no possibility or only very limited possibility to "vote with his/her feet".

Research also points out that SMEs can source finance from banks (Petersen & Rajan, 1994) and that they can rely on specific financing tools like leasing and factoring (Beck & Demirguc-Kunt, 2006, Deloof, Lagaert & Vershueren, 2007). By looking at bank credit, Heyman, et al. (2007) suggest that maturity matching between debt and the life of assets plays an important role in deciding the length of the debt. Short-term debt is positively correlated with a firm's growth opportunities (Garcia-Terul & Martinez-Solano, 2007): it is higher in stronger and more flexible firms, and when firms have more growth opportunities. Some research investigates specifically the role short-term debt has in SMEs. It is regarded as a good tool for the bank that can act rapidly to recoup the principal on the arrival of bad news (although with the limitations pointed out by Gupta, Khurana and Pereira, 2008). Some research states that the determinants of short-term debt and long-term debt are different; for instance short-term debt is not affected by the trade off between tax benefits and bankruptcy costs. Long-term debt is affected by collateralisable assets but short-term debt is not (Pindalo, Rodrigues, & de la Torre, 2006). This was found both for SMEs and for new ventures for which the access to finance is more limited than for traditional SMEs (Örtqvist et al., 2006). Indeed, since new ventures are very risky because they lack a track record and frequently have not already entered the production and selling stage, finding a substitute for equity is very hard, notwithstanding the tax benefits linked with leveraging debt (Örtqvist et al., 2006).

3. The Model's Assumptions

Literature (e.g. Brealey & Myers, 1991) recommends the use of cost of capital in appraising capital investments. In fact, there are a number of investment appraisal tools discussed in the literature, including payback and accounting rate of

return, but it is widely accepted that these have major limitations and the theoretically optimal approach is the net present value method. The value of the project is maximised when the net present value of its future cash flows, discounted at the weighted average cost of capital (WACC), is maximised. Quantification of the cost of equity and the value of equity are, therefore, necessary for optimal investment, as well as capital structure decisions.

We therefore offer an alternative approach to determine cost of capital that builds upon reasonable assumptions about SMEs that are discussed below before presenting the model in section 4.

In the traditional large listed corporation the cost of equity, that is shareholders' expected return on equity, is provided by the share price on the stock market. In the case of the unlisted SMEs there is no stock market share price and no possibility of deriving return on equity from this source. In an ideal world, the value of equity and its expected return (i.e. the cost of equity) could be derived from the firm's financial statements. However, the financial statements as a source of relevant information for estimating cost of capital suffer from three major limitations. First, figures reported in financial do not necessarily represent the economic value of the underline assets and liabilities. Secondly, there are many intangible assets, contingent liabilities and other off balance sheet items which are not captured by the financial statements. Thirdly, financial statements are affected by subjective estimation process (depreciation, the value of the stock at the end of the year, etc.). Hence, financial statements do not provide a good economically meaningful basis for determining cost of capital.

Assumption 1 *The return on the equity for the entrepreneur cannot be ascertained from the financial statements*

In addition, entrepreneurs are often required to provide personal guarantees in order to access bank finance. Thus, the amount of personal wealth invested in the venture is not only the equity. In fact, in case of liquidation, entrepreneurs can incur additional losses linked to the guarantees provided. Thus, we assume that entrepreneurs provide nominal capital as well as guarantees to lenders. These guarantees are contingent commitments in case the SME runs into financial problems, which trigger the requirement for additional investment. So essentially, from the entrepreneur's perspective what is at stake is not just cash invested in the venture but also potential further investments in the form of personal guarantees.

Assumption 2 *The equity invested in an owner-managed firm is the sum of the nominal value of cash invested by the entrepreneur and the amount of personal guarantees provided.*

Entrepreneurs and SMEs' shareholders involved in the management of the firm either directly (as managers) or indirectly (as relatives and friends of the management), have a broad view of the benefit provided by their investment. Literature on entrepreneurship stresses their desire for independence (Delmar, 2000), optimism about the venture's success (Landier & Thesmar, 2008) and the fact that the entrepreneurs enjoy non-pecuniary benefits (Moskowitz & Vissing-Jorgenssen, 2002). Entrepreneurs can exploit additional economic benefits that are not necessarily recorded in the firm's books (Hamilton, 2000). This is an additional layer of complexity in ascertaining the expected financial return on equity.

As a consequence, it is no surprise when SMEs' entrepreneurs and SMEs' shareholders have difficulties in stating their expected return on their investment.

Assumption 3 *the entrepreneur's decision to invest in the venture is affected by many additional pecuniary and non-pecuniary factors*

What drives entrepreneurs in their decision to invest in the venture is mainly the business idea they have and the opinion that no one else is as capable of exploiting it as they are. They hope to maximise the pecuniary and non-pecuniary return on that idea and they invest a large chunk of their personal wealth in the venture. Thus, they are legitimately entitled to expect remuneration for this investment. Banks receive interest for providing funds to customers; similarly, entrepreneurs can ask for remuneration because they provide funds to the firm. In fact, when entrepreneurs act as providers of funds, they are mirroring the role of a bank, or more generally, that of lender even if they are a very peculiar lender, in the sense that they are willing to accept a very high level of risk. When banks calculate and charge an interest rate, they assess the loss at default in the case where the customer is incapable of paying back the loan. Similarly, the entrepreneurs have to be remunerated according to the amount of their personal wealth they risk losing in case of liquidation.

Assumption 4 *Entrepreneurs have to receive a remuneration on the invested funds according to the impact they suffer on their wealth if the venture faces risk of liquidation.*

Banks charge an interest rate premium according to the probability that the customer will not be able to pay back the loan (probability of default). Similarly, entrepreneurs can ask for remuneration for the probability that the venture in which they invest their personal wealth goes bankrupt.

Assumption 5 *Entrepreneurs have to receive remuneration on the invested funds, according to the probability that their venture goes bankrupt.*

The remuneration for the probability of facing bankruptcy and for being adversely affected in case of liquidation, does not cover the entire expected return for the entrepreneur. In fact, beyond this remuneration, the entrepreneur can benefit from other pecuniary and non-pecuniary benefits. Thus, what is measured here is simply what can be defined as the "legitimate" return for the specific risk entrepreneurs incur when they provide funds to the venture.

Definition: *The "legitimate" rate of return on the funds provided by an entrepreneur is the remuneration for the risk of bankruptcy of the venture where the entrepreneur has invested and for the impact the loss at liquidation has on the entrepreneur's personal wealth.*

Firms use both long and short-term bank debt. Typically, short and long-term debt have different interest rates. Theoretically, short-term debt should be cheaper than long-term, since in the case of short-term debt the bank can recover it immediately and therefore faces a reduced risk of loss at default. Empirical evidence, however, suggests that firms pay a higher interest rate on short-term debt than on long-term debt (support for this point is also found by Degryse, de Goeij & Kappert, 2010). The difference can be explained in various ways: long-term debt is often collateralised and therefore the

bank is hedged in case of default; banks might charge short-term debt with additional management fees that cannot be charged on a long-term facility.

Assumption 6 *Banks charge a lower interest rate premium on the long-term debt than that charged on short-term debt*

In addition, the interest rate charged is always greater than the interest rate paid on temporary deposits. In fact, the interest paid on deposit (i.e. what the bank pays to the provider of the funds) has to be smaller than the interest rate received by customers (who are using the funds) otherwise the bank would get less than it pays.

Assumption 7 *Banks pay an interest rate on deposits that is smaller than the interest rate received on short and long-term lending*

4. The Model

The elaboration of our model is in two stages: firstly we work out the expected return of the entrepreneurs. Then we suggest a solution for optimising the mix between short and long term debt.

4.1 Expected Return for the Entrepreneur

The assumptions clearly indicate that the "legitimate return" requested by the entrepreneur as investor mirrors the logic behind the interest premium charged by the bank: banks look at the probability of default on a loan; entrepreneurs should look at the probability of bankruptcy. Banks pay attention to the loss at default on the loan; entrepreneurs should be focused on the loss in the event that the venture faces liquidation. Thus, according to the definition provided above, "legitimate" return represents the return linked to the probability of bankruptcy of the firm and the impact that such an outcome has on entrepreneurs' personal wealth. The legitimate return requested by the entrepreneur when a venture is established is

$$\mathrm{Re} = \mathrm{Re}_{free} + \mathrm{Re}_{\pi} + \mathrm{Re}_{\lambda} \tag{1}$$

Where Re is the legitimate return for the entrepreneur, Re_{π} is the premium for the probability of bankruptcy and Re_{λ} is the premium for the impact of the liquidation on the personal wealth i.e. the loss at liquidation. In fact, for each cluster of firms (firms which share common characteristics, that are in the same industry and have same age and have similar turnover and similar debt structure), the probability of default can be derived as the number of firms in the cluster that failed, divided by the overall number of firms in the cluster. Thus, we can define the probability of default as

$$\left(\frac{B_{cluster\_i}}{N_{cluster\_i}} \right) \tag{2}$$

where $B_{cluster\_i}$ is the number of firms in cluster i that historically went bankrupt in the cluster i and $N_{cluster\_i}$ is the overall number of the firms in the cluster i, where i is the cluster to which the firm belongs.

It would be possible to ascertain the increase in the requested premium for any one-unit-increase in the probability of bankruptcy, by considering a portfolio of loans, by splitting them into categories according to different probabilities of

bankruptcy and by looking at the differentials in the interest premium charged: this is defined as $\Delta_{PD\_risk\_premium}$. In fact, banks usually use models that work out such relationships. Thus, Re_{π} can be calculated by multiplying the probability of bankruptcy by the premium charged for a one unit-increase in the probability of bankruptcy (say 1% change in probability of bankruptcy)

$$\mathrm{Re}_{\pi} \cdot = \left(\frac{B_{age;\mathrm{sec}tor;cycle}}{N_{age;\mathrm{sec}tor;cycle}} \right) \cdot f\left(\Delta_{PD\_risk\_premium}\right) \qquad 3$$

where $f\left(\Delta_{PD\_risk\_premium}\right)$ is the function that represents the link between the increase in the risk of bankruptcy and the relative premium.

Re_{λ} is the requested premium for the impact of the loss on entrepreneurs' personal wealth in case of liquidation. Thus, the risk incurred by entrepreneurs can be measured according to the amount of personal wealth invested in the venture out of the total personal wealth. We have already pointed out that entrepreneurs do not invest only the cash they injected in the venture as equity but also the personal collateral they provide to the bank (assumption 1 and 2). Thus, the overall amount invested in the venture K can be defined as

$$K = E + Dc - Ab \qquad 4$$

where E is the nominal equity directly invested in the venture. $Dc - Ab$ represents the amount of personal wealth in excess of the equity that can be lost in case of liquidation since Dc is the bank debt which is collateralised with personal assets and Ab is the value of assets in a bad state (that is in liquidation) that can be used to pay back the bank debt. In fact, when entrepreneurs provide the bank with collateral they implicitly are increasing their stake in the venture. The bank is actually transforming entrepreneurs' assets that are not liquid (such as properties) into liquid assets, preventing the entrepreneur from selling them to finance the firm. In case of liquidation, the assets provided as collateral will be sold to pay back the bank, reducing the wealth of the entrepreneurs, accordingly. At the same time, in the case of liquidation, the bank will firstly be paid back by using firms' assets. Thus, what is at risk is the difference between the equity invested in the venture, the amount of debt that is collateralised with personal assets Dc and the value of firm's assets that can be used to pay back the bank Ab.

The proportion of personal wealth that will be lost in case of liquidation has to be multiplied by the premium charged for a one-unit increase in the amount of loss incurred in liquidation, that is $\Delta_{L\_L\_risk\_premium}$. Empirically, by considering a portfolio of loans and splitting them into categories according to different amounts of loss at liquidation, and by looking at differentials in the premium charged, it could be possible to ascertain the increase in the requested interest rate

premium for any one-unit-increase in the loss at liquidation: that is $\Delta_{L\_L\_risk\_premium}$. Thus, Re_{λ} can be calculated by multiplying the probability of default by the premium charged for a one-unit-increase in the loss at liquidation (say 1%)

$$\mathrm{Re}_{\lambda} = \left(\frac{K}{T_{pw}}\right) \cdot g\left(\Delta_{L\_L\_risk\_premium}\right) \quad 5$$

where K is defined as above and T_{pw} is the total wealth of the entrepreneur; $g\left(\Delta_{L\_L\_risk\_premium}\right)$ is the function that links the change in the risk with the requested premium.

Having defined Re_{π} and Re_{λ} it is possible to now formalise the legitimate "expected" return of the entrepreneur as

$$\mathrm{Re} = \mathrm{Re}_{free} + \left(\frac{B_{age;\mathrm{sec}tor;cycle}}{N_{age;\mathrm{sec}tor;cycle}}\right) \cdot f\left(\Delta_{PD\_risk\_premium}\right) + \left(\frac{K}{T_{pw}}\right) \cdot g\left(\Delta_{L\_L\_risk\_premium}\right) \quad 6$$

where function f and g can be operationalised both theoretically and empirically.

4.2 The Optimal Mix of Short and Long Term Debt

Firms use both short and long-term debt and they have to optimise the proportions of each in the sense that the total amount of interest paid is minimised in the short period (say one year). Previous works on this topic point out that it is possible to optimise debt structure. For instance Moro, Lucas, Grassi and Bazzanella (2009) provide an empirical tool to optimise short and long-term debt mix. Moro, Lucas and Grimm (2010) model mathematically this tool, by assuming that when (as per assumptions 7 and 8) $r_S > r_L > r_R$ (where r_L is the long-term debt interest rate, r_S is the short-term debt interest rate, and r_R the interest earned on deposits) it is possible to find the short-term and long-term debt mix that minimises the overall cost of debt. If the bank account balance b is known for every day in the year (or more precisely, if it could be either empirically derived from actual data, or heuristically derived by making assumptions about the cash flow), the total interest paid over a year can be worked out. It will be the daily interest paid for the short-term debt $b + D$ (when this is negative) less the interest earned on the amount $b + D$ (when this is positive) plus the annual interest $r_L D$ for the long-term debt. The total interest paid will be $I(D) = r_L\ D - r_S \int_{-\infty}^{-D} C(b)\ (b + D)\ db - r_R \int_{-D}^{\infty} C(b)\ (b + D)\ db$ where $C(b)$ is the probabilistic distribution of the account balance b and D is the long term debt. The optimal level of D will be that one that minimises this function. Moro et al. (2010) then, derive the optimal capital mix of short-term debt and long-term debt simply as a function of short-term debt and long-term debt interest rates: $F_C(-D) = \frac{r_L - r_R}{r_S - r_R}$. Here, F_C is the cumulative distribution function of the debt. In other words, Moro et al.'s (2010) model suggests that the optimal value of D has

to be chosen such that the fraction of time the account balance falls below $-D$ equals the fraction expressing the relationship between interest rates on the right-hand side of the equation above.

4.3 The Cost of Capital for SMEs

Having worked out the expected return for the entrepreneur and the optimal mix between short and long-term debt, it is possible now to work out the cost of capital for SMEs. It is reported here as a modified version of the traditional weighted average cost of capital formula, where Re is modified according to equation 6 and the mix of debt D (long-term debt) and d (short-term debt) is optimised according to equation $F_C(-D) = \frac{r_L - r_R}{r_S - r_R}$

Thus, the cost of capital for an SME can be worked out as:

$$WACC = \left(\mathrm{Re}_{free} + \left(\frac{B_{age;sector;cycle}}{N_{age;sector;cycle}} \right) \cdot f\left(\Delta_{PD\_risk\_premium}\right) + \left(\frac{K}{T_{pw}} \right) \cdot g\left(\Delta_{L\_L\_risk\_premium}\right) \right) \cdot \left(\frac{K}{D+d+K} \right) + \quad (7)$$

$$+ r_S \cdot (1-t) \cdot \left(\frac{d}{D+d+K} \right) + r_L \cdot (1-t) \cdot \left(\frac{D}{D+d+K} \right)$$

where t is the tax levied on profit since tax allowance on interest paid generates a reduction in the cost of the bank finance.

5. Conclusion

This paper has presented a model for determining the cost of capital for SMEs. The existing finance literature is incomplete with respect to the capital structure of SMEs and, more specifically to the expected return for entrepreneurs. Previous literature does not differentiate between entrepreneurs and investors. In fact, the entrepreneurs' decision to invest in a new venture is mainly driven by the idea that no one else is capable of exploiting their business idea in a way that will be as successful as they think it might be. In addition, once they have invested in the venture and the enterprise has started to do business, they are locked into the investment because typically their shareholding is very illiquid. This fact has an important consequence: return achieved does not necessarily match the expected return. Moreover, entrepreneurs' benefits in investing their personal wealth in the venture are not limited to the profit and the possible capital gain in case of the sale of the venture. For example, they can access additional pecuniary and non-pecuniary benefits; they can enjoy social recognition and they can benefit from additional freedom in taking decisions about how to run the firm.

Previous literature has investigated the role of bank finance for firms in general and for SMEs specifically. At the same time, the focus has been mainly on the determinants of credit access, and on the role of the relationship between banks and firms. Interestingly enough, previous research has paid little attention to the cost difference between short and long-term debt. In fact, because of such a cost difference, firms have scope for optimising the debt mix.

The present paper has presented a different approach. We have looked at entrepreneurs as simple providers of funds that, like banks, expect a return for the risk they incur by investing in the venture: the risk that the venture goes bankrupt and the impact that such an adverse event has on entrepreneurs' personal wealth. Thus, entrepreneurs are entitled to

ask for a "legitimate" return on the investment linked to the probability of loss and linked to how such a loss will affect their personal wealth. The model elaborated in the present paper suggests ascertaining the probability of bankruptcy by looking at the probability of bankruptcy of the cluster of firms the particular firm belongs to. The loss at liquidation can be measured according to the amount of personal wealth the entrepreneur risks losing in case of liquidation. In addition, it is suggested that it is possible to work out both the increase of the premium for a one-unit-increase in the probability of bankruptcy and for a one-unit-increase in the loss at liquidation.

Also, we modelled the optimal mix of long and short-term bank debt employing the theoretical model developed by Moro et al. (2010). Since short and long-term finance have different interest rates and short-term finance is typically more expensive than long-term finance, Moro et al. (2010) show that it is possible to find the mix that minimises the overall cost incurred by the venture in obtaining bank finance.

We have presented a revised version of the weighted average cost of capital for SMEs, where entrepreneur remuneration is based on the legitimate return and the mix between short and long-term debt is optimised by minimising its cost.

This paper points to at least two streams of further research. On the one hand, it is possible to attempt to work out mathematically functions f and g which link the probability of bankruptcy/ loss on liquidation and the risk premium. On the other hand, the model can be tested empirically mainly by looking at the data available from banks.

Despite the limitations that can be (at least partially) overcome by further research, the proposed model indicates that the return on equity for entrepreneurs and more specifically for the specific firm in a specific context can be worked out. Thus, this research extends the scope for and effective application of present value techniques in SMEs project evaluation.

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