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The Short Term Debt vs. Long Term Debt Puzzle:
A Model for the Optimal Mix

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Abstract

This paper argues that the existing finance literature is inadequate with respect to its coverage of capital structure of small and medium sized enterprises (SMEs). In particular it is argued that the cost of equity (being both conceptually ill defined and empirically non quantifiable) is not applicable to the capital structure decisions for a large proportion of SMEs and the optimal capital structure depends only on the mix of short and long term debt. The paper then presents a model, developed by practitioners for optimising the debt mix and demonstrates its practical application using an Italian firm’s debt structure as a case study.

Keywords: Capital Structure, Equity, Short-term Debt, Long-term Debt
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 capital structure decision 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), research stresses the core role played by bank finance.

Focusing on the SMEs financial structure, the present paper emphasises the importance of debt structure (that is long-term versus short-term debt) in financing SMEs and the minor role played by equity. In fact, we argue that SMEs should focus only on bank debt in order to optimise their capital structure. This issue has already been addressed by some practitioners and the paper presents a practical tool developed by a group of financial advisors in Italy to optimise the mix of long-term debt and overdraft in order to minimise the firms’ cost of capital.

The paper is structured as follows. Section 2 provides a review of the literature on capital structure in general and in particular on what affects capital structure decisions in SMEs. Section 3 presents the arguments that equity is inapplicable for many SMEs’ capital structure decisions. It emphasises the extremely important role of bank debt. Section 4 presents a practical tool for determining the long-term/short-term debt mix and in Section 5 an example is provided of the application of the tool to a real firm located in Italy. Section 6 discusses how the optimum debt mix also benefits the lender (the bank) as well as the firm. Section 7 draws the conclusions.

2. Literature Review

The most commonly used term in the literature to describe the capital structure of firms is “puzzle”. It recurs in various titles of academic papers and describes effectively the problem of finding the optimal structure in financing firms and projects. The foundation of the finance literature considers theoretically the 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 and Kalotay, 1979 and Brick and Ravid, 1985), the impact of refinancing costs (Jun and Jen, 2003) and the probability of going bankrupt (Philosophov and Philosophov, 2005). Further research addresses the agency costs (Jensen and Meckling, 1976) 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 and Majluf, 1984). Some scholars focus on the debt structure as a signalling device where short-term debt signals the high quality of the assets (Flannery 1986). The greater flexibility of short-term debt is also stressed (Sharpe, 1991).

Research on SMEs capital structure approaches the topic mainly empirically: either it focuses on testing empirically the models developed for large corporations or it develops hypotheses, which are tested econometrically. The latter stream of research tries to take into consideration SMEs special features and especially the fact that financing decisions are (at least partially) hampered: raising arm’s length finance is subject to constraints for small opaque firms that suffer from big information asymmetries (Berger, Klapper and...
Udell, 2001) and is impossible for the very small ones. Other research suggests that SMEs tend to rely on a large number of banks (Ongena and Smith, 2000) in order to gain greater access to credit (Angelini, Di Salvo and Ferri, 1998) notwithstanding the fact that concentrating the relationships on few banks makes the firm better off in the long run (D’Auria, Foglia and Marullo Reedtz, 1999). Yet another area of the finance literature on SMEs suggests that some of the factors influencing capital structure are industry specific (Hall, Hutchinson and Michaelas, 2004). Romano, Tanewski and Smyrnios (2000) as well as Chittenden, Hall and Hutchinson (1996) suggest that capital structure is influenced by a complex mix of social, family, cultural and financial factors. Kotey (1999) argues that SMEs capital structure is affected by entrepreneurial attitudes to risk and debt. Demirgüç-Kunt and Maksimovic (1999) argue that the determinants of SMEs capital structure are country specific, being shaped by the financial markets characteristics, the effectiveness of the legal system and the magnitude of government subsidies. Thus, the literature on SMEs suggests that any kind of generalisation can be very problematic.

Holmes and Kent (1991) propose a restricted version of pecking order theory to explain SMEs capital structure. Such firms, these authors argue, do not have easy access to equity, it is expensive and raising it implies a dilution of control of the firm. Burke and Hanley (2002) observe that banking finance is also expensive and SMEs are often credit constrained. The implication of these findings is that SMEs are expected to rely more on retained earnings. Lopez-Garcia and Sanchez-Adujar (2007) found differences between family and non-family SMEs. The former are very much concerned with not losing control of the firm, in order to pass it on to the next generation of the family. Thus, such firms tend to rely more on internal financing.

Regarding the literature dealing specifically with the mix of debt Heyman Deloof and Ooghe (2007) suggest that maturity matching between debt and the life of assets plays an important role in deciding the length of the debt maturity. Short-term debt is positively correlated with firm’s growth opportunities (Garcia-Terul and Martinez-Solano, 2007): it is higher in stronger and more flexible firms, when there are big differences between short term and long term interest rates and when firms have more growth opportunities. An econometric study by Hernandez-Canovas and Koeter-Kant (2008), suggests that the important variables in determining SMEs long-term debt include the length of the banking relationship and the number of banks involved.

Some research investigates the peculiar role that short term debt has in SMEs. Not only is it expected to be a good tool for the bank which 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). It is also considered a good financing tool by entrepreneurs: they are optimistic and tend to overestimate the success of their projects, either because they extract non-economic benefits or because they fail to evaluate correctly the probability of success. Either way, from the entrepreneur’s point of view, short-term debt is the best financing tool because it is perceived to be cheaper. Thus, both entrepreneur and bank prefer short-term debt (Landier and Thesmar, 2009).

Recent empirical research on SMEs financing challenges the proposition that capital structure can be modelled by looking at agency theory, asymmetry of information, taxes, etc. In contrast with previous models, support was provided for the proposition 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 and 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, Masli, Rahman and Selvarrajah, 2006). Indeed, since new ventures are very risky because they are very new,
they lack of 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, Masli, Rahman and Selvarrajah, 2006). The forgoing review of the literature on SMEs financing suggests that, until now, no tool has been provided to deal with capital structure in general and debt maturity in particular: theoretical models do not accommodate the special characteristics of SMEs; empirical research has provided only ex post explanation rather than specifying how an optimal capital structure may be determined. As far as we are able to ascertain from the existing finance literature, no practical tool has been elaborated for enabling SMEs to optimise their capital structure.

3 The Inapplicability of Cost of Equity in SMEs Financing Decisions

In the finance literature, the optimal capital structure (i.e. debt-equity ratio) is defined as that which minimises the overall cost of financing the venture. From this perspective one needs both the cost of debt and equity. What about the cost of equity in SMEs? The literature on SMEs tends to focus on debt but does not provide a definitive answer about the role of equity. We argue that there are irresolvable problems in defining and quantifying equity and its cost, which make the cost of equity non applicable for optimal capital structure decisions for SMEs.

3.1 How Entrepreneurs View Equity

SMEs are traditionally financed by the entrepreneurs (and this is particularly true in Italy) and their relatives (for the role of family, see Fletcher, 2000). They do not like to access external finance since it implies a reduction in the freedom in managing the firm (Delmar, 2000), limitation in the possibility of accessing non-pecuniary benefits (Jensen and Meckling, 1976) and the implementation of additional control and management tools (Delmar, 2000). SMEs are very opaque and for them the implementation of control mechanisms can be very costly. Therefore, potential investors face big problems in valuing the venture and making investment decisions (Block and McMillan, 1985). In addition, SMEs are used to dealing with banks requests rather than those of venture capitalists and business angels (Mason and Stark, 2004). Consequently, entrepreneurs do not typically seek external funds in the form of equity. As a result, in the large majority of SMEs, the equity invested in the venture consists entirely of the funds provided by the entrepreneurs.

3.2 What is the Value of Equity?

In the finance literature the cost of equity is derived from the market value of equity. For most SMEs the market value of equity is not available. The only other possible source for quantifying equity is the firm’s financial statements. Do these provide a meaningful figure for the value of equity?

Originally, the primary role of the financial statements was that of stewardship: keeping track of what had been done with the financial resources entrusted to an enterprise’s managers. There was no suggestion that the Balance Sheet ‘shareholders funds’ figure represented the economic value (the net present value of future cash flows) of the enterprise. In recent years however, the regulatory framework governing financial reporting has decreed that the primary role of financial statements should be to facilitate investor decisions, to enable efficient capital markets. It is acknowledged that, ideally, investors
would like to know the future cash flows attributable to the enterprise, but given the uncertainty associated with future cash flows, the shareholders equity figure provided by the financial statements is to act as a proxy. This primary objective has guided the development of accounting standards prescribing the accounting treatment of the various items influencing profit measurement and asset valuation and hence the shareholders equity figure shown by the financial statements.

Thus accounting standards\(^1\) have been moving towards using market values to value assets (the change in net assets at market value during a period being the ‘profit’/‘earnings’ figure).

Does the application of Generally Accepted Accounting Practice (GAAP), based on this ‘investor decisions’ criterion, result in a meaningful equity/earnings figure? Is the accountant’s estimate of the value of shareholders investment in the firm a good indicator of the net present value of future cash flows?

There are a number of serious limitations of financial statements in providing a meaningful equity figure. Firstly, they are typically transactions based – i.e. based on historical cost rather than on market values. Even in the absence of general inflation, it is fundamental to the operation of a market economy that relative prices change in response to demand and supply conditions. Therefore, use of historical cost accounting will not reflect current asset values. Although the regulatory framework now requires that certain assets/liabilities be ‘marked to market’ rather than being valued at historical cost, these are assets that trade actively in markets such as common stocks and bonds – i.e. financial instruments. Financial instruments are typically a small proportion of assets for SMEs; of greater significance is the valuation of fixed assets. Companies have the option of using either historical cost or market value for fixed assets. Evidence provided by interviewing Italian SMEs owners and managers suggests that the majority of SMEs use historical cost – not surprising given that market values can fluctuate wildly and may difficult to obtain for some assets. In addition, firms typically have a great many assets and liabilities that do not appear on their balance sheets but have a major impact on future cash flows: loyal customers, superior management, motivated employees, access to distribution channels, patents and trademarks and so on. Many companies acknowledge their people to be the most valuable asset. Until accountants are able to measure such assets, the book values will remain a poor proxy of the value to shareholders. An important reason why accounting profit (increase in equity per the financial statements) is not the same as economic value created is that the regulatory regime effectively requires that the creation of many intangible assets is not recognised – these must be expensed in the Profit and Loss account. These include (home grown) brands, marketing expenditure, intellectual capital and much of research and development expenditure. Stringent conditions allow some development expenditure to be capitalised, but the most common practice has been to expense development costs. In addition to the problem of the exclusion of important assets, assets used in conjunction with each other often have a higher value to the firm than the sum of the values of the individual assets. That is, there are ‘synergies’ that are also not reflected in the financial statements. Clearly, assets evaluation impacts on reported profits and hence on “shareholders’ equity” as reported in the financial statements.

An additional source of distortion in the reported profit figure is the use of historical cost accounting (as still used by the majority of SMEs). Even with relatively low inflation rates, Historical Cost Accounting (HCA) results in a number of significant problems: inflation of 2.5% per year results in a fall in the value of money of about 30% in 10 years.

\(^1\) Although certain concessions are available for SMEs, these do not make a significant difference to profit measurement or asset valuation.
Where there is inflation, HCA has a number of weaknesses in terms of measuring profit (i.e. increase in equity as shown by the Balance Sheet).

1. Depreciation is understated, as a charge based on the historical cost of an asset does not provide for an increased replacement cost. Profit will therefore be over-stated: if the resultant profit figure were to be paid as dividend to the owner/s there would be insufficient funds to replace fixed assets when necessary.

2. Cost of sales is understated, as the cost of replacing the stock consumed will be greater than the amount charged to Profit and Loss account as an expense for the period. Profit will therefore be overstated: if the resultant profit figure were to be paid as dividend to the owner/s there would be insufficient funds to replace the stock and maintain the operating capacity of the firm.

3. In most organizations, the value of debtors exceeds the value of creditors. With inflation, the real value of debtors (an asset) falls, as does the real value of creditors (a liability). Since the value of debtors usually exceeds the value of creditors, the fall in the value of assets exceeds the fall in the value of liabilities, implying a reduction in real profits. This however is not recognised with HCA.

4. Borrowings (typically bank loans) are fixed in monetary terms and therefore fall in real terms with inflation, implying a gain by the company at the expense of the lender. Again, this is not reflected when HCA is used – as is usually the case with SMEs.

5. As well as the above factors leading to a distortion in reported profits for an individual year, the decline in the value of money means that year on year figures are not comparable. Yet the Balance Sheet figure for shareholders funds (equity) reflects the accumulation of retained profits so measured –further contributing to a meaningless shareholders funds figure!

In conclusion, therefore, although the financial statements may have their uses, providing a meaningful figure for equity, to enable cost of equity to be determined, is not one of them!

3.3 What Actually Constitute Equity?

SMEs typically have substantial debt financing but banks will require collateral that must be provided by the SMEs shareholders and associates. Therefore, the shareholders investment in the firm is not only the original cash provided plus any retained earnings, but also the personal assets provided as collateral to obtain bank funds. In other words, SMEs have hidden collateral that can play a very important role for the life of the business. In addition, when the firm is run as a sole trader or it does not rely on limited liability, it implicitly leverages all entrepreneurs’ personal assets since in case of distress, creditors can access not only the firm’s assets but also the entrepreneurs’ private assets. Either way, shareholders and entrepreneurs usually invest in the venture all their wealth from the beginning (Avery, Bostic and Samolyk, 1998). The logical conclusion is that it is difficult to determine the real value of the equity invested in a venture since hidden equity is not included in the notional figure.

Thus, when the firm needs additional funds to expand, the original funders often do not have additional equity and therefore are not able to cover additional needs. Thus, the option of financing additional needs with equity is non-existent. SMEs are financially constrained in accessing additional equity and their only option is to obtain additional bank finance or leverage their trade credit capability (Berger and Udell, 1998, Howorth, 2001). The analysis provided above supports a conclusion: when SMEs need additional funds (in
excess of annual earnings) to finance expansion, equity is not an option. Therefore, in determining the optimal capital structure of the firm equity is not a variable but a constant and has to be treated accordingly.

3.4 The Entrepreneurs’ View of Return on Equity

Entrepreneurs and SME’s shareholders involved in the management of the firm either directly (as managers) or indirectly (as relatives and friends of the management), seem not to pay too much attention to the expected return on equity. Literature on entrepreneurship stresses their desire for independence (Delmar, 2000), optimism about the venture’s success (Landier and Thesmar, 2008) and the fact that the entrepreneurs enjoy non-pecuniary benefits as high as 20% of their investment (Moskowitz and Vissing-Jorgensen, 2002). In fact, median entrepreneurial earnings after 10 years of business are found to be 35% less than the predicted alternative wage on a paid job of the same duration (Hamilton, 2000). From this perspective, the expected financial return on equity is not the key concern for entrepreneurs. This point is clearly supported by various interviews the researchers conducted with Italian entrepreneurs and SME managers and owners. They have difficulties in understanding the concept of return on equity: when asked to provide a figure, they first ask for an explanation and then have difficulties in providing any figure. Moreover, they are often very inconsistent when the same question is asked at different points during the interview.

3.5 Other Sources of Finance

Trade credit is a further source of finance in addition to equity and debt. The overall amount of trade credit the firm can obtain is a matter of negotiation with the suppliers and is affected by the relative power (usually low) the SME has. In addition, the firm is required to provide trade credit to customers. Since the value of sales is greater than the value of the purchases, the amount of credit provided to the customers is usually greater than the amount of credit received from suppliers. As a consequence, the firm is not better off by the use of trade credit. The firm can benefit from trade credit if it is able to discount its receivables with the bank or with factoring organisation but at a cost. The cost of trade credit is not easy to establish, since firms are usually not charged differently according to the length of the period for which credit is taken. Petersen and Rajan (1994) define the cost of trade credit in terms of cash discount available by paying in advance rather than utilising the full period of credit available. Such an approach provides inconsistent figures and it does not work when cash discount is not an option, as in Italy where no differences in price can be found between different terms of payment. Some other works define cost of trade credit as the discount rate on discounting receivables (Miwa and Ramseger, 2008), stressing that trade credit is an example of delegated monitoring (Diamond, 1984), where the bank exploits seller economies of scale in monitoring the buyer. From this perspective, trade credit is simply a different form of bank credit. Italian firms tend to discount receivables both with the bank and through factoring. Either way, in the Italian context, the cost of trade credit is not relevant per se: either it is nonexistent, or it is a component of the cost of bank funds (and therefore included in the cost of debt).

3.6 Implications
According to the foregoing arguments, for the large majority of SMEs, the cost of equity cannot be applied to capital structure decisions for a number of reasons:

a) SMEs are usually not listed and no market value of equity can be ascertained;
b) The book value of the equity is highly questionable and does not provide a real representation of the value of the shareholders’ investment;
c) the real amount of equity is hard to determine since SMEs benefit from hidden capital in the form of guarantees provided by entrepreneurs;
d) entrepreneurs do not attach importance to the return on equity since they benefit from many other pecuniary and non-pecuniary benefits;
e) equity is not a variable but a constant since:
   a. SMEs owners do not like to open the shareholding to new investors (venture Capitalists, business angels, private equity funds, etc.);
   b. SMEs owners usually invest all their wealth in the venture from the beginning and therefore when firm needs additional finance they are not able to provide it.

Equity and the return on equity cannot be quantified or even clearly defined for the majority of SMEs. The cost of equity cannot therefore be ascertained and employed in capital structure decisions. According to the above reasoning, only the cost of debt is applicable to SMEs capital structure decisions.

4. A Tool for Optimising the Debt Mix

ContoCheck® is a practitioner tool, developed by Strategie d’Impresa SpA, to address the problem of the capital structure of SMEs which have both short-term and long-term lending relationships with various banks. The model does not rely on the traditional accounting ratios and balance sheet analysis and approaches the problem by analysing the behaviour of the firms’ overdraft.

The overdraft is a flexible financial tool, which covers the financial needs left uncovered by other forms of financing. It is expected to be a temporary source of finance. The habitual use of overdraft means that the firm needs financing in excess of temporary and occasional needs. In other words, when the firm uses overdraft continuously, it transforms de facto overdraft to some kind of medium/long-term debt. ContoCheck® addresses this problem by:

a) identifying how much existing overdraft usage covers de facto long term needs;
b) determining the overall amount of short-term debt that should be consolidated to long-term debt;
c) determining the length of the of the consolidated debt (maturity) and its repayment plan (amortisation).

Theoretically speaking, the steady use of overdraft means that the firm is not matching correctly the life of the assets and the debt used to finance them. Such a mismatch increases implicitly the firm’s financial risk (Heyman, Deloof and Ooghe, 2007). Matching assets and debt correctly reduces the risk premium banks charge the firm. In addition, when the debt is consolidated into one bank, the quality of information gained by the bank improves and the bank can pass some of the savings in the cost of monitoring activity on to the customers (Moro, 2007). As a consequence, ContoCheck® helps the firm in reducing the cost of financing.

4.1 The Consolidation Area
The process of consolidating overdraft into long-term debt benefits the firm when it reduces the overall amount of interest paid. From this perspective, it is important to point out that:

a) in many countries, including Italy, overdraft is more expensive than medium and long-term debt since not only are firms charged higher interest rates on overdraft (banks consider it the riskiest form of financing) but firms also face a set of fees that are not charged on long and medium-term debt;

b) through consolidation, the firm can benefit from a reduction in risk premium because of the reduced financial risk (Garcia-Terul and Martinez-Solano, 2007).

ContoCheck® calculates the amount of overdraft to consolidate in order to minimise the overall cost of debt. In order to explain how it works we present a simplified model. Assume that a firm needs $D$ amount of debt to finance its business in the first half of the year and $(D-x)$ to finance the business in the second half of the year. It can choose a mix of long-term and short-term debt. Long-term debt is cheaper than short-term debt. In order to simplify the reasoning we assume that combinations of interest rate offered by the bank do not change as the debt mix changes. At the extremes:

a) if the firm decides to go for short-term debt only, it will be charged a higher interest rate but only on the debt used (that is $D$ in the first half of the year and $D-x$ in the second half of the year);

b) if the firm decides to go for long-term debt only, it will be charged a lower interest rate but on $D$ even when it will not need the entire amount provided because it needs only a portion of it (that is $D-x$).

The firm has the possibility to choose any mix between a) and b) and, depending on the mix, it will face different overall costs of debt. Figure 1 shows that as the proportion of long-term debt increases, the total cost of short-term debt decreases.

Figure 1

![Change in overall cost of short-term debt](image)

Figure 2 shows that as the proportion of long-term debt increases, the cost of long-term debt increases.

Figure 2
Figure 3 shows how the total cost of debt behaves as the debt mix varies. The mix where the overall cost is minimised is shown in figure 3 as the minimum point of the overall cost curve.

ContoCheck® traditionally uses the past data but it can be used to optimise the future short-term/long-term debt mix when the firm is able to run estimates of its future cash needs.

4.2 The Debt Repayment Plan

Having determined the overall amount of overdraft to be consolidated into long-term debt, the next step is to define the repayment plan. It has a key role since:

a) if it is too short, the firm will end up again using overdraft to finance long term assets;

b) if it is too long, it can raise problems of underinvestment since the firm has additional free cash temporarily available (Jensen, 1986).
ContoCheck® attempts to match the life of the firm’s assets and the debt maturity. The repayment plan matches the cash flows available after all current expenditure (suppliers, personnel, taxes, etc.) but before the payment of dividends.

5. An Example: Application of ContoCheck® to an Italian Firm

In order to illustrate how the model works, we provide an example of overdraft consolidation. It concerns an SME with an annual turnover in 2007 of €19,514,133, which had overdrafts with six banks. In the year under consideration (2007), the average overdraft used was €865,092, at a cost of €40,807. The firm used steadily the overdraft funding up to a maximum of €1,591,712. Figure 1 shows the change in the overdrafts on a daily basis.

![Overdraft balances graph](image)

The average interest rate paid on overdraft was 4.72% and the average overdraft used around 50% of the available credit. With consolidation, the new interest rates that the firm was able to negotiate were 4.00% for the long-term loan, 4.60% for the overdraft and a 0.5% on the temporary deposits. On the bases of these interests rates, the optimum was achieved by consolidating €635,000.00 (see figure 5).
The new overall cost of debt was reduced to 4.24%, 48 basis points below the previous level.
The final step is to specify the repayment plan of the long term loan. The firm has residual cash available to repay the debt (as derived from the cash flow statement of the firm) of € 86,372. The timing for the repayment of the debt is derived accordingly and is approximately 7 and a half years (i.e. 635,000/86,372).

6. Impact on Banking Relationships

Research on lending suggests that lending technologies can be grouped into four main categories: financial statement lending (based on the evaluation of information from the financial statements); asset based lending (based on the provision of collateral and its quality); credit score lending (based on statistical techniques); relationship lending (Berger & Udell, 2002). The first three lending technologies are usually defined as transaction lending because they are based on available factual and public information, independently of the quality of the relationship. They include loans that are mainly spot-like and for non recurring needs. Lenders can easily evaluate these loans using credit scoring and credit rating methods (Allen, DeLong & Saunders, 2004). Relationship lending is different from transaction lending because it is based on recurring needs (such as lines of credit, overdrafts, etc.). The research on relationship lending suggests that improvements in the relationships between banks and small businesses improves credit availability, reduces the cost of credit and the need for the pledging of collateral. In reality, the different lending technologies are not mutually exclusive. In their review of lending technologies Berger and Udell (2006) point out that banks tend to use more than one technology at a time: relationship lending can be accompanied by the request for collateral as well as with the use of credit scoring systems.

Focusing attention on building up the best short-term/long-term debt mix can help SMEs in improving the relationship with the banks. First of all, building up the optimum short-term/long-term debt mix can reduce the adverse selection risk since the bank is provided with information about the use of the funds and has a clear idea about the capability of the firm to meet the interest and principal repayments. An additional benefit derives if the number of banks the firm is dealing with is reduced with the consolidation process (that is, when the firm decides to consolidate previous overdrafts in few/one banks).
provides support for the proposition that such a strategy helps in reducing information asymmetry.

Secondly, optimising the short-term/long-term debt mix provides the firm and the bank with a clearer representation of financial needs: the firm has a clear idea of its financing needs; the bank is provided with information of higher quality. In fact, research emphasises the fact that different funders are interested in different aspects of the firm. Banks are focused on the cash flows that firm generates to repay its loans (Mason and Stark, 2004). By looking at the debt mix and repayment plan for long-term debt in terms of cash flow generated by the firm, the firm offers the information the bank needs in order to evaluate the credit and to match debt maturity with the cash needed by the firm. All these factors reduce the risk the bank incurs. When the bank operates in a lending efficient market, the benefit is passed on to the customer because the bank charges a lower risk premium to the firm. Thus, the firm-bank relationship improves and both are better off (D’Auria, Foglia and Marullo Reedtz, 1999).

All in all, by optimising the short-term/long-term debt mix, not only are the SMEs better off as a result of the reduction in the cost of the funds, but also the relationship with the bank is improved. In other words, it is a win-win strategy where both SMEs and banks are better off.

7. Conclusion

In this paper we have argued that the existing finance literature is incomplete with respect to the capital structure of SMEs. Its focus is on the debt equity mix which we have argued is inappropriate for SMEs. The cost of equity is not applicable to the majority of SMEs capital structure decisions. Equity although theoretically definable as the net present value of future net cash flows attributable to the owners, is not usually quantifiable: no market value is usually available and the financial statements provide a poor proxy. Although the accounting regulators are moving towards the investor decision making function of financial statements, the magnitude of the problem encountered makes it unlikely that these statements will provide a meaningful equity figure in the foreseeable future. Moreover, due to the hidden equity in the form of personal collateral provided by owners, such statements are further constrained in their ability to quantify equity. Many entrepreneurs, in addition to not knowing the value of their equity, are unable often to provide additional equity and unwilling to consider external new equity as a source of finance, as it dilutes ownership and control. Equity therefore, whatever its value, is a constant not a variable in SMEs capital structure decisions. Drawing these issues together, the implication is that SMEs should not concern themselves with the concept of cost of equity and should focus instead on optimising the debt mix. We have presented a tool developed by practitioners for optimising this mix and thereby minimising the cost of capital. The finance literature should incorporate this approach in specifying the capital structure for SMEs. The implication of our work is to provide support for the core proposition of the Modigliani Miller model, but from a different perspective: equity/debt mix is non applicable to SMEs capital structure decisions; only the long term/short term debt mix is important.
References


