How Theory Meets Practice: An Analysis of the Capital Structure of Spanish SMEs[±]

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The article analyzes the factors determining the capital structure of the Spanish small and medium enterprises [SMEs]. The analysis is grounded on the *agency theory*, the *signalling approach* and the *pecking order theory*. In particular, the article provides a qualitative and quantitative analysis about the impact of company brand, the ownership and control structure, and the relationship between the SMEs and their own financial policy. This analysis is based on defining the expected relationships that one might consider between the referred variables and the total debt ratio. In this regard, the analysis will be conducted by means of considering a survey of 410 Spanish SMEs where an ANOVA test will be applied. Then, a hierarchical regression model will allow comparison of the hypotheses made.

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I. Introduction

The article provides an explanatory analysis of the factors which determine the capital structure of the Spanish small and medium enterprises [SMEs], by taking into account the different theories based on the asymmetric information that each agent has to face. In particular, the following theories will be considered: (i) the '*agency theory*'; (ii) the '*signals theory*' and (iii) the '*pecking order theory*'.

The decision about the capital structure is one of the most discussed aspects in corporate finance, in fact, it is referred to the different categories of fund, equity and debt (short and long term), that should be used by the company to fulfil their businesses plan. One parameter of particular interest is the leverage ratio, which indicates the proportion of debt vs equity (Hall, Hutchinson and Michaelas, 2000). Therefore, the decision about the capital structure deals with the best combination of the different financial fund that minimised the cost of capital without compromising the business plan.

There are lots of studies regarding the decisions on capital structure, they all have focused on two issues: (i) the determination of the optimal debt ratio that maximizes the market value of the firm, and (ii) the determination of the different factors that influence the financial decision.

Indeed, the decision about investment, financing and distribution of dividend must be evaluated taking into account the impact that they may have on the business plan that the company is intending to achieve, which in particular will be addressed to maximise the market value of the company, since all the agents running in the sector will valuate the performance by looking at the evolution of this value.

Therefore, it could be said that the optimal capital structure will be affected by the debt policy of the company and any other exogenous parameter that might affect the decision of capital structure. Literature has evolved from the 'thesis of irrelevance' developed in the model of Modigliani and Miller (1958) to the analysis of the tax shield provided by income taxes and its impact on corporations (Modigliani and Miller, 1963; De Angelo and Masulis, 1980) and individuals (Miller, 1977). In addition, the literature has evolved towards the financial distress derived from insolvency and bankruptcy risks (Brennan and Schwartz, 1978; Chen and Kim, 1979; Bradley, Jarrel and Kim, 1984) as well as the effect of asymmetric information and the clash of interests between the agents involved, where can be found the theories developed by (i) Jensen and Meckling, (1976), (ii) Ross, (1977); Leland and Pyle, (1977), and (iii) Myers, (1984); Myers and Majluf, (1984); Pettit and Singer, (1985). That is to say, the *agency theory*, the *signalling approach*, and the *pecking order theory*.

In recent years, a new theory studying the effects that business strategies have on the capital structure decisions has been developed, this theory named the *theory of business strategies* (Robson, Gallagher and Daly, 1994; Jordan, Lowe and Taylor, 1998) is based on the influence of the managerial strategies on the financing decisions of the company. This influence has two possible approaches: (i) the strategies related to the market where companies compete; and (ii) the strategies concerning the production factors, where can be highlighted the studies of Brander and Lewis (1986), Barton and Gordon (1988), Chatterjee and Wernerfelt (1991), Balakrishnan and Fox (1993), Lowe, Naughton and Taylor (1994) and Kochhar and Hitt (1998).

Although these theoretical approaches deal with capital structure from different perspectives, they have in common the interest for 'large' corporations (Michaelas, Chillenden and Poutziouris, 1999) against any consideration to SMEs, so that, only debt patterns in 'large' companies are considered, without focusing on the effects on SMEs where the application of most of the analytical tools mentioned above is difficult. For instance, one of the most important differences between large scale enterprises and SMEs is the difficulty to

get long-term funds from the capital markets since no daily and updated information about them is available for investors because SMEs in many European countries[1], do not quote in the stock exchange. Because of that, the empirical test for the factors determining the capital structure of SMEs has to be based on unquoted firms (Acs and Audretsch, 1990; Chittenden, Hall and Hutchinson, 1995; Hull, Hutchinson and Michaelas, 2000; *inter alia*). Moreover, and taking into account that SMEs funds usually come from different sources—credit markets for SMEs and capital markets for large companies—it makes more sense to research the decision on capital structure within the different groups of SMEs rather than research this decision by analysing the differences between SMEs and large companies.

Credit markets usually are the unique possibility for SMEs to get funds; therefore, lending relationships will be critical mechanisms for assessment and control. The existence of asymmetric information and different interests between lenders and borrowers lead to 'credit rationing' (Stiglitz and Weiss, 1981). Therefore, the size of the SMEs, the lack of credit ratings or covenants, along with concentration of ownership and control in the entrepreneur's hands, increase the asymmetric information, which results on poorer financial possibilities and conditions for SMEs in the credit market (Fazzari, Hubbard and Petersen, 1988; Petersen and Rajan, 1994, 1995).

When we look for the key factors that may explain the decision on capital structure, in addition to the size, the number of employees, the total assets and the sales revenues, could be found certain qualitative variables, such as market reputation, business experience, structure and control of the ownership, as well as particular lending relationships that are likely to become key issues for the SMEs financing. The capital structure of the SMEs has been discussed by Keasey and Watson (1987), Storey, Watson and Wynarczyk (1988), Ang (1991, 1992), Reid (1993), Storey (1994), Robson, Gallagher and Daly (1994), Jordan, Lowe and Taylor (1998), *inter alia*. In Spain, Maroto (1996), Boedo and Calvo (1997), Aybar, Casino and López (2000), *inter alia,* have published outstanding studies in this field.

This article discusses the capital structure of SMEs by considering not only quantitative variables, but also other qualitative or strategic variables. The paper is structured as follows: after this brief introduction are summarized the different theoretical approaches, then, the second section analyses the decision on capital structure. The third section, discusses the peculiarities of the decision of SMEs regarding their capital structure by looking at what the *agency theory, pecking order theory* and *the signalling approach* appoints. Section four, identifies the variables and hypotheses that should be tested and compared in the empirical analysis that will be conducted on section five. Then, section six presents the main conclusions from the referred analysis.

II. Theories applied to the decision on capital structure

The decision on capital structure consists on identifying the optimal combination of debt and equity which maximizes the market value of the firm. Modigliani and Miller's (1958) proved that in perfect markets, the decision on capital structure becomes irrelevant. Their study opened the debate and subsequent research on the influence of taxes and bankruptcy costs on the capital structure of the company which may explain the current borrowing policies (Modigliani and Miller, 1963) by means of the so-called 'compensation theory'. This theory represents a trade-off between the positive and negative effects of the financial leverage (Myers, 1984).

[1] In Spain, according to the data from European SMEs´ Laboratory, SMEs, represent 99.89% of the companies, 70 % of the exports and nearly 60% of the imports, etc.

A number of other imperfections arising from asymmetric information and clashes of interests between the different agents (shareholders, managers and lenders) has to be considered too. In this regard, the *agency theory* was a significant step toward a qualitative attempt to explain the decision on capital structure, in difference to previous theoretical approaches. The contractual model of the enterprise proposed by Jensen and Meckling (1976) provided a new theoretical and conceptual framework that permitted the introduction of other explanatory factors. Among the many contracts that might define the nature of organizations, the *agency theory* focuses on the financial contracts established between the organization and the providers of liabilities, leading to two agency relationships: (i) the 'managerial relationship' established between shareholders and managers, i.e., between the owners of the capital and the management board of the enterprise; and (ii) the 'borrowing relationship' established between the lenders and the shareholders. The asymmetric information and the clashes of interests between the different agents spawn conflict and agency costs. Thus, it could be said that every financial structure is characterized by certain agency costs because of possible losses that both, shareholders and lenders might suffer from possible opportunistic behaviours from managers or owners of capital. These agency costs affect the market value of the securities and the company itself; therefore, an optimal capital structure minimizes the total agency costs. On the other hand, the *agency theory* analyses how the borrowing policy may reduce the conflicts of agency that may arise between shareholders and managers. On top of that, the *agency theory* also analyses the conflicts that characterize the relationship between the shareholders and the fund petitioners in the financial borrowing contracts, which also determine the shareholders' willingness to grant funds, leading to situations of credit rationing (Harris and Raviv, 1991).

The shareholders' attitude to risk may influence their preferences in the process of designing the financial policy of the company. According to the *pecking order theory,* the enterprises organize borrowing from a hierarchical point of view (Myers, 1984; Pettit and Singer, 1985), that is to say, the management board has a greater preference for internal funds rather than for external funds, which are only available when there are opportunities of profitable investment, or when self-financing is insufficient. In that case, the management board prefers borrowing, and only uses share issues as a last resort; in this way, they avoid sharing the business opportunities with entrants, since this transmits negative information to the market (Myers, 1984; Myers and Majluf, 1984). This hierarchical order is of particular interest for the SMEs because of the high costs of external financing that must be accounted for (Pettit and Singer, 1985; Ang, 1991; Cosh and Hughes, 1994; Holmes and Kent, 1991), and according to Myers (1984), the main consequence of the asymmetric information which exists in the credit market (Michaelas *et al.*, 1999).

The *signalling approach* establishes propositions about the sense and intensity of the response of the market value of the assets in case of changes in the capital structure. The idea behind this approach is that the market acts as a supervisor and controller of the managerial function, at the same time, it assesses the financial decisions of the company as an indicator or a signal about the expected cash-flows and solvency of those companies (Ross, 1977; Leland and Pyle, 1977).

III. The decision on the capital structure within the context of the SMEs

'Large companies' have been the reference for corporate finance. This type of companies are mainly characterized by: (i) the separation and specialization of ownership and control; (ii) the dispersal of the ownership among a considerable number of shareholders; (iii) the usage of markets of shares and bonds as a way to get funds; and (iv) the role of the capital markets as a mechanism of assessment and control. Therefore, these assessments and control

by means of the market quotations becomes the departing point for the analysis of the financial decisions of the company, in particular for those decisions related to the capital structure. However, it looks reasonable to analyse the capital structure of SMEs in this theoretical framework.

The literature about the analysis of the financial decisions has traditionally stressed the importance of quantitative variables related to the volume of assets, business turnover or number of workers. Nevertheless, and in addition to these quantitative variables recent research has highlighted the importance of qualitative factors.

The limitations found by the SMEs when are intending to have access to the capital markets, the markets of assets and bonds and the fact of not negotiating their own assets in a secondary organized market, provokes the absence of a reasonable mechanism of assessment and control for this type of companies.

In fact, since the SMEs are not publicly traded, it is not feasible to analyse decisions related to capital structure by considering their effect on the financial objective of maximizing the market value of the company. The financial dependency of the small companies from the bank credit market leads to consider the lending relationship as the best reference to analyse the capital structure. Petersen and Rajan (1994, 1995) prove that the debt ratio decreases with the age of the company and it increases with the size. Therefore, those companies which are younger are expected to turn to finance companies with third-party resources, whereas mature or established companies are self-financed (Berger and Udell, 1992, 1995; *inter alia*).

The concentration of ownership and control of the SMEs may have important consequences on their financing decisions. The lack of specialization and the overlap between the roles of the entrepreneur and the owner leads to a lack of delegation of authority. Therefore, the decision-making is concentrated in a single person, which provokes opportunistic behaviours by the owner-manager who, in turn, has a major part of his/her personal and family wealth invested in the company. Moreover, owners have unlimited responsibility. Thus, if there exists a lack of specialization, there will be a clear identification of the entrepreneur figure (owner-manager) with the company in such a way that the development of the SMEs will be closely linked to the entrepreneur's life.

These circumstances increase the level of asymmetric information and clash of interests that exist between the different agents involved in the borrowing contracts. The *agency approach*, the hypotheses based on the *theory of signals*, and the *pecking order theory*, are the bases for analysing the capital structure in the case of SMEs.

IV. Variables and relationships to be considered in the model

Grounding on the rules established by the *agency theory*, the *pecking order theory* and *the signalling approach,* and considering the unique characteristics of the SMEs, the factors determining the capital structure have been grouped in two blocks: (i) *quantitative variables* related to 'size'; and (ii) three *qualitative variables* related to the 'reputation' of the enterprise, the structure of 'ownership and control', and the 'lending relationship'. This article defines the capital structure of the firm as a function of the debt ratio; i.e.: the relationship between the debt (short- and long-term) and the total resources.

A. Size

The size of the company allows the lenders to calculate their own market power and, indirectly estimate the risk of insolvency. The greater the volume of assets, profits, sales or employees, the greater the capacity of self-financing and the probability of diversify correctly so that, the solvency and the capacity to pay interest will increase as well. The size is, related to other group of variables that determine the capital structure of the company. Thus, large companies present higher levels of investment, because they have a greater capacity to offer

covenants to the lender. On the other hand, if economies of scale related to the acquisition of new information are considered, then it will be proportionally more expensive for lenders to supervise a SME than a 'large' enterprise. Furthermore, SMEs usually find harder to fulfil the information requirements established in the financial markets. Finally, the size of the company has been one of the factors which explain the structure and concentration of ownership.

The larger the company, the greater the separation between ownership and control, and the dispersion of the capital. The possibility that the board shows opportunistic behaviours against the interests of external shareholders explains the frequent usage of borrowing as an external mechanism to control the managerial function. According to the *agency theory* and the *signals approach*, a positive relationship between the size and the level of borrowing in the enterprise should be expected. However**,** from the point of view of the *pecking order theory*, the larger the volume of fixed assets, the larger the sinking funds and, hence, the bigger the self-financing. Therefore, there is a negative relationship with the debt ratio.

H.1.a: Size—measured by the number of employees, volume of sales and volume of assets—will be positively related to the debt ratio (agency theory and signals approach).

H.1.b: Size—measured by the number of employees, volume of sales and volume of assets—will be negative related to the debt ratio (pecking order theory).

B. Reputation of the company

One of the factors that may reduce the agency costs of borrowing (especially those originating from over-investment), is the 'reputation of the company' (Diamond, 1989; John and Natchman, 1985). Diamond (1989) suggests that the 'reputation of the company' may be measured as a function of variables such as the age of the company. The reputation is reflected by the availability to obtain the required finance. The observation that capital markets does of the SMEs satisfying the contractual obligations over a long period of time is one of the most valuable intangible assets of these companies since the credit market accumulates this information. The 'reputation' is related to the capacity of the company to tackle the commitment of payments, i.e., the repayment of the principal and interest[2]. The managers' willingness to preserve these intangible assets discourages opportunistic decision-making and high-risk investments are rejected in favour of more secure projects, thereby diminishing the agency costs of the borrowing derived from decisions leading to over-investment. Consequently, according to the *agency theory* and the *signals approach*, the longer the service the greater the reputation in the credit market. Then, the greater will be the possibilities to get funds.

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[2] The SMEs enter the credit market with low-quality and insufficient information, which increases the information asymmetries that already exist, although, in Norton's opinion (1991), these information differences depend on the 'stage or life cycle' that the enterprise is going through. During the *growing* stage of the SME, the financial markets have little or no information about it. It is for this reasons that self-financing and very short-term borrowing prevail as sources of fund-raising. During the *development* stage, the SMEs steadily consolidate their position in both markets and the success or the failure of their projects, as well as the fulfilment of their financial compromises, permit the development of relationships with the financial companies that may facilitate their access to the credit market with more favourable conditions, and so establish capital structures based on long-term borrowing. Once in their *maturity* stage, SMEs have access to the capital market and it is during this period that bonds are issued, projects are developed by means of financial mediators (e.g., Loan Guarantee Association or Capital Venture Enterprises), and the growth in capital is more important as a source of finance.

The 'reputation' may also be measured as a function of the number of years that the company has been owned by the entrepreneur. The low specialization that generally exists in these companies with respect to the ownership and control, and the owner-managers' reluctance to delegate responsibilities, creates a greater dependency that SMEs have on the owner-manager. When this person leaves the position —due to death, illness, retirement, job turnover, etc.—problems of succession may arise provoking the lost of credibility and reputation and leading to the demise of the company. Consequently, changes of ownership are similar to create and set up a new company, which provokes the asymmetric information and the risk perceived by the lender (Boedo and Calvo, 1997). When the age of the company is analysed in terms of the development cycle, the youngest and the most dynamic companies tend to use their own resources intensely, as well as the bank debt and commercial short-term debt, to face the problems of liquidity (Weston and Brigham, 1981). Because of the difficulty to obtain permanent funds (borrowed and own capital), these companies survive they match the growth rate to their own capacity of self-financing. Therefore, the age will be negatively associated, in general, with the short-term debt and positively associated with the long-term debt. Consequently, the youngest companies are expected to have lower levels of debt. Therefore, a positive relationship is expected to occur between the numbers of years that the companies belong to the existing owner, and the level of borrowing.

On the other hand, there is a direct relationship between the age and the size of the companies. In general, as time goes by and the company increases in experience and position within the market, new strategies for growth based on increasing the investment in assets and human resources (employment) might appear. These strategies increase sales and revenues as well as self-financing possibilities (Norton, 1991). According to the *pecking order theory*, when companies have more internal funds, they prefer to use them, and they will borrow only when self-financing is insufficient. Therefore, following this theory, there is a negative relationship between reputation and debt ratio.

H.2.a: Reputation—measured by the number of years that the company has been providing services and the numbers of years belonging to the current owner— will be positively related to the debt ratio (agency theory and signals approach).

H.2.b: Reputation—measured by the number of years that the company has been providing services and the number of years belonging to the current owner— will be negatively related to the debt ratio (pecking order theory).

C. Ownership structure.

The relationship between the SMEs and the lenders is, characterized by the structure of ownership and control in the company. Two major types of SMEs can be distinguished: (i) those where the manager is the owner of the entire capital; and (ii) the medium-sized family companies where the functions of ownership and management are separated. Two important groups of interest can be identified: (a) the owner-managers; and (b) the external owners that do not sit on the management board (Ang, 1991, 1992).

If capital and control are in hands of a few agents and the clash of interests between managers and shareholders is low, the usage of borrowing as a mechanism for supervising and controlling managerial functions might not be necessary because lenders deal with fewer agents (e.g., owner-directors). Under this scenario the asymmetric information is reduced and the agents are more controlled. Thus, according to the *agency theory*, a positive relationship between the specialization level and the separation of functions in the ownership and control and the debt ratio exists. Nevertheless, the *pecking order theory* points out that, when no

separation exists the owner-manager has to invest a major part of his/her personal wealth and there is no potential for using retained earnings, SMEs tend to prefer borrowing to avoid involving outsiders and lose the control of the decision-making.

H.3.a: The specialization and separation of the ownership and control functions are positively related to the debt ratio (agency theory and signals approach).

H.3.b: The specialization and separation of the ownership and control functions are negatively related to the debt ratio (pecking order theory).

D. Characteristics of the lending relationship

The possibilities of raising funds in the credit market may also be determined by the features characterizing the relationship between the lender and the borrower (Petersen and Rajan, 1994). Three explanatory variables have been considered in this respect: (i) the age of the relationship with the main financial company; (ii) the number of financial companies; and (iii) the existence of covenants, as well as their nature.

The experience of past relationships along with the information that the lender has about the borrower cuts the analysis of costs. Conversely, in the case of new applicants for funds, lenders may have the information provided by the SMEs themselves or the information obtained from external sources, such as other lenders or rating agencies. For these reasons, the asymmetric information depends on the age of the lending relationship in such a way that those companies that maintain a long-standing relationship are expected to get credits more easily. The theory suggests that those companies with a closer association to financial companies usually have lower costs of capital and greater availability of funds. Consequently, according to the rules of the *agency theory* and the *signals approach*, a positive relationship is expected to find between the duration of the lending relationship and the level of borrowing.

H.4.a: The length of the lending relationship is directly related to the debt ratio.

The availability to get credits might be determined by the number of financial companies that the borrower maintains a relationship with. The greater the number of financial entities dealing with the borrower, the smaller the availability to get credits and the greater the price (interest) paid for that credit, as Petersen and Rajan (1994) proved.

H.4.b: The number of financial companies dealing with the SMEs is inversely related to the debt ratio.

The covenants that the owner-manager decides to provide, and their nature, may be a signal about the future earnings that the entrepreneur-owner expects from the investment undertaken (Stiglitz, 1987). The cost of losing these assets in bankruptcy is the enticement that asserts the validity of that signal and transmits positive information to the lenders about the borrowing capacity of the company. From the point of view of the borrowing decision, more funds will be available to the entrepreneur willing to provide more covenants with a personal nature, or related to assets that do not belong to the company. The signal is greater when the covenants are personal or real, or when they are related to assets that do not belong to the business activity. Therefore, according to the *agency theory* and the *signal approach*, there is a positive relationship between the existence of those covenants and the debt ratio.

H.4.c.: The existence of covenants in the borrowing contracts by the SMEs is directly related to the debt ratio.

As was stated above, the objective of this study is to make an exploratory analysis on the nature of the factors determining the capital structure in the case of SMEs. The debt ratio has been considered as a representative and dependent variable of the capital structure. In this regard, the debt ratio is defined as the relation between the total debt—short- and long-term—and the total resources. Explanatory variables might be grouped in four blocks.

- *Block 1*: related to size; three variables are considered: (i) SIZE1 related to the number of employees; (ii) SIZE2 related to the volume of sales; and (iii) SIZE3 related to the total value of the net assets.
- *Block 2*: comprises the variables of the company reputation. Two variables are considered: (i) AGE1 related to the age of the company; and (ii) AGE2 related to the number of years that the company belongs to the current owner.
- *Block 3*: related to the structure of ownership and control; variable DIR is a *dummy* variable that takes the value 1 if a non-owner manages the enterprise.
- *Block 4*: comprises the variables defining the lending relationship; five variables included in this group: (i) NFC: number of financial companies with which the company maintains a relationship; (ii) AR: measures the age of the relationship with the main financial company, and (iii) PERC, REALCUNR and REALCR, which measure, respectively, whether the company provides covenants of a personal or real nature, related or unrelated to the activity of the enterprise, and owned or not owned by the company.

In addition, the model includes the main activities of the SMEs as a control variable. The variables named after the abbreviations INDSEC, COMSEC, CONSEC and SERSEC, serve to identify whether the enterprise belongs to industry, commerce, construction or services, respectively.

V. Empirical analysis

A. Data and methodology

The relationships outlined in the model are compared by means of an empirical analysis with a sample of 13,200 SMEs of the 'Spanish Guide of Exporting Enterprises'. The study was conducted by an email questionnaire sent during the period November 1999 to January 2000. 410 companies correctly answer to the questionnaire, which represent 3,1%[3] of the companies surveyed.

To clarify the relationships, which are established between the independent variables and the TBR, the survey has been divided into four groups according to the values that the ratio may have. Group I comprises those companies with low levels of borrowing, and debt ratio inferior to 25%. Group 2 includes companies with debt ratios between 25% and 50%. Group 3 are companies with debt ratios between 50 and 75%, and Group 4 represents those companies with debt ratios above 75%.

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[3] The use of email questionnaires is worthy of further discussion as this method is likely to become of increasing importance in the future. However, the reasons for and implications of using this approach are not discussed. Some of the advantages of using email questionnaires are: (i) the speed; (ii) the saving in time and money; and (iii) their greater impact. Some of the disadvantages are: (i) the questionnaire fails if the interviewee requires help to respond, (ii) there is no anonymity, which may be an important consideration when answering, and (iii) the limited installation of the Internet in Spain (the penultimate one among EU countries, before Greece, Nielsen Netratings, July, 2001), mainly in small and medium-sized companies.

The existence of significant differences between the groups is analysed by considering the independent variables by means of an ANOVA. Table I describes the statistical features of the sample and the company groups considered as well as the results of the ANOVA. Significant differences can be observed with respect to the following variables: (i) number of employees; (ii) volume of total net assets; (iii) number of financial companies that the enterprise maintains a relationship with; (iv) age of the relationship with the main financial company; and (v) existence of real covenants unrelated to the business.

Finally, and in order to contrast the hypotheses established in the theoretical part, and to analyse the combined effect of the explanatory variables on the debt ratio, a model of hierarchical regression was developed, consisting of the introduction of groups of variables corresponding to the four blocks considered into the regression equation, size, reputation, structure of ownership and control, and characteristics of the lending relationship.

B. Results

The companies in the survey have an average of 35 employees, an average volume of sales of €4.27 million and average net assets of €2.09 million. The companies with less borrowing (Group 1) are generally smaller enterprises, in terms of number of employees and business turnover, however, larger companies have debt ratios of 25% to 50%. Although the differences are statistically significant for the number of employees and volume of assets, the analysis of the data does not seem to confirm the relationships that might be expected in theory; that is to say, fulfilment of H.1.a, *the larger the size of the company, the higher the debt ratio*. However, since H.1.b is satisfied, the results are not contradictory with those obtained in the studies of Peterson and Schulman (1987); Holmes and Kent, (1991). Therefore, large companies usually have higher capitalization rates and, consequently, lower levels of borrowing as the *pecking order theory* predicts.

With respect to the 'main activity within the sector', 39% of the companies belong to the sector of services, 29% of them to the industry sector and 22% to the sector of commerce. Although there are no significant differences between groups, except in the case of the construction sector, companies with high levels of borrowing belong to the industry sector, whereas those other companies with low levels of borrowing belong to the sector of services.

With respect to the 'reputation of the company, measured by the age of the firm (AGE1), the companies included in the survey have an average age of 20 years. In particular the companies which belong to Group 1, are characterised by the lowest levels of borrowing, at the same time, those companies which belong to Group 4, have the highest levels of borrowing and are the youngest companies of the sample. The companies which belong to Group 2, with a debt ratio between 25% and 50%, are the most long-standing and experienced companies. Therefore, AGE1 is statistically significant for all the groups, and the analysis of the data does not confirm the theoretical relationship established by the *agency theory* and *signalling theory*, H.2.a; however, it confirms the relationship established by the *pecking order theory*, H.2.b. Concerning the variable AGE2, the number of years being the current owner provides similar results.

With respect to the 'structure of ownership and control' of the companies included in the survey, non-owners manage only 11,48% of the companies. As might be expected in SMEs companies, generally there is no clear separation of functions since the ownership and control of the company is at the owner's hands. However, no sign of significant differences between the different categories of groups can be observed. In this regard, from the analysis of the data no confirmation of any relationship between the *agency theory* and the *signals approach*; therefore H.3.a is not fulfilled. However, this relationship can be confirmed under the *pecking order theory*, H.3.b.

From the main characteristics that define the lending relationship point of view, can be highlighted that there are four financial companies associated to the companies included in the survey. Moreover, the ANOVA reveals some statistically significant differences between the groups studied. On average, companies with the lowest borrowing level (Group 1) deal with three companies, whereas those with the highest borrowing level (Group 4) deal with five; therefore, those companies with higher borrowing, on average, deal with more companies. However, the sense of H.4.b in the relationship between this variable and the debt ratio cannot be confirmed.

This result, which is the opposite of Peterson and Rajan's (1994), is a consequence of the characteristics of the Spanish credit market, which is highly specialized and very fragmented. Indeed, the Savings Banks of the Comunidades Autónomas are the main lenders to SMEs.

Concerning the 'age of the relationship with the main financial company', the age of the relationship for the groups under survey is only 3,77 years, which is rather recent in comparison to the average age of the companies included in the survey (20.47 years). This may indicate, the existence of great competition in the current credit market, so that many entrepreneurs frequently change companies. In a similar way, some statistically significant differences are noticed between groups. The age of the relationship is generally smaller for those companies with the lowest levels of borrowing, which indeed confirms H4.a.

The descriptive analysis can be concluded by doing a reference to the importance of covenants, as well as to their nature, although it must be remarked that the number of responses and cases surveyed in relation to these variables is considerably lower—273 cases. Out of these cases, 20% have covenants of a personal or real type unrelated to the business, and 18% have real covenants related to the activity. The percentages become larger in those companies where the debt ratio is greater, which confirms H.4.c at the 10% significance level; however, it is only in cases of real covenants unrelated to the business where the differences between groups are statistically significant.

A model of hierarchical regression has been proposed across-the-board to compare the referred hypotheses. Before doing so, the array of correlations between the variables had to be computed, and was observed a high correlation between the variables SIZE1, SIZE2 and SIZE3. For this reason, the variable corresponding to the Napier's logarithm of the volume of total net assets was introduced in the regression model as an explanatory variable for size

In the first step, the variable LSIZE3 and those variables of control related to sectors of main activity were included; resulting that only the volume of assets is statistically significant. Thus, the relationship established at H.1.a is confirmed, that is to say, *the larger the volume of assets, the larger the debt ratio*.

In the second step, the variables related to the reputation of the enterprise, AGE1 and AGE2 were added to the previous variables. In this case, the variable size related to the volume of assets still is statistically significant, which does not confirm the hypothesis related to the variable 'reputation'. However, with respect to the variable AGE1, the relationship is negative as suggested by the *pecking order theory*.

In a third step, the variable DIR related to the structure of ownership and control was added to the previous variables. In this case, the variable volume of assets results statistically significant. Therefore, the sense of the relationship is the one observed according to the *pecking order theory*, even though it is not statistically significant.

In the fourth step, two more variables related to the characteristics of the lending relationship were added to the previous variables; NFC (number of financial companies) and AR (age of the relationship). In this case, the variable related to the size of the company becomes statistically insignificant, whereas the 'number of financial companies' is significant.

In the array of correlations, both variables are correlated in such a way that companies with larger size usually deal with more financial companies; this fact favours their access to the credit market. In this sense, the hypothesis established in the theoretical model may be confirmed. Concerning variable AR, the sense of the relationship is the opposite. Consequently, the 'age of the relationship with the main financial company' is not an explanatory factor of the capital structure. This is because of the features of the credit market, which is very competitive and, thus, the change of company becomes a normal practice among the enterprises. Petersen and Rajan (1994) found contrary results.

As can be seen the negative and positive signs depend on the sense of the relationship: positive, indicates a direct relationship; and negative indicates an inverse relationship between the dependent and independent variable.

Finally, in the fifth step, the variables related to the covenants are added to the previous ones. In the model of total regression where all the factors are included, the statistically significant variables that are explanatory of the debt ratio are the number of financial companies (NFC) and the existence of personal covenants (PERC). Both factors are positively related to the debt ratio, which confirms the hypotheses established in the theoretical model.

VI. Summary and concluding remarks

Although the low response level obtained in the survey could limit the interpretation of the results, we consider that this research provides interesting ideas about the decision of capital structure for SMEs.

Therefore, this study provides an explanatory analysis of the nature of the factors which determine the capital structure of SMEs. The distinctive features of this type of companies are: (i) the impossibility of using equity markets and, therefore, the absence of objective mechanisms of assessment; (ii) the dependence of this type of companies from the bank credit market; and (iii) the presence of a structure of ownership and control that is characterized by no separating both functions.

All these circumstances have two important consequences. On one hand, the degree of asymmetric information among the different agents involved in the market is increased; the *agency theory, the pecking order theory* and the *signals approach theory* are the optimal conceptual referential frameworks for studying the decisions related to the capital structure in the case of SMEs. On the other hand, a reconsideration of the analysis is required; the relationship LR in the credit market is the ideal referential framework or unit of analysis.

In the specific case of SMEs and in addition to the importance of quantitative variables related to size, other qualitative variables related to reputation, structure of ownership and control, and characteristics of the lending relationship, seem to be relevant factors to take into account in the analysis of the decisions about capital structure.

- Size of the enterprise: even though the differences are statistically significant for the number of employees and volume of assets, the analysis of the data does not confirm the relationships that might be expected according to the *agency theory* and the *signals approach*, the larger the size, the higher the debt ratio. Although it confirms the relationships from the *pecking order theory*, the size will be negatively related to the debt ratio. Indeed, the negative relationship between the level of debt and the size coincides with the *pecking order theory*, but is opposite to that expected from the *agency theory* and the *signal approach*, so that bigger companies with greater levels of self-financing will have lower debt requirements.

- Reputation of the company (age): with respect to the variable (AGE1), although the differences are statistically significant between groups for this variable, the analysis of the data does not confirm the relationship that might be expected according to the *agency theory* or to the *signal approach* (H.2.a). However, it does confirm the relationship between the variables according to the *pecking order theory* (H.2.b). With respect to variable AGE2 (years in possession of the current owner), the results are similar; that is, H.2 would not be fulfilled. The difficulties of testing the variable 'reputation' come from the unit used in the quantification, age of the company as measured by the number of years since the company commenced. Other empirical works, such as Boedo y Calvo (1997), suggest that the age of the company is, among others, a component of reputation, which integrates many qualitative and quantitative aspects. In any case, age, as the empirical results suggest, may be negatively related to the level of debt. Therefore, those companies that are just starting usually incur losses or low profit levels, because their self-financing possibilities are constrained, which makes debt the best way to obtain funds in the short term. As these companies continue in the marketplace and gain the experience needed to survive, their performance will improve and they will require less debt.

- Structure of ownership and control: those enterprises with higher level of specialization in the functions have a lower level of borrowing. It may be confirmed that the direction of the relationship is negative, in the same way as *the pecking order* theory suggests, even though it is not statistically significant in the regression model. The results suggest that smaller companies are usually managed by one director, who owns the main proportion of capital, and thus avoids the entrance of another agent. As the *pecking order theory* suggests, in those cases where self-financing is not sufficient, debt is preferred to the issuing of shares because the entrance of new owners is supposed to diminish the control of the director.

- Characteristics of the 'lending relationship': the results obtained in the regression confirm the existence of relationships for the number of entities and the availability of personal guarantees. As has been argued, the credit market is the main point of reference for obtaining funds, especially for Spanish SMEs. The literature suggests that the stronger the relationship between the financial entity and the company, the lower the constraints to obtain funds. However, the results achieved predict a negative relationship between the debt ratio and the age of the relationship with the financial entity. Although this result is not unexpected when we observe the level of competence and fragmentation of the current credit market. The low interest rates and the appearance of new financial entities have increased the level of competition in the market. Nowadays, the relationship with the financial entity is not such an important factor because of the facilities to change the financial institution. Companies usually work with more financial entities, and establish specialized relationships depending on the financial services. In any case, the results point out that the availability of guarantees is a key factor to obtain funds from the credit market. At the same time, the availability of guarantees reduces the asymmetric information and the uncertainty in the relationship between the borrower and lender. Furthermore, the guarantees reduce the possibility of losses for the lender in case of insolvency. Finally, the guarantees can be seen as a positive signal to the lender because it indicates that insolvency is unlikely; therefore, entrepreneurs who are able to offer more guarantees will have lower constraints to get funds from the credit market. In 20% of the cases in our survey, the companies have covenants of a personal or real type not related to

the business, and 18% have real covenants related to the activity. Between groups, the percentages are higher for those companies that have a higher debt ratio, which confirms H.4.c, even though it is only the differences between groups for the case of the real covenants not related to the business that are statistically significant.

Although the analysis of the regression does not provide empirical evidence of the impact of the variables on the capital structure of SMEs, the research allows us to conclude that the *pecking order theory* is a more useful instrument for explaining the relationship between the dependent and independent variables, age, size, property structure and control. As the results point out, there is evidence that the *pecking order theory* is an acceptable approach to be applied to SMEs. The self-financing possibilities and maintenance of the control are two explanatory factors of the capital structure of SMEs, as well as the impact of the availability guarantees on the relationship between the borrower and the lender.

The results of the study are in line with the latest research, which, owing to the low number of studies and the rather inconclusive results generally obtained, is still in its initial phases.

In spite of the difficulties of studying the financial decisions within the specific field of SMEs, we believe that it would be useful in the future to: (i) continue studying in more detail the demand factors, that is, the internal variables of the enterprise that determine these types of decisions; and (ii) incorporate into these studies an analysis of the supply factors that are related to the characteristics of the financial markets.

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Table I

Main features of each group and the ANOVA

		No. Cases	Mean	Std. Deviation	Minimum	Maximum	F(ANOVA)
SIZE1	**Group 1**	74	19.57	25.69	1	130	
	Group 2	58	53.08	82.58	2	240	0.025
(Number of employees)	**Group 3**	114	36.32	50.47	1	239	
	Group 4	146	34.21	43.12	1	226	
	Global	392	34.85	42.97	1	240	
SIZE2	**Group 1**	71	592.44	1679.8	2	10228	
	Group 2	58	1117.33	2946.27	8	21000	
(Volume of sales)	**Group 3**	112	671.95	1069.45	1	6254	
	Group 4	138	629.44	1228.73	0	8629	
	Global	379	709.73	1656.93	0	21000	
SIZE3	**Group 1**	44	545.29	1595.82	0	10096	
	Group 2	46	911.29	1466.75	2	6300	0.035
(Volume of net total assets)	**Group 3**	84	479.22	811.97	1	4149	
	Group 4	100	346.89	746.16	1	6315	
	Global	274	514.07	1093.36	0	10096	
INDSEC	**Group 1**	75	0.2267	0.4215	0	1	
	Group 2	58	0.3621	0.4848	0	1	
(Industry activity sector)	**Group 3**	112	0.2857	0.4538	0	1	
	Group 4	146	0.3014	0.4604	0	1	
	Global	391	0.2916	0.4551	0	1	
COMSEC	**Group 1**	75	0.1733	0.3811	0	1	
	Group 2	58	0.2414	0.4317	0	1	
(Commerce sector)	**Group 3**	112	0.2411	0.4297	0	1	
	Group 4	146	0.2123	0.4104	0	1	
	Global	391	0.2174	0.413	0	1	
CONSEC	**Group 1**	75	0.00533	0.2262	0	1	
	Group 2	58	0.0017	0.1313	0	1	
(Construction sector)	**Group 3**	112	0.1161	0.3218	0	1	0.093
	Group 4	146	0.1027	0.3047	0	1	
	Global	391	0.00844	0.2783	0	1	
SERSEC	**Group 1**	75	0.5333	0.5022	0	1	
	Group 2	58	0.3793	0.4895	0	1	
(Services sector)	**Group 3**	112	0.3125	0.4656	0	1	
	Group 4	146	0.3699	0.4844	0	1	
	Global	391	0.3862	0.4875	0	1	
AGE1	**Group 1**	76	18.5	19.08	1	84	
	Group 2	58	27.28	29.01	1	140	
(Years since the commercial activity	**Group 3**	114	21.86	20.74	1	107	0.018
	Group 4	145	17.69	16.75	1	100	
began)	**Global**	393	20.47	20.74	1	140	
	Group 1	77	15.43	15.32	1	84	
	Group 2	57	18.72	22.95	1	140	
AGE2	**Group 3**	110	19.21	21.64	1	140	
	Group 4	144	14.38	12.83	1	80	
(Years in possession of the current	**Global**	388	16.59	17.88	1	140	

Table I, continued

Main features of each group and the ANOVA

DIR	**Group 1**	77	0.1169	0.3234	0	1	
	Group 2	58	0.1379	0.3478	0	1	
(Managed by a non-owner)	**Group 3**	114	0.1316	0.3395	0	1	
	Group 4	143	0.0090	0.2885	0	1	
	Global	392	0.1148	0.3192	0	1	
NFC	**Group 1**	75	3.32	2.72	0	16	
	Group 2	58	3.93	3.96	0	30	0.033
(Number of finance companies)	**Group 3**	115	4.5	2.8	1	17	
	Group 4	147	4.47	3.01	0	15	
	Global	395	4.18	3.08	0	30	
AR	**Group 1**	49	3.2	1.44	1	5	
	Group 2	51	4.2	1.91	1	15	
(Age of the relationship with the main finance company)	**Group 3**	113	4.04	1.39	1	13	<0.001
	Group 4	134	3.59	1.22	1	5	
	Global	347	3.77	1.45	1	15	
PERC	**Group 1**	44	0.14	0.35	0	1	
	Group 2	32	0.19	0.4	0	1	
(Personal covenants)	**Group 3**	85	0.19	0.39	0	1	
	Group 4	112	0.23	0.42	0	1	
	Global	273	0.2	0.4	0	1	
REALCUNR	**Group 1**	42	0.12	0.33	0	1	
	Group 2	32	0.0093	0.3	0	1	0.083
(Real covenants unrelated to the business activity)	**Group 3**	85	0.27	0.45	0	1	
	Group 4	112	0.21	0.41	0	1	
	Global	271	0.2	0.4	0	1	
REALCR	**Group 1**	44	0.11	0.32	0	1	
	Group 2	31	0.0096	0.3	0	1	
(Real covenants related to the business activity)	**Group 3**	84	0.19	0.4	0	1	
	Group 4	112	0.22	0.42	0	1	
	Global	271	0.18	0.39	0	1	

NOTE:

Group 1: Comprises those enterprises with low borrowing levels, which have total debt ratios of less than or equal to 25%.
Group 2: Includes enterprises with total debt ratios between 25% and 50%.
Group 3: Consists of enterprises with total debt ratios between 50% and 75%.
Group 4: Represents those enterprises with total debt ratios above 75%.

Table II

Hierarchical regression model

VARIABLES	Step 1	Step 2	Step 3	Step 4	Step 5
(Constant)	41.441	46.788	44.432	27.692	35.662
LSIZE3 (Volume of net total assets)	12.486**	13.495**	14.018**	–0.576	–3.046
INDSEC (Industry activity sector)	–39.441	–40.997	–38.782	–38.379	–45.166
COMSEC (Commerce sector)	–30.644	–32.402	–31.198	–32.385	–32.527
CONSEC (Construction sector)	–17.224	–20,597	–21.367	–12.070	–11.336
SERSEC (Services sector)	4.456	.562	2.926	29.200	30.504
AGE1 (Years since the main activity began)		–0.664	–0.573	–0.128	–0.412
AGE2 (Years in possession of the current owner)		0.371	0.296	–0.438	–0.294
DIR (Managed by a non-owner)			–31.106	–32.674	–21.925
NFC (Number of finance companies)				24.519***	24.119***
AR (Age of the relationship with the main finance company)				–7.130	–9.241
PERC (PERSONAL covenants)					69.242*
REALCUNR (REAL covenants unrelated to the business activity)					33.325
REALCR (REAL covenants related to the business activity)					–24.400

Dependent variable: total debt (TBR)

- * Significant at 5%
- ** Significant at 2%
- *** Significant at 1%

Figure 1

Variables and proposed relationships