

## The optimal financial structure between maximizing value and competitive continuity

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### Abstract

The work aims to investigate the issue of creating value, a fundamental objective for the survival of the company, accompanied by the ability of the same to attract financial resources, so as to define a capital structure that reflects the business strategy which does not compromise its competitive ability. The research question is whether there is a link between value creation and firms financial structure. In order to solve the question the methodology adopted is of desk type, or analysis of the scientific-literary reference. As finding of the research, note that the optimal financial structure is oriented to the search for balance between the different forms of financing that at different times of firm life are available. The study conducted shows, finally, the limit of lack in a quali-quantitative approach as a case study aimed to verify the theoretical framework. Therefore, this integration between theoretical and practical approach will be the subject of future research.

**Keywords:** financial structure, optimal financial structure, elasticity, flexibility, financial flexibility.

### Introduction

The adoption of an approach based on value implies a different role to be taken by the governing body with respect to the financial management of the company. With this perspective, the following paragraph will analyze the reference literature, to state that it is necessary, in particular, a careful analysis, composition and use of the financial structure, which shall not be induced only to the control of the explicit cost of debt or equity, but also extends to the implications of the funding choices on the enterprise government (La Rocca, 2001). As conclusion, it seems necessary to reconcile the objective of maximizing value with the ability to attract financial resources in order to establish a capital structure that reflects the business strategy not compromising its competitiveness (Modina, 2012).

### The financial structure and its characteristics

The financial structure, due to the system of relations linking financial needs to funding sources, is the set of investment made by (loans) to enable the undertaking of the representative of the entire gross financing needs, which must inevitably coincide, in quantitative terms, with total financial resources acquired (sources). Where the gross borrowing requirement, is a quantity closely linked to the work, as well as the strategies adopted depending on the volume of investments and their burden in the period considered (Pochetti, 1989).

The financial structure typical of an enterprise, at time  $t$ , is composed by venture capital contributed by the entrepreneur and / or shareholders and indebtedness with the financial system determined

by the government after careful reading and interpretation of the reference context of the company and its multiple relationships. It is represented by an accounting ratio:

$$K_t = MP_t + D_t$$

where

$K$  = total capital invested

$MP$  = equity

$D$  = indebtedness

With a view to setting up and maintenance of the financial, the financial structure must have, according to Sciarelli (2008), the characteristics of homogeneity between sources and uses, flexibility of sources, cost of the financial structure and elasticity of the funding. A dictate fundamental of financial management involves the use of capital consistent with the type of needs to be covered, expressed in terms of time horizon (Tagi, 1994). The need of the time correlation is dictated by the need to avoid situations of financial imbalance, as in the case of a debt payable opposed to an activity not yet monetized. For the financing of property, therefore, it is appropriate to use the financial resources in the long term, whereas the demand for the year would be appropriate to cope with media shortly. This is to ensure greater consistency between the two phenomena (need and coverage), avoiding to finance investment processes with resources allocated, by their nature, to remain there for the duration of one year or, but the fact is rarer, avoiding to fund working capital with long-term funds. Often this principle is overlooked and disregarded by the excessive use of short-term funding sources due to the greater ease with which it can be accessed. However, his respect allows a general condition of financial balance and static is a prerequisite,

though not always sufficient, to the pursuit of financial equilibrium dynamic.

Specifically, the characteristic homogeneity is linked to that of flexibility, ie the ability to change the capital structure in relation to the evolution of needs, both in terms of total amount, that settlement funding company. It is precisely the variability of cash needs in a context of environmental chaos to not make possible the point forecasts requiring constant monitoring of the financial balance of the company. However, the ability to change the financial structure is reflected in the opportunity to improve the financial results of operations, releasing or attracting funds depending on the prospects of economic return.

Even the attribute elasticity binds to the first two and in particular that of flexibility. This feature is the ability to expand the sources of funds to meet the needs of business growth and / or the temporal and quantitative financial requirements (Pochetti, 1989). The more elastic a financial structure , in fact, the bigger the possibility of quantitative expand. It is strongly influenced by the duration of the cycle of use of capital acquired, because the brevity of that cycle reduces the waiting time of the availability of capital to be used to manifest requirements. This is accomplished by implementing the short-term loans to both temporary and permanent. If the cycle of use of the loan is extended in time also increase the waiting time due to the increased complexity of the procedure for the grant allocation and the duration of the commitment (Pochetti, 1989). The increase in financial elasticity increases the so-called "financial reserve" (Brealey, Myers and Allen, 2007) or the ability to have fast access to financial assistance if would present good investment opportunities. Flexibility and elasticity are not similar, because the first defines the ability to play a constant balance between the sources and uses of capital, while the second refers to the possibility of changing the financial structure in accordance with the needs. In the latter case, the financial manager will have more choices available to increase the funds business by improving the optimization of the choice of sources. Finally, cost is achieved by optimizing the financial choices based on the maximization of spreads between yields on investment and cost of capital.

Of course the attributes of flexibility and elasticity may involve a higher cost that will be appraised in

the light of the advantages insurable to the complex financial structure. These will tend to be higher in terms of a more intense dynamism of the conditions of the micro-environment in which the entity operates. In particular, the variability of market conditions (supply and sales) and the pace of technological progress affect the financial requirements and may be able to benefit more or less consistent with the flexibility of the financial structure. With regard to the elasticity instead, please note that it is fundamentally linked to the supply of equity and that they still carry a notional charge for the enterprise.

### **The factors that affect the financial structure**

Several factors, endogenous and exogenous influence the financial structure, as:

- the size of the company considered both in terms of location and possible participation in different sectors, both from the economic and financial point (volume and value of production, the amount of labor employed, etc.). This factor, as will be seen below, enables or disables the use of those forms of financing that require a support sheet and the presentation of collateral (as in the case of mortgages in the medium or long term), or which require the adoption of a specific legal form. Also, affects potential listing of securities at the stock exchange, facilitating access to the financial instruments made available by the markets;
- the context of company operations that influence the risk culture, the role of business in society, the concept of entrepreneurship;
- commercial and tax law;
- the capital market;
- ownership, according to the degree of control which the entrepreneur wants to keep the company (Sciarelli, 2008);
- the structure of the governing body;
- the degree of diversification of the company;
- the economic sector of reference of the company;
- the level of profitability of business management;
- the dividend policy;
- the degree of risk of the business;

- the duration of the production cycle, which may imply a difference in time between the time they are incurred costs and the generation of cash flows arising from the management;
- bargaining power can tick favorable economic conditions;
- the company's image;
- the economic conditions of forms of financing;
- relations between the company and the financial system;
- the degree of internationalization of the company;
- the competitive position;
- technological choices (MacKay and Phillips, 2001).

Every company, in relation to the specific characteristics, define a custom financial structure, reflecting also the particular characteristics of its financial management, affect its economic performance. Financial structure that can be analyzed through the analysis for flow and ratio analysis.

The first allows through comparison between two or more balance sheets reclassified according to the financial criterion, referring to different exercises, to produce a prospectus that detects the changes in each component. Where the sources are related to the cash flows that increase and availability, while loans are attributable to the destination who have taken these resources. This methodology is often supported by the analysis of financial ratios. It is through the breakdown of cash flows that you can understand if the variations of a certain index is attributable to extraordinary financial operations or management. The main indicators to qualify the financial structure of a firm is the debt ratio (debt / equity), the index of "financial independence" or "structural margin", the coverage ratio of permanent capital or the "revolving fund", the index of consolidation.

At this point, it is logical to ask whether there is an optimal financial structure for the composition

and flexibility, in terms of the combination of debt and equity, which can maximize the value of the firm, is regarded as a strategic choice for the company at least in the medium to long term.

### **The optimal financial structure of firms and the need to pursue the objectives of financial flexibility**

The issue of optimal financial structure (Allen and Winton, 1995), falls for a long time among the topics typical of the theory of corporate finance, although the theoretical and empirical literature on the subject, offered different paradigms. The classical thesis, mainly due to the studies of Dean (1951), Graham and Dodd (1951), Guthmann and Dougall (1955) believes that there is an optimal financial structure between a minimum value corresponding to the weighted average cost of capital and a maximum based on the equity value of the company.

Solomon (1972) notes that "in the traditional doctrines, it is assumed that there is an optimal point of indebtedness for each company. Translated in our terminology the traditional position states that - if the other variables do not change - the market value of securities of a company will increase when the amount of debt in its capital structure increases from zero up to a certain point, determined by the assessment that the capital market attributes to the level of risk attached to the company. Beyond this point and up to a second point, the changes in the ratio of debt have very little effect; that is, within this range of debt, the global market value of the company remains unchanged at varying leverage".

The starting point is represented, therefore, by the combination of the cost of debt ( $K_i$ ) and the venture capital ( $K_e$ ).

This allows you to determine the cost of capital ( $K_o$ ), represented by the equation

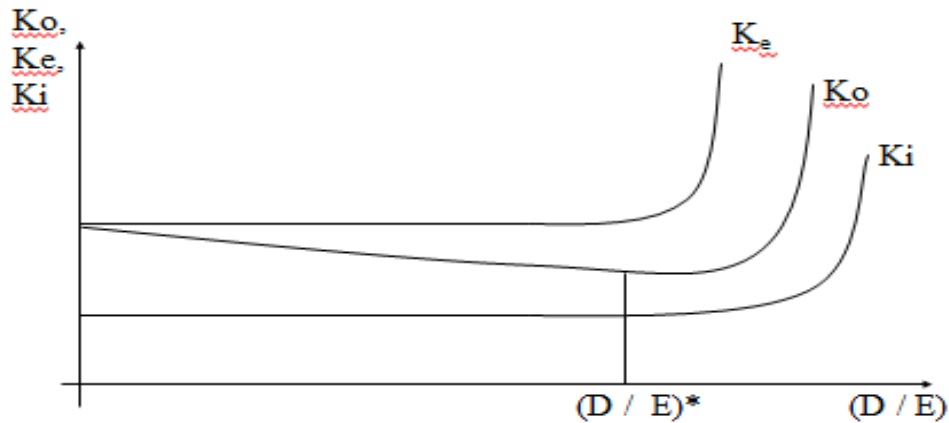
$$K_o = K_e \cdot (E/D+E) + K_i \cdot (D/D+E)$$

where

$D = Debt$

$E = Equity$

**Graph 1 - The optimal financial structure according to classical theory**



Source: Miglietta, 2001

It follows that a proper exploitation of leverage influence positively the value of firms.

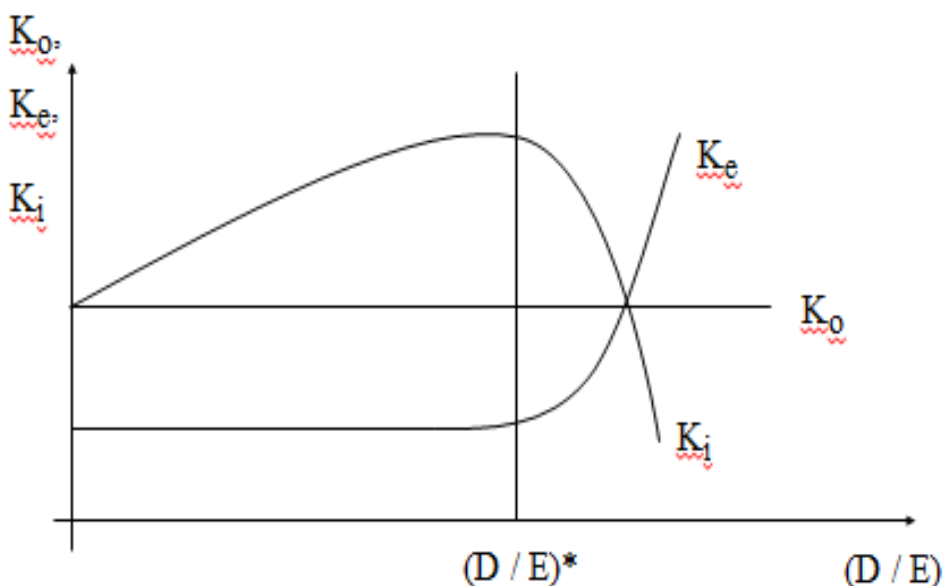
However, Modigliani and Miller with their famous contribution of 1958, significant in terms of methodological rigor, have laid the foundations of modern finance theory, since "showing what does not matter can show, by implications, what does".

Scholars based their study on the correlation between the ideal sources of funding can respect the balance sheet and increase the value of its economic capital.

In case of perfect capital markets, the absence of asymmetric information, rational behavior of investors oriented to the creation of optimal systems of production and exchange of wealth, the possibility of borrowing at the same rate equal to the risk free both for individuals and for companies, the absence of transaction costs, agency, instability and failure, the absence of taxes both for individuals and for companies, the division of the undertakings for similar classes of risk, etc., the financial structure does not affect its value.

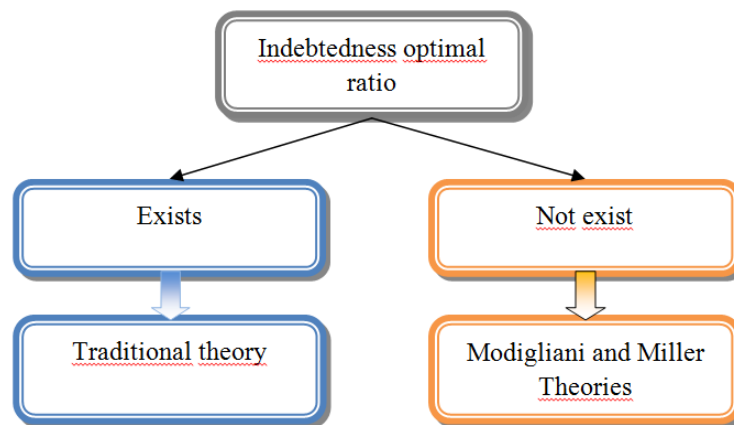
This thesis is due to the concept of arbitrage finding reflected analyzing two identical companies, one of which is unlevered, characterized by a capital structure consists entirely of its own means, and the other whose capital structure also includes over equity forms of debt remunerated at an annual rate  $r$ . According to Modigliani and Miller the value of the company is related to the present value of cash flows before interest, where the discount rate is directly proportional to the "risk class" business. "Class of risk" that also affects the weighted average cost of capital, being equal to the expected return on the investors who have the same level of risk, is not related to the volume and structure of debt.

**Graph 2 - The optimal financial structure according to Modigliani-Miller**



Source: Miglietta, 2001

Graph 3 - Indebtedness optimal ratio



Source: Our elaboration

The theories of Modigliani and Miller, over time, have been the subject of numerous criticisms that have generated considerable literary output supported by empirical analyzes about.

Table 1 - Theories of financial structure

<i>Modigliani and Miller (1958)</i>	The choice of leverage is irrelevant in the absence of taxes
<i>De Angelo and Masulis (1980)</i>	There are companies for which the tax shield is less important than others. For this the optimal leverage is lower
<i>Altman (1984); Warner (1977); De Angelo and Masulis (1980)</i>	There is an optimal ratio of debt for every company that is obtained by balancing on one hand the tax advantages (which continue to exist even in the presence of personal taxes) resulting from an increase in leverage and the other considering the costs associated with the instability (and agency costs)
<i>Jensen and Meckling (1976)</i>	The optimal capital structure is the one that minimizes agency costs associated to debt and equity
<i>Myers and Majluf (1984)</i>	The financial structure and how to cover the investment is a signal on the situation of the company and the quality of the investments to be financed
<i>Myers and Majluf (1984)</i>	In finance firms follow an order of choice
<i>Williamson (1991)</i>	The choice of the financial structure of the company depends on the "specificity" of corporate investment and transaction costs related to the use of debt and equity

Source: Metallo, Pencarelli, 1995

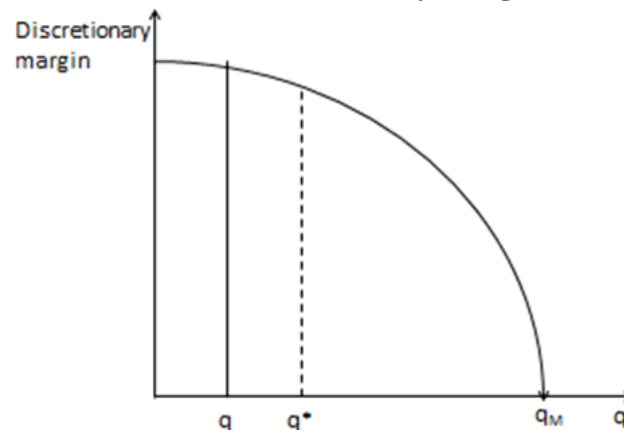
Among the approaches most relevant to the determination of the optimal financial structure, the purpose of this study is considered appropriate to highlight the trade-off theory (Kraus and Litzenberger, 1973; Warner 1977; Altman 1984; Copeland and Weston, 1998; Graham and Harvey, 2001; Frank and Goyal, 2008), which emphasizes the importance of a proper balance between the advantages and disadvantages of debt,

going to a pick of the maximum current value of the company, placed just before the marginal cost of a unit of debt exceeds the tax benefit it brings to the company (Gori et al., 2006).

The critical issues are induced by the costs of instability and failure related to the tightening of the financial structure (De Angelo and Masulis, 1980; Taggart, 1991; Benninga and Sarig, 1997; Graham, 2000). Falls under the category of costs directly attributable to the disruption legal costs, administrative, for the preparation of expert reports, for the liquidation of the assets, etc. While the indirect costs are due to impaired competitiveness related to financial distress that it also compromises the corporate reputation, and the opportunistic behavior of the stakeholders (think for example the case of the loss of the best human resources).

The benefits, however, are derived from the deductibility of interest expense from the taxable income of the company. The tax deductibility of financial expenses and the lower cost of debt compared to the equity, reduce the weighted average cost of capital by increasing the debt burden on the total financial sources. The higher incidence of debt, however, increasing the risk profile of the company generates uncertainty about the possibility of access to credit and higher expectations in terms of return expected by the donors expressed in terms of agency costs<sup>1</sup>. The growing attention to the risk profile of the company imposes system vital to think in terms of risk-return profiles; therefore it is clear that in situations of underfunding will require high-paying projects, compared to what happens in the financing of companies with a financial structure more solid. This allows you to argue on the quotient of debt, the ratio between the amount of debt and the total capital invested in relation to higher or lower pressure that the financial system has on the system.

**Graph 4 - The trend of the discretionary margin of the enterprise**



Source: Golinelli, 2008

The quotient  $q^*$  is the dividing line between a situation  $q < q^*$  where the resonance is ensured systemic - overcapitalization - and a  $q^* < q < q_m$  where the continuing resonance conditions systemic action is linked to the careful guidance of the organ government. As  $q$  moves away from  $q^*$  to  $q_m$  the discretion tends to decrease with increasing essays. With the progressive increase in the ratio of debt the discretion available to the firm tends to decrease to zero when it reaches the limit value  $q_m$ , maximum value compatible with the system's ability to convey the relationship with the company through the risk profile performance. At the same time decreases the degree of resonance with the financial system; gradually the relationship is no longer systematic, but is related to the risk appetite of the individual broker.

<sup>1</sup> Jensen and Meckling (1976) "Define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationship are utility maximizers there is good reason to believe that the agent will not always act in the best interests of the principal. The principal can limit divergences from his interest by establishing appropriate incentives for the agent and by incurring monitoring costs designed to limit the aberrant activities, of the agent. In addition in some situations it will pay the agent to expend resources (bonding costs) to guarantee that he will not take certain actions which would harm the principal or to ensure that the principal will be compensated if he does take such actions" in "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", Journal of Financial Economics, n. 4.

If on the one hand, therefore, the growth of  $q$  tends to improve, in certain conditions, profitability, for higher values  $aq^*$  resonance conditions become unstable. Good governance should therefore place the actual  $q$  in a neighborhood of  $q^*$  more or less wide according to the logic of the government and of the characteristics of the financial system.

The management tool that allows to calculate the optimal level of debt in relation to the financial structure, is the Leverage. It expresses the fundamental concept that is convenient to recourse indebtedness until its cost remains at levels lower than equity, to a level that would limit the financial risk, thus increasing the company's value. Financial risk that if combined with that operating accentuates the instability of farm structures weaker (Metallo, Pencarelli, 1995).

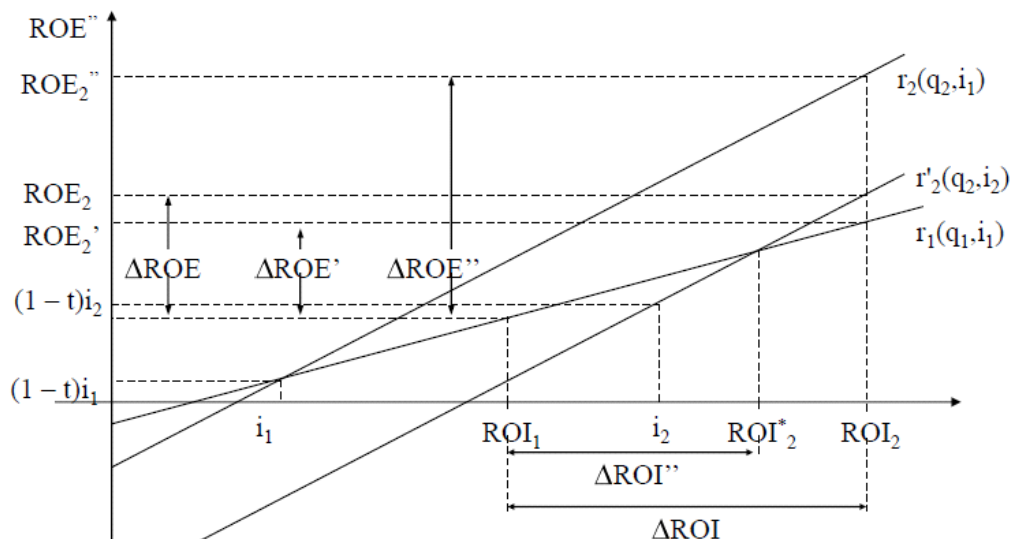
Explaining the relation between the ROE and ROI in terms of  $ROE = f(ROI)$  (Golinelli, 2000)

$$ROE = \frac{1-t}{1-q} (ROI-iq)$$

can understand how a financial policy influenced by mode and by the choices of government addressed the expansion of the quotient of debt, if it is not consonant with the reference context of the company, as it perceived as a factor that generates increasing levels of risk, will adversely affect the ROE. Reduction in the ROE that can be induced by both a decrease in the ROI, as an expression of the results of the royal government, both from different financial management result influenced by the higher cost of debt in relation to higher risk perceived by the financial system. Consequently, the model of leverage, in addition to meeting the condition  $ROI > i$ , so that it produces positive effects is strongly affected by the value of the ratio of ideal debt.

It is considered optimal but not ideal as it does not only tied to benchmarks of corporate finance, but because in full consonance with the expectations of all stakeholders inside and outside the system and not just with those of some (Singer, 2010).

**Graph 5 - The effect of financial leverage in the event of changes in the cost of debt capital for reasons internal to the company**



Source: Golinelli, 2008

If there is a change in the incremental cost of funding of the loan for reasons within the company, because a structural change, involving the increase in the ratio of indebtedness  $q$ , make sure at least maintain the same profitability compared to the vehicles, require an increase in operating profits equal to:

$$ROI_2^* = i_1 + (1 - q_1) \left( \Delta i + \frac{\Delta i}{\Delta q} q_1 \right)$$

The massive and continuous use of leverage that influence the ratio of debt and the risk index affects the level of financial flexibility, competitiveness and so on corporate strategies (Modina, 2012).

Financial flexibility (Sciarelli, 1987) is characteristic of the financial structure that allows it to change in relation to the evolution of requirements, both as a total amount, as the composition of the financial resources that business in order to improve the financial results of operations, releasing or attracting capital with the prospects of economic return.

Over time has been attributed to this factor the role of value drivers the same way as any economic resource, which generates implementation costs, maintenance and exploitation.

It is this ability to differentiate small businesses to large ones. The first time they saw stiffen its financial structure due to the increasing reliance on bank debt mainly short-term; the second in the last three decades have initiated an intense process of financial restructuring aimed at increasing the degree of flexibility at all levels with particular attention to the financial, so it is possible to take advantage of the development opportunities not being barred from access to financial market due to the excessive leverage. Even given this choice the competitive strategies of these companies exceeded the Fordist production model by outsourcing one or more stages of the value chain, applying the methodology of Lean Manufacturing, by implementing the process of decentralization of production and processes of internationalization, emphasizing alliances strategic, etc..

Financial flexibility, however, is strongly influenced by the availability at the opening of the shareholder and the soundness of the financial structure that affect the discretion on access to credit (Zucchella, 2000).

### **Conclusion and future research**

The optimal financial structure, ultimately, must be oriented to the search for balance between the different forms of financing available at different times of corporate life. If the borrowing is physiological, this must be balanced by an adequate capital base to the riskiness of the strategic business areas, the competitive strategies adopted and the perspective of growth rates.

The notion of optimal financial structure is based not only on considerations regarding the extent of the cost of capital, but also on other factors. While in the past the funding of loans was considered a variable dependent on the choices of governance, the current reality is now considered a variable interdependent from those choices, but strongly influenced by other variables such as the volume and type of activity enterprise, the structure of the top government, ownership structure and, above all, the multiple interrelations between the enterprise system and its partners, and between this and its supra-reference systems (Panati and Golinelli, 1999; Singer, 2010).

The definition of the choice of the financial structure is influenced by external and internal constraints of the undertaking hardly derogable, which limit the effective possibility of theoretical determination of the optimal level (Bencini and Filippini, 2008).

The exogenous constraints arise mainly from:  
- members that define the actual availability and / or willingness to invest resources in company;  
- volitional factors tending to maintain unchanged

the roles and powers in the hands of the economic entity (Damodaran, 2001);

- the lenders in terms of actual ability to raise capital by borrowing;  
- the constraints expressed by the market, represented by the composition of the funding sources of the competitors (Bianchi Martini et al., 2000).

The constraints endogenous stem:  
- the business life cycle. The financial needs must be funded with the types of coverage appropriate to the stage of development of the enterprise;  
- the financial sustainability. The composition of the sources of funding must be weighted according to the cash flow that the company is able to generate.

For all that, once identified and quantified the constraints, it is possible to identify the best financial structure in virtuous balance between the constraints themselves.

A balanced bank-enterprise relationship, serving to prevent the crisis business, requires that there is the simultaneous pursuit of optimal financial structure for the company and allocative efficiency (Buttignon and De Leo, 1994; Pencarelli and Dini, 1995; Venanzi, 1997; Del Prete, 1999; Galbiati, 1999; Bigelli et al., 2001; Colombo, 2001; La Rocca, 2001), productive and dynamic for the bank (Corigliano, 1991; Singer, 2010; Modina, 2012). This is what emerges from the scientific literature, that in future research it is intended to occur through a case study.



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