Ownership Structure, Financial Policy and

Performance of the Firm: US Evidence

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Abstract

The objective of this article is to determine the interrelations between the ownership structure and the financial policy as well as the relationship between the managerial ownership and the performance of the firm. This study examines the relationship between the ownership structure and the performance when the managerial ownership is modeled as en endogenous variable. The regressions results show that all the shareholders regardless their types (manager, blockholder or institutional) do not tend to hold substantial ownership in the high levered firms because of the high bankruptcy risk. The non linear relationship between the managerial ownership and the performance of the firm strengthens the earlier US studies showing that some levels of the managerial ownership are not beneficial to the shareholders' wealth. The results of the simultaneous equations show that the entrenched managers avoid the debt in order to escape the performance pressure and to protect their non diversifiable human capital.

Keywords: Ownership Structure, Financial policy, Shareholders' wealth, Panel data

1. Introduction

The separation between the ownership and the control of the firm (Berle and Means, 1932) creates conflicts of interests between the shareholders and the managers who could pursue other goals different from the shareholders' wealth maximization. These conflicts were the subject of several studies (Jensen and Meckling, 1976, Fama, 1980). The concept of the corporate governance is related to the influence of strategic decisions on the firm's value, since the general policy of the firm is mainly determined by its manager and the value maximization is placed under his/her responsibility. The role assigned to the corporate governance is determining the mechanisms of control able to align the managerial behavior on the criterion of shareholder's wealth maximization. This topic was studied by many theories and mainly by the agency theory, the costs of transaction theory and then by the theory of the managerial entrenchment**.** The agency theory is largely developed by Jensen and Meckling (1976). These two authors define the agency relationship as being a contract by which one or several people (the principal) engages another person (the agent) to act on his/her behalf and for his/her benefit. The cost of transaction theory is interested in the contracts between agents (Williamson, 1985). These contracts are qualified by incomplete since they define the general framework of the exchange without specifying the actions required by the contractors. This incompleteness offers the opportunity to each contractor to injure his/her partner by not respecting his/her engagements. The managerial entrenchment theory is integrated in the corporate governance. The strategies of entrenchment are developed by the managers to increase their discretionary space, the dependence of the shareholders and the resources that they control in the objective to neutralize the control.

This article will be interested in studying the relationship between the performance of the firm and the managerial entrenchment. This relationship is primary negative but remains to identify the percentage of ownership from which the manager becomes entrenched. The managerial entrenchment, as defined by Jensen and Meckling (1976) and Morck, Shleifer and Vishny (1988), is characterized by a negative influence on the performance of the firms.

This article contributes to the financial literature by identifying on the one hand, the interrelations between the ownership structure and the financial policy of the firm and on the other hand, the relationship between the managerial entrenchment and the performance of the firm.

The remainder of the paper will be as following. In the second section, we will present the financial revue about the relationship between the ownership structure and the performance of the firms, the entrenchment strategies and the financial policy of the firm. The third section will be devoted to the empirical analysis. The data will be presented in the fourth section. The empirical results and the conclusions will be respectively presented in the fifth and the sixth sections.

2. The review of the literature

2.1 The ownership structure and the performance of the firms

The study of the relationship between the ownership structure and the performance of the firm passes primarily by the distinction between the various types of shareholders, such as: the managerial ownership (2.1.1.), the blockholders ownership (2.1.2.) and the institutional ownership (2.1.3.).

2.1.1 The managerial ownership

The managerial ownership was studied from two divergent points of view in the literature of the corporate governance, considering the article of Jensen and Meckling (1976), on one side, and the articles of Fama and Jensen (1983) and of Morck, Shleifer and Vishny (1988) on the other.

On one side, a high managerial ownership ensures an important convergence of the managerial interests on those of the shareholders. If the managers hold important percentages of ownership in their firms, they would be more concerned by the effects of their behavior on their wealth. The hypothesis of "the convergence of interests" confirms that the important managerial ownership will be associated to a high value of the firm (Jensen and Meckling, 1976). According to the agency theory, the managerial ownership can reduce the incentives of the managers to benefit from their position and to expropriate the wealth of the shareholders. The hypothesis of "the convergence of interests "was criticized by Fama and Jensen (1983) who affirm that the managerial ownership can influence negatively the agency relationship (between the managers and the shareholders) and consider that the managerial ownership is a source of significant costs of agency. Moreover, they affirm that the managerial ownership entrenches the current manager and accentuates the managerial opportunism.

On the other side, the hypothesis of "the managerial entrenchment" affirms that a high managerial ownership increases the power of the managers to make decisions which do not maximize the value of firm but improve their own wealth and their job security (Morck, Shleifer and Vishny, 1988).

The empirical results of the relationship between the managerial ownership and the value of the firm diverge. Demsetz and Lehn (1985), Holderness and Sheehan (1988) do not find any significant relationship between the level of the managerial ownership and the value of the firm. Whereas Morck, Shleifer and Vishny (1988), McConnell and Servaes (1990) find a non linear relationship between Q of Tobin and the managerial ownership. In general, these both studies confirm that a weak managerial ownership ensures the convergence of interests of the managers on those of the shareholders whereas a high level of the managerial ownership leads to the managerial entrenchment.

Shivdasani (1993) finds that the managerial ownership is significantly weak in the firms targets of hostile takeover confirming the idea stipulating that the managerial entrenchment is associated to a high level of the managerial ownership.

Denis, Denis and Sarin (1995) examine the relationship between the managerial turnover and the managerial entrenchment. They find that the managerial turnover in the firms in which the managerial ownership is lower than 5% is significantly higher than in the companies in which the managerial ownership exceeds 5%. Moreover, the authors find that the abnormal performance of the period following the advertisement of the managerial change is significantly positive only for the firms having a managerial ownership between 5% and 25%. These results conclude that the managerial entrenchment proclamation is associated to a managerial ownership less than 5%.

In the regressions of Demsetz and Lehn (1985), there is not any significant relationship between the performance of the firm and the ownership structure. They affirm that the costs associated to the control of the managers depend on the environment stability. The more stable is the environment, the less would be expensive the evaluation of the managerial decisions. Moreover, the results of this analysis imply that the ownership structure does not have any significant effect on the value of the firm.

Hermalin and Weisbach (1988), Morck, Shleifer and Vishny (1988) and McConnell and Servaes (1990) show that the relationship between the managerial ownership and the performance of the firm is non linear. Hermalin and Weisbach (1988) find that there is a positive relationship between the value of the firm and the managerial ownership for a level ranging between 0% and 1%, then negative between 1% and 5%, positive between 5% and 20% and finally negative for more than 20%.

Morck and al. (1988) confirm that this nonlinear relationship will be the result of the coexistence of two contradictory hypotheses: "the convergence of the interests" and "the managerial entrenchment". The regression by "piece-wise" shows that the value Q of Tobin increases if the managers have between 0% and 5%, decreases if the managers have between 5% and 25%, then increases if the managers have more than 25%. These authors chose these breakpoints arbitrarily basing on the regulation of the SEC (Securities Exchange Commission). This regulation obliges the disclosure of the ownership higher than 5%. To determine the breakpoint of 25%, these authors are based on the hypothesis of Weston (1979) stipulating that beyond 20-30%, a takeover cannot succeed.

McConnell and Servaes (1990) find a curvilinear relationship between the value of the firm and the managerial ownership. The value Q of Tobin increases initially until the managerial ownership reaches 38%, and then decreases if the managerial ownership becomes concentrated between the hands of the managers.

Kole (1995) affirms that the difference between the results of Morck and al. (1988) and those of McConnell and Servaes (1990) depend on the differences in size of the analyzed firms. The sample of the firsts contains only 371 firms of big size whereas that of the seconds contains 1173 firms in 1975 and 1093 in 1986. Kole adds that on average, the percentage of the managerial ownership necessary to the managerial entrenchment is positively related to the ownership concentration degree.

Short and Keasy (1999) support the curvilinear relationship but they find that the managers in the United Kingdom become entrenched with higher levels of ownership than those of the United States.

So far, all the previous studies consider the managerial ownership as an exogenous variable. At the opposite, Himmelberg, Hubbard and Palia (1999) show that the managerial ownership is an endogenous variable which depends on the characteristics of the firms such as: their size, their expenditure in research and development, their expenses of publicity, their rates of investment and their cash-flow. Moreover, they affirm that the contract environment of the firm (contracts of financing, structure of the capital and compensation) can strongly determine the structure of the managerial ownership. The question for these authors is to determine the level of the managerial ownership ensuring the convergence of the interests of the managers on those of the shareholders.

Chen and Steiner (2000) support the idea of Himmelberg al. (1999) concerning the endogeneity of the managerial ownership. They show that the managerial ownership is partly explained by the performance of the firm and both are jointly related in a system of simultaneous equations and the causality between them exists in both directions. The relationship between both variables, whatever the direction of causality, is nonlinear.

In the same spirit of the research, Demestz and Villalonga (2001), taking into their account the possible endogenity of the ownership structure, argue that the ownership structure is chosen always so as to maximize the firm performance, and that the performance of the firm is dependent on at least one measure of the ownership structure.

2.1.2 The blockholders ownership

The blockholders can exert a pressure on the managers to maximize the value of the firm. In fact, many authors of the agency theory such as Demsetz (1983), Shleifer and Vishny (1986), Denis, Denis and Sarin (1995) and Agrawal and Mandelker (1990) affirm that the concentration of ownership structure ensures the control effectiveness within the compagny. The owners of the firm holding a significant part of the capital are more interested in investing in control since the profits resulting from this control will return mainly to them.

In fact, the blockholders have important advantages. They can influence the votes in the firms, mobilize more important devices to control the managers and protect their investments. Moreover, they are supposed to be more informed than the other shareholders and can convince the small shareholders to adhere to their decisions. These arguments developed within the agency theory are convincing, but the managers are able always to neutralize the control.

In this spirit, the theory of the managerial entrenchment predicts, on the contrary, that the concentration of the ownership structure does not have any influence on the control of the managers; insofar the managers have always the possibility of preserving their freedom of action and of generating revenues to which the blockholders are strongly dependent.

The blockholders have, in general, portfolios less diversified than those of the other shareholders since they choose to have a significant part of the capital for a better control of the firm. This strategy exposes them more than the other shareholders to the effects of the managerial entrenchment strategies. The blockholders are thus more sensitive to the potential losses related to the disappearance of the managerial revenues in case of the managerial change. This loss would be larger as the assets present a specific character to the managerial human capital. Consequently, the blockholders do not wish to replace the managers releasing a profitability of specific assets of the firm. The blockholders can thus support the entrenched managerial teams to avoid important losses of wealth in a short and medium term.

Shleifer and Vishny (1986) present a model in which the takeover can succeed only if the bidder acquires an important minority of the firm. The threat of a potential takeover that the blockholders can exert constitutes a form of control of the managers. Shleifer and Vishny add that, everything being equal, the presence of holders of important blocks has a positive effect on the value of the firm.

Holderness and Sheehan (1988) analyze a sample of companies in which only one shareholder holds an ownership higher or equal to 50% of the capital. They compare the value Q of Tobin and the profit of this sample with those of another sample of firms in which there is any shareholder who has more than 20%. They find that there is a non significant difference between the two samples and this for both measures of performance.

2.1.3 The institutional ownership

Agrawal and Mandelker (1992) affirm that the presence of the institutional shareholders in the capital can influence favorably the performance of the firms. These particular shareholders invest in the control of the firm to maintain the return on their investments. Agrawal and Mandelker (1992) explain this situation by the hypothesis of "the active investors". These institutional shareholders manage portfolios on behalf of other persons and they rent their services of expertise in portfolio management to ensure a sufficient profitability of their investments.

The resources available to the institutional shareholders enable them to control the firm at a cost lower than the other shareholders of the firm and this is for various reasons:

- They have a better access to the information because of their activity and of their investments, which implies a better knowledge of the performances of the firms and of the sector, abundant information on the environment and a better knowledge of the labor market;

- Moreover they get benefit from particular competences (internal or external) to process the data on the firm and on its environment. Their activity of investor enables them to get benefit from economies of scale in the data processing.

The above advantages enable the institutional shareholders to exert the control at a lower cost than the other shareholders and the residual costs paid by them are lower since the marginal cost of their control is less important.

Brickley, Lease and Smith (1988) affirm that the American institutional shareholders exert their power of vote, much more frequently than the individual shareholders and they do not hesitate, if it is necessary, to oppose to certain managerial decisions. Brickley and al. (1988) affirm that the most active institutional shareholders are the pension funds and the investment companies.

The analysis of the regression of McConnell and Servaes (1990) indicates, in general, that the institutional ownership has a positive and significant effect on the value of the firm. These results corroborate the agency theory predictions and affirm that the institutional shareholders should influence positively the performance of the firm.

The theory of the managerial entrenchment assumes, on the contrary, that the institutional shareholders would be more sensitive than the others shareholders to the performance firm variations, because they manage portfolios of their customers and tend to minimize the risks of their investments. The entrenched managers are conscious of this situation and they know that the institutional shareholders will not have alternatives others than supporting them in case of conflict with the other shareholders to avoid the decrease in the profitability. This decrease will be more important in case of disappearance of the human capital necessary to the management of the specific assets of the firm.

Pound (1988) considers three assumptions in the relationship between the value of the firm and the institutional ownership, namely:

1- The assumption of efficient monitoring when the institutional shareholders have a great expertise and can supervise the manager at a lower cost than the individual shareholders;

2- The assumption of conflict of interest and because of other business advantageous relationship with the firm, the institutional investors are in conflict with the manager.

3- The assumption of strategic alignment when the institutional investors and the manager try to find a cooperative and advantageous solution. This co-operation reduces the beneficial effects on the value of the firm.

2.2 The strategies of the managerial entrenchment

The agency theory and the theory of the costs of transaction try to explain the organizational efficiency of the firms. In fact, in both theories, the firms are perceived as a network of contracts between the various actors who seek to minimize the costs of agency as well as the costs of transaction.

This efficient vision of the firms does not always correspond to the reality. In fact, the theory of the managerial entrenchment explains how the mechanisms which are supposed to reinforce the efficiency of the firms could be used by the managers to entrench themselves in their positions. In this spirit, Shleifer and Vishny (1988) and Morck, Shleifer and Vishny (1990) affirm that the hostile takeovers, interpreted by the agency theory as a mechanism of control, could constitute a strategy setted-up by the opportunistic managers to preserve their position in the direction of their firm. Indeed, the repurchased firms could have specific investments strongly related to the human capital of the current managers which would increase the cost the managerial change.

Jensen and Ruback (1983) affirm that the measure of the managerial entrenchment by the analysis of the managerial decisions is difficult due to the difficulty in the identification of advantages emanating from a particular decision. Jensen and Ruback (1983) add that with the environment uncertainty, it is difficult to distinguish between the managerial incompetence, the managerial opportunism and the bad chance.

In despite of the benefits and the advantages resulting from the development of the entrenchment strategies, the managers pay a cost of maintain and improvement of their reputation on the labor market to not be changed by the stockholders. Once the capital of the firm is open and in case of a weak performance, the managers face a strong competition (from internal and external managers on the labor market). Through their reputation strategy, the managers seek to increase their negotiation power in order to obtain a higher compensation and to increase the value of their human capital by handling information about the investments in 3 ways (Hirshleifer, 1993):

1- The managers improve the short-term performance indicators by creating visibility skews corresponding to a *myopic* management or

2- They hasten to reveal the favorable news and delay the disclosure of unfavorable information or

3- They imitate the best and famous managers and try to be very different from the worst ones.

By handling information, the managers seek, in addition to their valorization, to hold a more interesting position in other firms. The opportunistic behavior of handling information can be effective since the objective of reputation can at the same time:

- Incite the managers to act in the interest of the creditors in addition to the interest of the shareholders, which can reduce the agency costs as well as the conflicts between the shareholders and the creditors;

- Exert a power on the managers and encourage them to manage effectively their firms;

- Lead the managers to invest in projects such as the investments in research and development to improve their reputation on the labor market.

Once improved, the good reputation enables the managers to sign easily contracts with the employees (Shleifer and Vishny, 1989) as well as contracts of debts at favorable terms.

The disciplinary strategy aiming the neutralization of the managerial reputation strategy could have negative consequences on the firms because of the possible elimination of some projects considered too risky and low visible whereas they are profitable for the firms (Hirshleifer, 1993).

The entrenchment strategy is not fixed in time but dynamic. It passes at least by three stages during which the managers try to modify the constraints imposed by the various partners of the firm (Charreaux, 1997).

The first stage is *the manager's valorization* during which the managers make their best to show their managerial quality, because they are highly controlled and easily replaceable. Once, the various partners of the firm become dependent on their presence, the managers start exerting their power in control neutralization.

The second stage is *the control reduction* during which, the managers try to reduce the control effectiveness by

the installation of the specific investments and/or by the increase of the information asymmetry.

The third stage is *the increase in the advantages consumption* during which the managers, knowing well that the cost of their replacement is prohibitory for the partners of the firm, start getting benefit from a high compensation or others kinds of pecuniary and non pecuniary advantages.

2.3 The financial policy and the performance of the firm

The financial policy was the subject of many studies. In the traditional theory, there is an optimal financial structure which maximizes the value of the firm but with different levels of debt according to the firms. Modigliani and Miller (1958) affirm that the value of the firm is independent of the capital structure and it is obtained by capitalizing the expected benefit at a certain rate corresponding to the class of risk of the firm.

In 1963, Modigliani and Miller, taking account of many criticisms, introduce the incidence of the tax and conclude that the value of the firm increases with the debt. Therefore, there is no optimal financial structure but the optimum corresponds to a maximum of debt. The criticisms of the article of 1963 are related primarily to the risk of bankruptcy. The costs of bankruptcy limit the credit-power of the firms, they not only compensate the advantages of interests' deductibility but increase the cost of the capital as well.

In the article of 1977, Miller affirms that the costs of bankruptcy and the advantages of the debt are not important; he shows that there is a market equilibrium which is different from that of the firm. Following this work, two conceptions of the financial decisions have emerged: the signalization and the agency.

The theories of the signalization were developed by Leland and Pyle (1976) and Ross (1977). For the first, the value of a firm is positively correlated with the managerial ownership. Any modification of the managerial ownership induces a change in the perception of the future liquidity flows by the market, and in the financial policy of the firm.

Ross (1977) affirms that the capital structure of a firm is a signal diffused by the managers to characterize the type of their firm. The model of the adverse selection of Myers and Majluf (1984) studies the impact of the information asymmetry on the financial policy when the investors are less informed than the managers. In fact, the managers interpret the detention of information not known by the investors as an informational monopoly offering them the opportunity to get benefit from the revenues. This model contributes to reinforce the theory of signalization by showing that the issue of shares in order to finance a project is unfavorable information. Consequently, the problem of underinvestment will be accentuated and the firm cannot set up projects at a positive net present value if the share is underestimated on the market because of the information asymmetry. To avoid this problem, the firm can use the hierarchical order or Pecking order and the debts would be preferable than the shares.

The agency theory studies the relationship between the control structures and the choices of the financial policy. The basic idea consists in considering the potential conflicts of interest between the various partners of the firm. These conflicts lead to install control mechanisms to limit the discretionary space of the manager and to obtain an alignment of the interests. The installation control structure induces certainly the agency costs. The financial model of Jensen and Meckling (1976) focuses mainly on the relationship between the shareholders (the principal) and the manager (the agent), and between the shareholders and the creditors, and on their consequences on the financial policy. The parties of the agency relationship are supposed to adapt an opportunistic behavior and seek to benefit from the faults of the contracts. This behavior requires measures of remedy comprising the costs of agency. In fact, Jensen and Meckling distinguish between:

- Monitoring costs paid by the principal;

- Bonding costs paid by the agent and

- Residual losses.

According to the agency theory, the choices of the financial policy are those that minimize the costs of agency. The financial model resulting from the agency theory considers a certain number of corporate governance mechanisms as being attached directly to the various types of financing. In fact, the debt is considered as a mechanism reducing the managerial discretion and the moral hazard, because it obliges the managers to redistribute the free cash-flow to the investors (Jensen, 1986) rather than using them for their own interests (Stulz, 1990). Moreover, the managers who have limited resources and a high level of debt concentrate a higher part of the ownership structure between the hands of the managerial team to increase the value of the firm.

The choice of the capital structure does not determine only the respective amounts of the debts and the stockholders' equity, but also the ownership structure of the firm by fixing the parts held by the managers and by

the shareholders.

The debt involves however costs of agency that Jensen and Meckling (1976) divide into three categories:

- The incentive effects or the loss of opportunities in result of the debt influence on the investment policy;

- The monitoring costs engaged by the creditors and/or the obligation expenditure exposed to the firm (i.e. by the managers and by the shareholders) in order to reduce the losses in value;

- Costs of bankruptcy and reorganization.

The financial models developed and compared to the control market operation determine the strategic dimension of the financial choices from the managerial interests (Stulz, 1988). In these approaches, the choice of the financial policy appears to be as a mechanism neutralizing the constraint resulting from a threat of a hostile takeover.

Rather than to be a mechanism of control of the managers and which would encourage them to maximize the firm value, the financial policy seems to be a device of their discretionary management. Harris and Raviv (1988) affirm that the managers increase the debt ratio in order to reinforce their control of personal vote. In fact, the managers hope to change the capital structure of the firms to control a large fraction of voting rights.

Novaes and Zingales (1995) affirm that the efficient choice of the debts (optimal for the shareholders) generally differs from the choice of the entrenched managers (optimal for the managers having objectives of interest maximization). In the same spirit, Zwiebel (1996) confirms that the threat of a takeover forces the managers to issue debts like a proof of their alignment. By the issue of bonds, the managers avoid investing in projects with a negative net present value since the debt increases the risk of bankruptcy due to the over-investment.

Contrary to the previous studies, Amihud and Lev (1981) affirm that the managers, having a non diversifiable human capital, want to reduce their risk of employment through the viability of their firms by reducing the debts.

Jung, Kim and Stulz (1996) confirm that the managerial entrenchment affects the decisions of debt. They find that a significant part of the firms issuing shares has weak growth opportunities. The results of Jung and al. (1996) corroborate the idea stipulating that the managerial discretion lets certain firms issue shares when the issue of the debts would have better consequences on the value of the firm. Consequently, the managers who serve their own interest maintain a level of debts lower than the optimal one.

Berger, Ofeck and Yermack (1997), in their study of the managerial compensation, find that the entrenched managers avoid the debts. This implies that the financial decisions of the firm are influenced by the managerial ownership. The relationship between the managerial ownership and the debt ratio of the firms could be curvilinear. Specifically, for a weak level, the managerial ownership aligns the interests of the managers on those of the shareholders giving place to a high level of debts. However, if the managers have an important ownership, an increase in the managerial ownership leads to the entrenchment and thus to a low level of debt. In general, if the managerial ownership is raised enough, there would be few constraints on the managerial behavior, leading to the managerial opportunism and a relatively low level of debt.

Agrawel and Mandeleker (1987) affirm that the reduction in the debt level has various effects on the personal wealth of the manager, including the shares, the stock-options, the human capital and the actual value of the future returns. These effects are:

1- The reduction of the probability of firms' bankruptcy and by consequence the reduction of the human capital risk of the managers;

2- The increase of the value of the existing debts and the protection of the creditors. Even if the financial decision does not have any effect on the total value of the firm, it reduces the value of the old shares and in particular those of the manager.

3- The reduction of the firm's returns variance and by consequence the reduction of the managerial revenues variance.

2.4 The hypotheses

Our first hypothesis is to test the relationship between the managerial ownership and the financial policy of the firm. According to the hypothesis of the managerial entrenchment, the manager seeks a low level of debt to protect himself/herself from the performance pressure. More particularly, the entrenched manager seeks to use less debt in order to preserve his/her position in the firm and to neutralize any competition on the labor market.

Our second hypothesis is to test the simultaneous impacts of both the ownership structure of the firm and of the financial policy on the shareholders' wealth. We suppose that the value of the firm is influenced by both the

ownership structure and the financial policy.

3. The empirical analysis

3.1 The variables choice

In our model we introduce three groups of variables:

1- The ownership variables (the managerial ownership, the blockholders ownership and the institutional ownership) (table 1);

2- The variables of the personal managerial characteristics (the age and the tenure) (table 2);

3- The variables of the firm's characteristics (the debts, the size and the performance) (table 3).

In our model, the managerial ownership is measured by the part of the capital held by the Chief Executive Officer (CEO). Our Measure is different from those of McConnell and Servaes (1990) and of Morck and al. (1988). McConnell and Servaes (1990) define the managerial ownership as the ownership of the members of the board of directors and Morck and al. (1988) define it as the ownership of the members of the board of directors and their immediate families.

The blockholders ownership is the part of capital held by the external shareholders having more than 5% of the capital of the firm and who are different from the managers and the institutional shareholders.

The institutional ownership is measured by the part of capital held by the institutions.

The age of manager and his tenure capture the managerial entrenchment and they are defined as the respective logarithms of the age and of the tenure of the manager. Eaton and Rosen (1983) affirm that the age of the manager reflects his degree of risk aversion, estimates the level of the managerial experience and affects the level of the managerial compensation.

In our model of performance, the variable debt is defined by the total debts divided by the total assets. This variable controls a number of factors. Firstly, it controls the managerial discretion. Stulz (1988) affirms that the issue of debts increases the vote power of the managers. Secondly, Jensen (1986) affirms that the managers issue debts to announce their power to generate cash-flows necessary to the payment of both the interests and the principal. The debts are used in order to solve the conflicts between the managers and the shareholders and to reduce managerial discretion and the advantages consumption.

3.2 The empirical methodology

The first hypothesis is tested through a system of two simultaneous equations. The endogenous variables of our system are the managerial ownership and the debt level. In the estimation of our system of simultaneous equations, the following variables are used as being instruments: The blockholders ownership, the institutional ownership, the firm's size and the performance.

The first equation of our system relates the managerial ownership, to the blockholders ownership, the institutional ownership, the level of debt and the performance of the firm. We anticipate that the relationship between the debt and the managerial ownership is negative. According to Stulz (1988), the debt has a negative effect on the concentration of the ownership structure of the firm because of the high risk of bankruptcy associated to the debt and the managerial aversion to the risk. The performance of the firm has a positive effect on the managerial ownership. This expectation is explained by the fact that the managers of the best profitable firms tend to have an important part of the ownership structure (Cho, 1998).

$$MO = \beta_0 + \beta_1 BO + \beta_2 IO + \beta_3 DEBT + \beta_4 TSR + \varepsilon_\beta \tag{1}$$

The second equation of our system relates the debt to the managerial ownership, the blockholders ownership, the institutional ownership, the firm's size and the performance. We anticipate that the relationship between the blockholders ownership and the debt is positive since the presence of the blockholders in the ownership structure of the firm participates in the control improvement (Demsetz, 1983; Shleifer and Vishny, 1986; Denis and Denis, 1995; Agrawal and Mandelker, 1990) and in the reduction of the managerial opportunistic behavior (Brailsford, Oliver and Pua, 2002) by imposing a high level of debt.

$$DEBT = \delta_0 + \delta_1 MO + \delta_2 BO + \delta_3 IO + \delta_4 SIZE + \delta_5 TSR + \varepsilon_\delta \tag{2}$$

We test our second hypothesis by relating the shareholders' wealth to the ownership structure of the firm, to the personal characteristics of the managers and to the debt. Our model will be in a cubic form as following:

$$TSR = \alpha_0 + \alpha_1 MO + \alpha_2 MO^2 + \alpha_3 MO^3 + \alpha_4 BO + \alpha_5 IO + \alpha_6 AGE + \alpha_7 TENURE + {}_8 DEBT + \varepsilon_\alpha \tag{3}$$

4. Data

4.1 The sample constitution

In our study, we use the database of the "corporate library" and the annual reports published in Edgar Scan. The database of the "corporate library" comprises panel data during the period 2001-2004 of the ownership structure of 1.500 American companies (the managerial ownership, the blockholders ownership and the institutional ownership), the personal characteristics of the managers and the performance.

We complete these data by the financial characteristics of the firms from the annual reports published in Edgar Scan. These characteristics comprise information on the debt level (long term debts and current debts). Unfortunately the non availability of the financial data of certain firms of "Corporate library" decreased the number of firms of our final sample to 815 firms during the period 2001-2004. The banks, the insurance companies were excluded from our sample because of their specific regulation.

4.2 The descriptive statistics

The descriptive statistics of the variables used in our analysis are posted in table 4. The mean of the managerial ownership is 17.94% (standard deviation: 17.21%). The mean of the blockholders ownership is 25.65%. The mean of the institutional ownership is 63.83%. The mean of the total shareholders' wealth during our period of observation is 24.60. The mean of the managers' age is 54 years and of the managers' tenure is 8 years.

5. The empirical results

5.1 The relationship between the managerial ownership and the financial policy

The results of our simultaneous equation analysis are reported in the table 5. In the first regression, the blockholders ownership, the institutional ownership and the debt level are negatively related to the managerial ownership. These results show that the managers are not interested in investing in the high controlled firms to escape from the performance pressure. However, the performance is positively related to the managerial ownership corroborating the results of Cho (1998) and affirming that the managers are interested in increasing their ownership in the high profitable firms.

In the second regression, the managerial ownership, the blockholders ownership and the institutional ownership are negatively related to the debt level. These results show that all the shareholders regardless their types (manager, external or institutional) don't tend to hold substantial stakes in the high levered firm because of the high bankruptcy risk related to the debt. However, both the performance and the size of the firm are positively related to the debt level. These results show that, in general, that the high performance facilitates the recourse of the firm to the debt.

5.2 The relationship between the ownership structure, the financial policy and the performance of the firm

The results of the performance regressions are reported in the table 6. The estimation of the panel data with fixed effects of the equation (3) confirms the absence of the individual effects. Moreover, the test of Chow shows that there is no structural change in the various groups of data. Consequently, we consider the coefficients of the same equation by the pooling method by considering the data as N*T not panelized observations and we run a standard regression. The tests of VIF (Variance Inflation Factor) and of Durbin-Watson invalidate the respective presence of the problems neither of multicollinearity nor of autocorrelation. However, the test of Breush-Pagen affirms the presence of the problem of heteroscedasticity. To correct this problem, we divide all the variables of the equation by the size of the firm.

The results of the performance regression show that the coefficients of the managerial ownership, the squared managerial ownership and the cubic managerial ownership are significant at a confidence degree of 1%. The coefficients of managerial ownership and the cubic managerial ownership are positive while the coefficient of the squared managerial ownership is negative. These results corroborate the general functional form of the relationship between the managerial ownership and the performance of the firms suggested by Morck and al. (1988); the managers act from the convergence of interest to the managerial entrenchment then to the convergence of interest as their ownership increases.

The results of the performance regression show that the coefficient of the blockholders ownership is negative and significant at a confidence degree of 10%. According to these results, the presence of blockholders harms the wealth of the other shareholders. These results corroborate the theoretical predictions of the managerial entrenchment stipulating that this type of shareholders could support the entrenched managers and not exert an effective control of the managerial behavior, which could generate a weak performance of the firms.

The empirical results show that the coefficient of the institutional ownership is positive and significant at a

confidence degree of 10%. These results confirm the results of McConnell and Servaes (1990) as well as the assumption of the efficient monitoring of Pound (1988) and are in contradiction with the theoretical predictions of the managerial entrenchment. A strong presence of the institutional investors ensures the convergence of the interests of the managers on those of the shareholders.

The results of the performance regression show that the coefficients of both the age and the tenure of the manager are negative. This result corroborates that of Eaton and Rosen (1983) confirming that the age is an indicator of the managerial entrenchment.

The empirical results show that the coefficient of the debt is positive and significant at a confidence degree of 5%. Our result affirms that the debt constitutes a good signal on the market showing the power of the manager in generating enough profits to pay both interests and principal.

The calculations made on the coefficients of managerial ownership, the squared managerial ownership and the cubic managerial ownership show that the points of inflection of the cubic function of the managers are 22.17% and 32.08%. In term of the sample, 380 companies are located between these two points and 868 firms beyond 32.08%. The results confirm that the performance of the firms (measured by total shareholders' return) is positively related to the managerial ownership in the interval [0%, 22.17%], negatively related in the interval [22.17%, 32.08%] then positively related if the managerial ownership exceeds 32.08%. Shorts and Keasy (1999) find that the two points of inflection are respectively 15.58% and 41.84%. In term of their sample of 225 firms, 51 firms are located between the two points of inflection and 23 firms beyond 41.84%

Our results corroborate the results of the majority of studies of the relationship between the performance of the firm and the managerial ownership. This relationship is nonlinear, it is positive for low levels of ownership confirming the convergence of interests, and it is negative for high levels indicating the managerial entrenchment. These results affirm that in general the value of the firm decreases for certain intervals of the managerial ownership. In such intervals, the managerial ownership reduces the probability of the replacement of the managers even in case of a weak performance because of their entrenchment in their firm.

6. Conclusion

In our research, we were interested in analyzing the relationship between the ownership structure and the financial policy and in identifying the managerial entrenchment interval characterized by a negative relationship between the managerial ownership and the performance of the firm.

In the first analysis, we studied the interrelations between the ownership structure and the performance of the firm. Our empirical results show that whatever their (manager, external or institutional), the shareholders do not tend to hold important stakes in the high levered firms because of the bankruptcy risk. The entrenched managers avoid the debt in order to escape the performance pressure (Berger and al., 1997) and to protect their non diversifiable human capital (Amihud and Lev, 1981).

In the second analysis, we determined the influence of the ownership structure, and more particularly of the managerial ownership, on the performance of the firms. We found a non linear relationship between the stake held by the manager and the performance of the firm. Our results corroborate those of Morck, Shleifer and Vishny (1988) and of Short and Keasy (1999). This relationship confirms at the same time the hypotheses of the convergence of the interests and of the managerial entrenchment. This relationship takes the form of the convergence of interest then of the managerial entrenchment and then again the convergence of interest. We found that the manager becomes entrenched if he/ she holds an ownership between 22.17% and 32.08 %. The blockholders ownership has a negative impact on the performance of the firm while the institutional ownership influences positively the shareholders' wealth. These results lead us to conclude that the control exerted by the institutional shareholders is effective.

The debt influences positively the performance of the firms. Although, it increases the bankruptcy risk of the firms, the debt constitutes a good signal on the market showing the power of the manager in generating enough profits to pay both interests and principal.

We believe that our analysis contributes to the literature on the relationship between the managerial ownership and the performance of the firm. First, our cubic function strengthens the power and the insight gained from earlier US studies. Second, by analyzing the interrelations between the ownership structure and the financial policy, we provide evidence that all the shareholders do not tend to hold important stakes in high levered firms. Moreover, our results show that some levels of the managerial ownership are not beneficial to the other shareholders.

Future work in this area may focus on other structural aspects that can influence the relationship between the

managerial entrenchment and the performance of the firm such us: the board of directors, the compensation policy and the takeover market.

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Note

Note 1. The points of inflection are determined as follows: supposing that all the other variables are constant and noting the managerial ownership by X: $Q = 0.359 X - 1.369 X^2 + 1.682 X^3$. The Points of inflection are found by deriving y (TSR) by X, $y'x=0$ and solving the quadratic equation.

Table 1. The ownership variables

Variables	Notation	Measure
Managerial ownership	MO	The part of the capital held by the manager
Blockholders ownership	BO	The part of the capital held by external shareholders having more than 5%
Institutional ownership	IO	The part of the capital held by the institutional shareholders

Table 2. The variables of the personal managerial characteristics

Variables	Notation	Measure
Age	AGE	Logarithm of the manager's age
Tenure	TENURE	Logarithm of the manager's tenure in his/her firm

Table 3. The variables of the firms' characteristics

Variables	Notation	Measure
Debts	DEBT	total debts/total assets
Size	SIZE	Logarithm of total assets
Performance	TSR	The total shareholders' return

Table 4. Descriptive statistics

The variables	Mean	S.D	Minimum	Maximum
MO	0.1794	0.1721	0.0000	0.9657
BO	0.2565	0.2646	0.0000	0.9573
IO	0.6383	0.1957	0.0314	0.9381
DEBT	0.2289	0.3768	0.0000	0.8480
SIZE	3.2212	0.7891	0.2470	6.004
TSR	24.6038	53.3109	-1.2420	54.4750
AGE	54.2995	7.7180	31	88
TENURE	8.2312	7.8788	0	53

Table 5.

The independent variables	The dependent variables			
	MO		DEBT	
	Coefficient	*t- student*	*Coefficient*	*t- student*
CONSTANT	0.600	1.46	1.638	1.52
MO			-0.221	-2.04**
BO	-1.138	-2.06**	-2.280	-2.66***
IO	-0.961	-2.36**	-1.713	-2.51**
DEBT	-0.640	-1.89*		
TSR	0.771	2.91***	0.177	1.99**
SIZE			0.249	1.61
R^2	68.48		78.90	
Prob > F	0.000		0.000	

*Significant at a confidence degree of 10%.

** Significant at a confidence degree of 5%

*** Significant at a confidence degree of 1%.

Table 6.

Independent variables	Dependent variable (TSR)	
	Coefficient	*t - Student*
MO	0.359	3.24***
$(MO)^2$	-1.369	-2.52**
$(MO)^3$	1.682	2.62***
BO	-2.559	-1.87*
IO	2.997	1.65*
AGE	-0.349	-1.20
TENURE	-1.821	-1.68*
DEBT	1.536	-2.47**
R^2	0.504	
R^2 adjusted	0.503	
2 points of inflection	22.17 % and 32.08 %	

* Significant at a confidence degree of 10%.

** Significant at a confidence degree of 5%.

*** Significant at a confidence degree of 1%.