

CORPORATE INVESTMENT AND MARKET IMPERFECTIONS:
A STUDY OF AGENCY THEORY AND FINNACIAL RESTRICTIONS

JUAN CARLOS VELASCO LIAN
MAURICIO VALLEJO ISAZA
EDWARD MAURICIO TRUJILLO NIETO

UNDERGRADUATE SENIOR PROJECT

PROJECT ADVISOR:
PHD. GUILLERMO BUENAVENTURA

ICESI UNIVERSITY
FACULTAD DE CIENCIAS ADMINISTRATIVAS Y ECONÓMICAS
ECONOMÍA Y NEGOCIOS INTERNACIONALES
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ABSTRACT

The following paper seeks to understand clearly how companies are affected by decisions made by managers versus shareholders. Similarly, it seeks to understand how the size of the company affects investment decisions and last one, to analyze the main factor in making decisions that arise from trend way. Thus, high investments in the previous period reflect a high investment in the next period.

Furthermore, this work served as a source of exploratory basis for future research focused on corporate investment.

Keywords: corporate investment, agency theory, financial restrictions

INTRODUCTION

The following report is the result of an investigation and analysis project started on the second semester of the year 2013. Its main purpose is to show the way corporate investment develops itself and how agency theory and financial restrictions can be understood through these process. The research topic belongs to PHD Professor Guillermo Buenaventura, who works in the financial studies area at ICESI University in Cali, Colombia. This first part of the study, takes interest in understanding the investment process inside companies, taking into account the way the agency theory problem and the financial restrictions affect the decision making process done by CEO's and different executives. As well it analysis how objectives are set bearing in mind the interest of the main stock holders and high ranking members of each company, therefore identifying how this objectives are set and how agency theory can be harmful or beneficial for this process is important for this investigation process.

Having as main objective the idea to achieve significant and reliable results, we considered some basic definitions in the context of companies and decision making, the first of them being the fact that CEO's aim for the maximization of the companies size, while stock holders and other parts involve consider de maximization of returns and company value as the main objective Its important to understand the way all parties involved in the decision making process interact, with their personal and global interest as motivations.

The model used for this investigation was proposed by PHD Guillermo Buenaventura because its structure allows set functions directly maximizing its objective function, and the equation does not represent a single investment option, but a process optimization of investment over time. Moreover, it is the best way to understand corporate investment inside companies. Since the model aloud for the determination of the maximization functions directly in its objective function, this way, the equation creates the possibility to optimize investment decisions in the long run.

The model used is the following:

$$\left(\frac{I}{K}\right)_{i,t+1} = \beta_0 + \beta_1 \left(\frac{Y}{K}\right)_{it} + \beta_2 \left(\frac{wN}{K}\right)_{it} + \beta_3 \left(\frac{I}{K}\right)_{it}^2 + \beta_4 \left(\frac{I}{K}\right)_{it} + d_t + \eta_i + \xi_{i,t+1}$$

Where I is the dependent variable and represents the investment, Y is the output in the previous period, wN are the costs, I^2 is the investment to the square, and I is investment. All independent variables are lagged one period and are being divided by the capital K of the same period for each variable.

It is important to understand that corporate investment is a recent concern for companies, therefore the amount of studies is not much, another reason to the importance of this project, since understanding the motivations and the ways stock holders and CEO's confront the decision making process can lead to better ways to create value inside companies and more coherent and unanimous decisions.

Significantly, there are no major studies on corporate investment, and this is an issue with the passage of time has taken more importance within organizations, for the behavior of CEOs and shareholders are key determinants for the performance of any company. Also, in most cases are indicators of successful business strategies that handle different organizations. That is why it is necessary to investigate the behavior and individual specific objectives for the management of the company to give direction to solutions that are desired, so in most cases, the interest between the director of the company and the shareholders may be going against.

1. METHODOLOGY

To understand agency theory and financial restrictions, it was necessary to resort to papers in which this topic was studied but not necessarily for the case of companies. As well, to understand investment and the way it is done different papers were analysed. The information was obtained from institutional data bases such as JSTOR, EBSCO and SSRN. Each paper was read and summaries were made, making emphasis in the more relevant information in accordance to the objective of this project.

For second part of this project, we focused our analysis on the recompilation of information and the application of our model to the respective variables. Based on Thomson Reuter's data base, we decide to work with 28 of the 30 enterprises that consolidate the DAX German index. With information for a period of 15 years, we created the respective variables for the model we opt to cement our investigation on, these variables are: Output, investment, investment², and costs (human and labor costs) all of them lagged one period.

The next step was to run the model using linear regression which allowed us to understand the effect each of the variables had on investment. With these results, we proceeded to the creation of a personal opinion, based on the literary reviews we made on the first semesters of the project, the results we obtained from the regressions, and our personal knowledge, in regards to how investment is affected by the different variables aforementioned and how the presence of agency theory inside companies can make for easier or harder decision making process.

2. LITERARY REVIEW

2.1. ARTICLES SUMMARY

2.1.1. THE NATURE OF THE FIRM, AGENCY THEORY AND SHAREHOLDER THEORY

The Nature of the Firm, Agency Theory and Shareholder Theory: A critique from Philosophical Anthropology.

Joan Fontrodona and Alejo José G. Sison

23/09/2013

The main statement made by the authors is to analyze and shed light to the fact that personal and common good principles create a framework that is excellent for business ethics as well as for the business as a whole in its structure.

Taking as a starting point the fact that a firm must be understood as a body of agents that unites to achieve a common goal, without leaving aside their personal aspirations, the authors intends to give a new, more social and humanistic conception of what a firm is. Continuing with this idea, agency theory is criticized in the sense of the assumptions made by this theory.

From this point on, the paper heads to give three main points for the understanding of a firm: 1. Give priority to persons instead of relationships. 2. Extreme care so that social capital does not diminish. 3. The logic of the market should not be allowed to rule over the sphere of human relations. The authors finish their study, setting the new assumptions for agency theory focused on the human being and its importance for the organization.

2.1.2. CEO DUALITY, SUCCESSION PLANNING AND AGENCY THEORY

CEO Duality, Succession Planning and Agency Theory

Wallace N. Davidson III, Dan L. Worrell and Carol Nemec

The authors base their investigation under the proven hypothesis that when an individual announces he will control all three executive power, CEO, board chair and President, the results are a negative reaction in the stock market. These findings are parallel to the fact that when one executive receives two of the mentioned powers nothing happens with the stock market, and when one outsider receives two or three of the power the reaction from the stock market is positive. The authors found these results in a paper written before and different authors found a new interpretation, reason why they proceeded to do this new investigation comparing in a way the succession planning and agency theory. The main intend of the analysis is to determine new models that can show if agency theory, succession planning or both are better ways to explain the obtained results.

Table 1. Major key executive title changing scenarios comparing the agency theory and successor-planning explanations

Initial title	New title	Agency explanation	Planned successor explanation
President	CEO	No duality has been created. The market should not react negatively.	The new CEO becomes the primary executive and the successor is the new President. A non-negative reaction would occur.
President	CEO and President	One individual assumes multiple roles, but there is still independence from the board. Agency theory would not argue for a negative reaction.	The President's position is no longer being used for the heir unless the Chair is the primary executive. We would expect a negative reaction unless the President/CEO is the heir apparent to the Chair ^a .
President	CEO, President and Chair	One individual assumes multiple hats. Agency theory would argue for a negative reaction.	Since there is no heir apparent, one would expect a negative reaction ^a .
President	CEO and Chair	Primary power is concentrated with one person. Agency theory would argue for a negative reaction.	This configuration leaves the new President as the heir apparent. There should not be a negative reaction.
CEO	Chair	Power is not concentrated so no negative reaction is expected.	There are at least two heirs, the new CEO and President (if there is a separate president). Non-negative reaction expected.
CEO	CEO and Chair	Power is concentrated in one person's hands. Negative reaction would occur.	If there is a separate President—no negative reaction. If there is not a separate President there is no succession planning and we expect a negative reaction ^a .

2.1.3. CONSTRUCTING INCENTIVE SCHEMES FOR GOVERNMENT

CONTRACT: AND APLICATION OF AGENCY THEORY

Constructing Incentive Schemes for Government Contracts: An Application of Agency Theory

Stefan Reichelstein

Although agency theory has proven to be influential in the management practice the results and insights obtained from agency models are hard to identify, and so the author makes this

investigation, showing how agency theory was used to create effective and incentive contracts.

The author shows the institutional factors present in a budget and contract model used by the German Department of Defense called budget-based schemes. The major concern in this type of contracts was the repeated cost plus incentive fee contracts and how this made almost impossible for the government to pin point the realistic cost targets.

The author is clear in showing that his study was focused on procurement contracting; but that despite this fact it is possible to see that budget based schemes can also be useful for public utility regulation. Therefore the author is able to land in the conclusion that the budget based scheme and the procurement contracting can work in hand to create effective contracts.

2.1.4. FINANCIAL DEEPENING AND ECONOMIC GROWTH LINKAGES: A PANEL DATA ANALYSIS

Financial Deepening and Economic Growth Linkages: A Panel Data Analysis

Nicholas Apergis, Ioannis Filippidis, and Claire Economidou

The investigation made by the authors is based in the hypothesis of a long run relationship between financial development and economic growth. The method used is a panel integration and co-integration technique applied to a panel of 15 OECD and 50 non OECD countries for a period from 1975 -2000. As well, financial deepening is measured in three different ways to understand from different points of view how financial development can affect growth.

$$y_{it} = a_{0i} + a_{1i}F_{it} + a_{2i}X_{it} + u_{it} , \quad (1)$$

where y_{it} is GDP per capita; F_{it} is a measure of financial development; X_{it} is a set of control variables, and u_{it} is the error term.

For concluding remarks and results, the authors are able to state the existence of a statistical and equilibrated relation between financial development and economic growth. Individual variables or auxiliary variables affect positively the economic growth, while government spending is only positive for the OECD countries.

Finally, policies that foster macroeconomic stability, increased openness, investment in physical and human capital and productive government spending, and therefore improve economic growth, would also have an important effect on financial development in the long run.

2.1.5. WHY INVESTMENT EULER EQUATION FAILS

Why Investment Euler Equations Fail

Toni M. Whited

23/09/2013

The author bases his investigation on the analysis of the investment Euler equation without altering the basic model. It first allows nonlinear marginal investment adjustment costs so that the model is slightly improved. It then proceeds to identify which elements explain the failure of the model using standard GMM-based tests and likelihood estimators.

$$V_{i0} = E_{i0} \sum_{t=0}^{\infty} \left[\prod_{j=0}^t \beta_j \right] \times (\pi(K_{it}, \nu_{it}) - \psi(I_{it}, K_{it}) - p_{it} I_{it}). \quad (1)$$

Here, V_{i0} is the time zero value of firm i . E_{i0} is the expectations operator conditional on firm i 's time zero information set; β_j is the one-period discount factor common to all firms; K_{it} is the beginning-of-period capital stock; I_{it} is investment during time t ; p_{it} is the price of capital goods relative to the price of output, which is the numeraire; $\psi(I_{it}, K_{it})$ is the real cost of adjusting the capital stock ($\psi_I > 0$, $\psi_K < 0$, $\psi_{II} > 0$); $\pi(K_{it}, \nu_{it})$ is the firm's profit function ($\pi_K > 0$); and ν_{it} is a shock to the profit function that follows a Markov process and that is observed by the firm at time t .

As a quick conclusion, it can be said that appropriate econometric techniques do not allow the simple model to explain the data. The author also determines that Euler equation is much better behaved for the subsample of positive-investment firms (firms that have attained and internal solution for their intertemporal maximization problem). As well, it is concluded that financial variables matter for the full sample of firms, but there is only weak evidence that these variables matter for the positive investment firms.

2.1.6. CAPITAL MARKET STRUCTURE AFFECT FARM INVESTMENT? A COMPARISON USING FRENCH AND BRITISH FARME-LEVEL PANEL DATA

Capital Market Structure Affect Farm Investment?

CATHERINE BENJAMIN AND EUAN PHIMISTER

22/10/2013

The authors focus their efforts in analyzing if the differences in the structure of agriculture credits for France and the United Kingdom alter the investment sensitivity in regards to financial variables, in a specific way, do they alter in terms of the cash flow.

Based on two sets of panel data, one French the other one from Great Britain, the authors use three different type of approaches: and inventory investment model, a fundamental q-model and finally and Euler equation model, used for machinery investment. The results obtained show that contrasting capital markets structures do have an impact on in the overall investment sensitivity to cash flow.

Although such difference as a recession in agriculture for the British, and a buoyant growth for the French where identified for the period studied, the results confirm the hypothesis. Due to higher perceived risk for lenders the costs are higher in France and thus the investment sensitivity greater. As finalizing conclusion, the authors agree on the fact that

the difference in capital markets structure between the two countries studied, do matter when referring to investment sensitivity.

2.1.7. FACTORS AFFECTING INVESTMENT IN DEVELOPING COUNTRIES: A PANEL DATA STUDY

Factors Affecting Investment in Developing Countries; A Panel Data Study

Mohammad Salahuddin and Md. Rabiul Islam

22/10/2013

Using panel data for 97 developing countries, the authors intend to understand and investigate the way gross investment behaves in the fore mentioned nations. The data is analyzed using a Fixed Effect Model. Problems such as multicollinearity are tested using Variance Inflation Factor, and heterogeneity and endogeneity of the regressors using GMM. After using a corrected model, the result is clear, investment decisions seem to be seriously affected by traditional variables such as growth, domestic savings and trade openness. As well, the authors recognize a failure in highlighting the effect of real interest rates and uncertainty on investment.

$$INV_{it} = \alpha_i + \beta_0 GR_{it} + \beta_1 IR_{it} + \beta_2 TR_{it} + \beta_3 DS_{it} + \beta_4 AID_{it} + \beta_5 DB_{it} + \beta_6 DEP_{it} + \varepsilon_{it}$$

Where, INV=Gross Domestic Investment/GDP, GR = Real Per Capita GDP Growth Rate, IR=Real Interest Rate, TR= Trade Openness= (Export+Import)/GDP, DS= Domestic Savings/GDP, AID = Foreign Aid/GNI, DB = Debt Service/GDP, DEP=Dependency Ratio=(Population less than 15 years + Population more than 60 years)/Total Employed Population. The white noise error term is indicated by " ε ". The assumption on ε it is that $\varepsilon_{it} \sim IID(0, 0 \text{ } \varepsilon)$.The subscript " i "denotes a particular country and " t " indicates particular time.

The first conclusion drawn by the authors is that gross investment in the 97 developing countries is explained by traditional macroeconomics determinants. In terms of variables,

they are able to determine domestic investment as the most significant variable. As well, aid seems to be a great impulse for investment, reason why it should be wisely utilized in developing countries. It is necessary to highlight the fact the corruption index in developing countries affected the study and made the analysis of uncertainty undetected and unaccounted for. The authors end their investigation making a highlight in the steps that should be followed by policy makers in developed countries.

2.1.8. EXPLAINING FIRM CAPITAL STRUCTURE: THE ROLE OF AGENCY THEORY VS TRANSACTION COST ECONOMICS

Explaining Firm Capital Structure: The Role of Agency Theory VS Transaction Cost Economics

RAHUL KOCHHAR

22/10/2013

As a starting remark, the author emphasizes on how important organizational economics have become at the moment of explaining and understanding firm actions. For his investigations he bases in the fact that agency theory and transaction cost economics create a paradigm that relies in the imperfections of the market. Although similar, agency theory and the transaction cost are useful to understand the role of debt and equity in a firm from a different point of view. The author compares both analysis using two organizational phenomena, leveraged buyouts and product diversification.

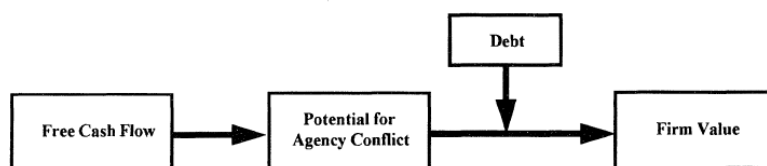


Figure 1. Agency perspective on capital structure

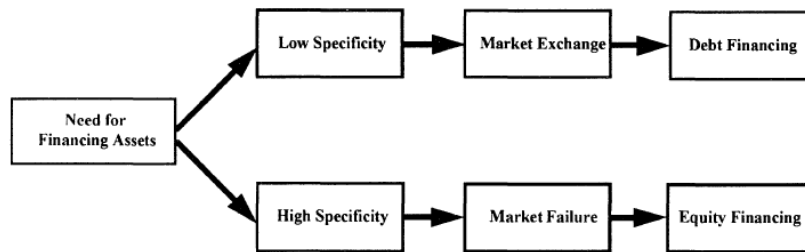


Figure 2. Transaction cost perspective on capital structure

To conclude his investigation, the author show how financing and capital structure decisions are fundamental choices when developing a firm's strategy. With his conclusions he is able to confirm that financial and strategic management of a firm are highly linked for the theoretical point of view and thus in the practice as well. When comparing the agency theory and the transaction cost perspective, the author concludes that the second one is more appealing. The investigation is ended concluding that further research is needed to make a significant conclusion relevant to the importance of equity and how agency theory or transaction costs can be a better governance and financial strategy.

2.1.9. ACCOUNTING QUALITY AND FIRM-LEVEL CAPITAL INVESTMENT

Gary C. Biddle Hong, Kong Gilles Hilary

Hong Kong University of Science and Technology

2006

This paper studies how accounting quality relates to firm capital efficiency. There are two main hypothesis to be tested:

1. A higher quality improves investment efficiency by the reduction of information asymmetry between managers and outside suppliers of capital.
2. This effect should be stronger in economies where financing is largely provided through direct transactions compared with countries where creditors supply more capital (for example banks may be able to obtain information through alternative private channels and may be better positioned to monitor managers directly once capital is supplied).

Several measures of accounting quality are considered, and two different methods for estimating investment-cash flow sensitivities. Previous studies have showed that asymmetric information can generate liquidity restrictions or excess cash; both situations generate inefficiencies in the investment process that accounting quality should reduce. Results show that the link between internally generated cash flows and investment is weaker when quality is high. Results also prove the second hypothesis.

Accounting quality is an institutional feature available to policy makers that improves investments efficiency.

2.1.10. CEO OVERCONFIDENCE AND CORPORATE INVESTMENT

ULRIKE MALMENDIER and GEOFFREY TATE

2005

The paper argues that managerial overconfidence can account for corporate investment distortions. Overconfident managers overestimate the returns to their investment projects and view external funds as disproportionately costly. Thus, they overinvest when they have abundant internal funds, but restrict investment when they require external financing. The paper tests the overconfidence hypothesis, using panel data on personal portfolio and corporate investment decisions of Forbes 500 CEOs. CEOs are classified as overconfident if they persistently fail to reduce their personal exposure to company specific risk. It is found that investment of overconfident CEOs is significantly more responsive to cash flow, particularly in equity-dependent firms.

The main goal of this paper is to establish the relation between managerial overconfidence and corporate investment decisions. The analysis consists of three main steps. First, it is derived, in a simple model of the corporate investment decision, the prediction that the sensitivity of investment to cash flow is strongest in the presence of overconfidence. The paper then constructs three measures of overconfidence, using data on personal portfolio decisions of the CEO: (1) Does the CEO hold his options beyond a theoretically calibrated benchmark for exercise? (2) Does the CEO hold his options even until the last year before

expiration? (3) Does the CEO habitually buy stock of his company during the first five sample years? Whenever the answer to one of these questions is yes, the CEO is classified as overconfident. Additional tests on the persistence of such behavior and on the CEO's gains and losses from option exercise strengthen the interpretation of these measures as proxies for overconfidence. Then it is regressed investment on cash flow, the overconfidence measure, and the interaction of overconfidence and cash flow.

There's a strong positive relation between the sensitivity of investment to cash flow and executive overconfidence. The coefficients of the interaction term of overconfidence and cash flow are highly significant for all of the measures. It's also found that overconfidence matters more in firms that are equity dependent, as predicted by the overconfidence model. These results have important implications for contracting practices and organizational design. Specifically, standard incentives such as stock and option-based compensation are unlikely to reduce the damaging effects of managerial overconfidence. As a result, the board of directors may need to employ alternative disciplinary measures, such as debt projection, which can be enough to pressure overconfident CEOs. In addition, the results confirm the need for independent and cautious directors.

2.1.11. HOW SENSITIVE IS INVESTMENT TO CASH FLOW WHEN FINANCING IS FRICTIONLESS?

AYDOGAN ALTI

2003

In this paper, it is analyzed the sensitivity of a firm investment to its own cash flow in the benchmark case where financing is frictionless. This sensitivity has been proposed as a measure of financing constraints in earlier studies. It is found that the investment cash flow sensitivities that obtain in the frictionless benchmark are very similar, both in magnitude and in patterns, to those observed in the data. In particular, the sensitivity is higher for firms with high growth rates and low dividend payout ratios. Tobin's q is shown to be a more noisy measure of near term investment plans for these firms.

Investment is sensitive to cash flow, even after controlling its earnings by conditioning on Tobin's q . The sensitivity is considerably higher for young, small firms with high growth

rates and low dividend payout ratios, as it is in the data. The uncertainty of these firms when growing expands the investment cash flow sensitivity in two ways. First, the uncertainty is resolved in time as cash flow understandings provide new information about investment opportunities. This makes investment highly sensitive to cash flow surprises. Second, the uncertainty creates implicit growth options, whose values show up in q . Q performs a “noisy” measure of short-term investments expectations. Having a weaker relationship with the value of long-term growth options, cash flow acts as a useful instrument in investment regressions.

2.1.12. CORPORATE INVESTMENT WITH FINANCIAL CONSTRAINTS: SENSITIVITY OF INVESTMENT TO FUNDS FROM VOLUNTARY ASSET SALES

Gayané Hovakimian and Sheridan Titman

2006

In this paper it is tested the relationship between revenues from voluntary asset sales and firm investment using the Q model of investment. Studies have shown that funds from voluntary expenditures provide an important financing resource for financially constrained firms. In other words, firms invest more when they generate cash from asset sales. The findings in this paper provide strong evidence that cross-sectional differences in financing constraints have significant effects on corporate investment expenditures. Like this, it's consistent with a substantial literature on financial constraints that focuses on the sensitivities of investment expenditures to cash flows.

Tests provide an important contribution to this debate because it is not well seen that the cross-sectional results could be driven by a correlation between asset sales and growth opportunities. Even though the analysis suggests that financing constraints at least partially explain why firms invest more when they sell assets, it is not explained the causal correlation between these two variables. One of the possibilities is that a financial constrained firm takes on existing positive NPV projects that it would have otherwise passed up when it receives the proceeds from an unrelated asset sale. The other possibility

is that the constrained firm chooses to finance new investment opportunities by selling assets.

2.1.13. FACTORS AFFECTING INVESTMENT IN DEVELOPING COUNTRIES: A PANEL DATA STUDY

Mohammad Salahuddin and Md. Rabiul IslamSource

2008

In this paper it is analyzed the gross investment behavior in a panel of 97 developing countries between 1973 and 2002 (Fixed Effect Model used). Any econometric problem is taken apart by using specialized methods such as Variance Inflation Factor, Difference Generalized Method of Moments. The results of the study suggest that investment decisions seem to be significantly affected by traditional factors such as growth, domestic savings, trade openness, etc. Aid is a variable with high effect on measuring investment proportions. However it is not considered de effect of real interest rate and uncertainty on investment attributing the former to economic volatility and corruption data indexes.

One of the most interesting conclusions is that Policy makers in developing countries should focus on the determinants of domestic savings as it strongly influences investment. Growth will not be true without investment, so in order to match with the increasing challenges of globalization, policy makers of developing countries must enhance y many ways the manners of investment. It is necessary to invest in aid climate, so international politics consensus must be made.

The model estimated is:

$$INV_{it} = \alpha_i + \beta_0 GR_{it} + \beta_1 IR_{it} + \beta_2 TR_{it} + \beta_3 DS_{it} + \beta_4 AID_{it} + \beta_5 DB_{it} + \beta_6 DEP_{it} + \epsilon_{it} \quad (2)$$

Where, INV=Gross Domestic Investment/GDP, GR = Real Per Capita GDP Growth Rate, IR=Real Interest Rate, TR= Trade Openness= (Export+Import)/GDP, DS= Domestic Savings/GDP, AID = Foreign Aid/GNI, DB = Debt Service/GDP, DEP=Dependency Ratio=(Population less than 15 years + Population more than 60 years)/Total Employed Population. The white noise error term is indicated by “ ϵ ”.

2.1.14. AGENCY THEORY AND THE INFLUENCE OF EQUITY OWNERSHIP STRUCTURE AND CORPORATE DIVERSIFICATION STRATEGIES

David J. Denis, Diane K. Denis and Atulya Sarin

1999

In this paper agency theory is articulated in the way managerial decision making and its implications for corporate diversification strategies. Predictions are generating for implicating the relationship between equity ownership structural and diversification strategies. With bibliographical revisions, the evidence strongly supports the view that ownership structure influences corporate strategies.

Predictions and different views are structured around the relationship just mentioned. One view, based in agency theory, suggests that diversification strategies represent corporate decisions in which a conflict of interest between managers and shareholders. An opposite view, based on management theory, suggests that diversification represents a strategic decision in which there is no clear conflict between managers and investors. But the paper strongly reviews that ownership structure is associated with diversification. “The finance literature has enhanced our understanding of the net valuation effects of these strategies and, more recently, is generating new insights into why such valuation effects are negative, on average.”

3. THOUGHT CONSOLIDATION

This investigation focuses on the analysis and different perspectives of the investment processes from companies around the world. The agency theory problem and financial restrictions show how decision processes done by CEO take different routes and manage the “know how” of each enterprise in different manners. Agency theory evolves different organizational cultures, which neglect specifications in the financial system and show realities which have made constraints in companies.

The Agency theory says that the agent, delegate or vice president does not align his objectives with the objectives of the owners or shareholders. The owners’ purpose is to maximize the value of assets or wealth they have in their company, which is guaranteed by the value of its assets; while agents give priority to their personal utility.

The solution is to create incentives for agents to offset the utility functions they try to impose consciously or unconsciously. These incentives can be rewards for goals achievement.

It makes all jobs generally have few internal costs no linearity, and for align all these positions with the objectives of the shareholders, they have to pay a little more.

How does it work on investment? The investment is discretionary, is decided by the management deliberately. What we are testing is such discretion exists and therefore, maximizing the value of the company is not given, but the maximization of a hybrid between two parts: first, a portion of the value of the company and by the other hand, indebtedness.

Therefore, it is necessary to propose a model that takes into account these variables and show its dynamics to leave aside the classic focused only on the value of the company and its shareholders model.

The model used for this investigation was proposed by PHD Guillermo Buenaventura, and it is the best way to understand corporate investment inside companies. Since the model

aloud for the determination of the maximization functions directly in its objective function, the equation creates the possibility to optimize investment decisions in the long run.

Hence, the new model says there is a fundamental function of firm size. This size acts directly on the decision-making power with the managers of the company. The larger the size of the company, the higher will be the managers' power-decision

The alphas of the model reflect the effect of the restrictions that have to do with the agency and in turn, alter the variables and modify the utility functions of the agents.

The rational analysis made by subtracting some paper investigation, focuses on the understanding of how company directors personal goals and interest make overall decisions take different paths. Different results will help to extract the best possible conclusions and propose an effective model that fits and well describes our main objective.

On the second part of this project, we focused our analysis on the recompilation of information. Based on Thomson Reuter's data base, we decide to work with 28 of the 30 enterprises that consolidate de DAX German index. With information for a period of 15 years, we created the respective variables for the model we opt to cement our investigation.

4. RESULTS

Table 1. Coefficients and significance level

Year	β_0		$\left(\frac{Y}{K}\right)_{it-1}$		$\left(\frac{wN}{K}\right)_{it-1}$		$\left(\frac{I}{K}\right)_{it-1}^2$		$\left(\frac{I}{K}\right)_{it-1}$	
2013	-0,1166	**	-0,0607		0,2360		0,3393		0,7694	***
2012	-0,0098		0,3035		-0,2230		0,3718		0,5891	**
2011	-0,0239		-0,0270		0,0677		0,1320		0,8365	***
2010	0,1451	***	0,0310		0,0532		0,4216	***	0,2411	***
2009	-0,1746		-0,0491		0,3401		-0,0003		0,8661	
2008	-0,0233		0,2712		0,1085		0,0767		0,2227	
2007	0,3223	**	-0,1692		0,0163		0,7698	*	-0,0757	
2006	0,1305	*	-0,1276		0,2198		0,2227		0,4711	
2005	0,0500		0,0751		-0,0381		0,1297		0,8323	***
2004	0,0803	*	-0,1780		0,1348		-0,2581	***	1,1071	***
2003	0,2493	*	-0,1656		0,0412		-0,1415		0,6956	
2002	-0,0681		-0,1565		0,2225		-0,8224		1,3661	**
2001	0,0513		0,3867		-0,3064		-0,0012		0,4858	
2000	-0,0563		-0,1865		0,3743	**	-0,3648	***	0,7124	**
(*) Significance level: 10%										
(**) Significance level: 5%										
(***) Significance level: 1%										

Source: own calculations

According to the results of Table 1, we observe that the dependent variable has exclusive significance levels directly referenced to the part of the investment that does not depends on the production, costs and investment of the previous period. That's why it affairs to external factors reflected on the negative and significant coefficients generated during the last three years, in which Europe has submerged into a financial crisis affecting negatively most of German organizations. Also some empiric tendencies show that periods with low investment are followed by long and high peaks of investment, the smallest firms grow faster and invest more than the largest ones. Even though it is observed that neither organizational costs nor production levels have determinant incidence on corporative investment.

It is important to mention that before 2002 the analyzed companies worked as the theoretical model proposes; expected signs and probabilities of each standard coefficient affirm the theory.

Germany is a country that has achieved a low unemployment rate (6%), even during the financial crisis. They have shown that people with academic and educational levels do not lose their working positions, developing strong corporations by improving technological investment. Since 2011, 70% of the analyzed companies increased their investment levels, rising up their capital and assets. The context offered by this country lets us develop and interesting structural analysis of its economical cycle, because even during the secular financial constriction they have issued an important role in the European Union economics.

5. WHAT WE LEARNED

Since the beginning of this Project, we, the investigators, had a great appreciation for investment and especially every topic related with finance, we wanted to develop our analytical skills, our investigative skills and we wanted to have the chance to learn how to apply what we knew.

For 12 months, we focused ourselves in creating a great work agenda, the first important thing we learned. We realized that if we had a well-organized way to proceed with our investigation, we would succeed.

For the first 6 months we divided the literary review, giving each one of the members of this team the responsibility of searching, finding and learning the different topics we knew where relevant for the realization of this graduation thesis. During this first process we realized team work was essential, that without it there was no possible way for us to complete the task we had in the time we were given. So as simple as they may seem, the best things we learned from the making of this project, was the fact that to do well in anything you want, first, it is important for you to know how to manage time, and not just manage but to be efficient in the way you decide to focus your efforts, and how these efforts must be all the same within the group, a shared goal that makes work and analysis easier, faster and in a certain way personally correct. Secondly, team work. Without a doubt, teamwork is the pillar of every investigation, it is necessary at the beginning, to create ideas and find the right path to follow, you need it during the process of the investigation to face problems and difficulties, and you need at the end, when you have finally achieved all the goals and it is time to put everything together.

Lastly, but not least, this process of gathering information, thought us the importance of reliable sources and the acquisition of information. It's not enough just to rely on the internet, we realized and learned that the vast amount of the knowledge you can find on books and investigative papers goes well beyond of a simple internet search. It was thanks to the information we were able to find, and the correct use of citations and interpretations that we could create this investigative project.

6. CONCLUSIONS

To conclude, this investigation project leads us to an in-depth understanding and analysis of how investment can be affected by numerical factors and non-numerical factors. On the first hand, we realized how investments done on lagged periods, in our case, one year before, has a strict relation to the investment that will be done in the future period. And this gives us a way to right in our hypothesis that bigger cash flows aloud for easier decision making process and therefore to bigger investment decision. If you have a wallet full of money you can take the decision t of where to dine without a problem, parallel to someone with a wallet not so full, has to make a careful and probably not so fast and efficient decision.

On the second hand, although we worked with a complete model, we are conscious of the fact of the existence of other possible variables that may have an effect on the behavior of investment and the way decision are made, which takes us to the conclusion that a possible follow up of this investigation including new theories and different variables can have a different results, which could or could not be more exact.

Finally, with the results we obtained, we are able to assert with 99% of confidence that investment is affected and determined by the investment made in a period before, and that the agency theory can have positive or adverse effects on the decision making process, bearing in mind that the factors that define this theory are based on personal relationships and the balance of power between a CEO or general manager, and the board of directors, two groups that in many cases can have completely different goals to achieve.

7. BIBLIOGRAPHY

Gilchrist Simon, Sim Jae W, Zakrajsek Egon (2013). Uncertainty, financial frictions, and irreversible investment. *Working Paper*.

Yashiv Eran (2012). Frictions and the joint behavior of hiring and investment. *Tel Aviv University and IZ, Discussion Paper No. 6636*

Antinolfi Gaetano, Huybens Elisabeth (2003). Domestic financial market frictions, unrestricted international capital flows, and crises in small open economies. *Economic Theory, Vol. 24, No. 4, Symposium in Honor of Bruce D. Smith: Recent Developments on Money and Finance (Nov., 2004)*, pp. 811-837.

Cunningham Rose (2004). Finance constraints and inventory investment: empirical tests with panel data. *Bank of Canada Working Paper 2004-38*

Guariglia Alessandra (2003). Internal financial constraints, external financial constraints, and investment choice: evidence from a panel of uk firms. *Working Paper 07/03*

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