Ca' Foscari
University
of Venice

Master's Degree programme

in Sviluppo Economico
dell'Impresa e dei Mercati
Mercati Globali

Final Dissertation

Female leadership and corporate success: European overview and Italian perspectives

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Academic Year
2016 / 2017

Summary

INTRODUCTION 3
1. GENDER IN SCIENTIFIC RESEARCH 6
1.1 GENDER AND ACCESS TO CREDIT 7
1.2 GENDER AND LEADERSHIP 16
1.3 GENDER AND GOVERNANCE 23
1.4 THE INTEGRATED RATING MODEL 30
2. GENDER IN CORPORATE BOARDS: EUROPEAN OVERVIEW 37
2.1 EUROPEAN SITUATION IN 2009-2010 37
2.2 EUROPEAN SITUATION IN 2012 40
2.3 EUROPEAN SITUATION IN 2015 45
2.4 FOCUS ON ITALY 51
3. ANALYSIS 53
3.1 RESEARCH METODOLOGY 53
3.2 RESULTS 57
3.3 ANALYSIS CONCLUSIONS 78
CONCLUSIONS 79
SUMMARY OF TABLES 81
BIBLIOGRAPHY 82
SITOGRAPHY 87

INTRODUCTION

First of all, we want to highlight reasons why we have picked this topic to discuss in the dissertation. We think that reaching equality in social context, in labor market, in politics and in decision-making positions is very important. However, we do not want to discriminate men's work, by stating that decisions made by women or work developed by women is better. The objective of these analysis is to investigate whether women are discriminated as such. In particular, we want to investigate if women have the same opportunities in access to credit, if they are discriminated, because of their biological sex or because their status is relied to a behavior that influences lenders. Hence, we will analyze merit of credit both for firms led by women and by men and their relationships with lenders; in this way, we understand whether there is a presence of discrimination or not. Moreover, we will lead analysis to explore the relationship between gender and firms' performance, in this way we understand whether having a higher share of women or men in top positions, may impact the performance. Moreover, we will observe the type of governance chosen by men and women and how this influences on the firms' performance (measured through Return on Investments) and on the firms' performance adjusted by risk. Finally, we will measure the merit of credit through the Integrated Rating Model and we will compare the Integrated Rating, with the actual access to credit, so that we may observe whether the decision about lending credit is made objectively or not.

Only in the last few years, research investigating the role of gender in firms has increased. Before 2000s economists did not studied enough the phenomenon of women in companies, especially in leadership positions because they were not even considered to be adequate to apply for managing positions. At the beginning, researchers explored the role of women in labour market and they examined whether they were discriminated in it and the reasons behind certain labour decisions made by women themselves. The most important and oldest research about women is the "Economy of Discrimination" by Gary Becker, which was conducted in 1957. This was considered the milestone in the research and the subsequent analysis have begun from that theory. Research later focused on particular topics, one of the firsts considered is the role of gender in the credit market. In particular, researchers investigated whether women were discriminated and did not receive credit because of their biological sex. In the last fifteen years, research about gender and the economic field has increased and the other topics that have been touched are the relationship among gender and leadership, governance and corporate performance. Through this dissertation, we wanted to make an overview of the role of women in corporate boards in Europe, highlighting

briefly the Italian situation. Moreover, after understanding the general framework in Europe and Italy, we conducted a research that examined the relationship between women in management positions in companies, the type of governance chosen, corporate performance and merit of credit. The analyses were based on the Integrated Rating Model, which is a method to measure the corporate financial performance. Thanks to the analysis that will be shown later, we observe that there are difference among the nine countries that we will examine, which are Czech Republic, Germany, Spain, France, Hungary, Italy, Poland, Slovakia and United Kingdom, but with a special focus on Italy. This makes sense, because in the European Union, even if all State Members are carrying on actions to improve women's equality, there are still differences in governance and ownership characteristics. Results show that women with a higher presence of women, there is a major governance's impact on the firm's performance. This result remains even when a firm's performance index adjusted by risk. We have also found out that in almost all nine countries, companies led by women are financed by banks, when they do deserve credit; but there are also companies which are led by women that deserve credit, but they do not receive it. Furthermore, there is a higher percentage of companies conducted by men, which are at risk of default. Finally, considering price of financing, there are less firms conducted by women, which underpay their financial risk; but there is a higher percentage of women, who overpay their raised financial resources.

In Section 1, we present the historical evolution of research about gender; after a brief description of research in general of gender in economics, we went deep thoroughly the research about gender and access to credit, gender and leadership and gender and corporate governance.

In Section 2, we show the evolution of gender in Corporate Boards in Europe and with a specific focus on Italy. In this section, we describe the situation of women in Board of Directors and what the governments have made in order to enhance their situation either in private and public companies' management roles.

In Section 3, we show the analysis made with European data in order to understand the relationship between gender and corporate performance (measured through proper and innovative proxies), gender and governance, that is type of governance chosen and the influence of this on the same corporate governance and last but not least, the relationship between gender and merit of credit.

In the last Section, we introduce the conclusions of the whole dissertation, with a focus on the results of the analysis.

1. GENDER IN SCIENTIFIC RESEARCH

Gender in economic and financial literature has been considered only in the last 60 years; the characteristics which were investigated are the presence of women inside labour market and their balance on work and family. At the beginning, major scripts showed initial analysis on creditworthiness and, in the following years, researchers started investigating on gender and leadership, especially when human capital theory linked to division of labour according to gender was developed. One of the first authors which started considering gender in research was Gary Becker (1930 – 2014), an American economist, who also won the Nobel prize in 1992. Becker (1957) developed a theory of discrimination, with a focus on the credit market, where women were found to be highly discriminated by lenders. Always Becker (1964), in the human capital theory, explains that not all labour is equal, but the quality of employers may be enhanced investing on them. Becker developed the human capital theory considering also gender, claiming that their role inside their families influences on the quality of labour brought in the labour market. These last researches were based also on psychology and they investigated on the differences between female and male leadership, which could bring to different results inside the organization.

In the 90s, research on the topic of gender started to bloom: during these years, research on gender, participation to labour market and leadership has had further developments, while gender and governance began exactly in these years. However, researches made on gender in economics and finance were only a few at that times and major developments took place in 2000s.

In the 2000s, research has been conducted in those fields with several purposes: first, women inside firms may bring a different approach in dealing with people and the way decisions are made, that could lead to positive developments of the firm itself; second, women feel discriminated and want to have same opportunities as men; third, more recently, research is made in order to understand whether equality in fields like labour and credit market has been finally achieved or not.

In the following paragraphs, we will go deep into research especially in these topics (put chronologically as research has been carried on through years): gender and access to credit, gender and leadership and gender and governance.

1.1 GENDER AND ACCESS TO CREDIT

Economists have started carrying on researches on access to credit, in order to understand whether credit constraints could obstacle people from starting a business and, above all, understand whether entrepreneurs or managers used to be discriminated and the reasons why certain people were discriminated in credit market. In a research made by Evans and Jovanovic about credit market, they have analysed whether liquidity constraints could obstacle people from becoming entrepreneurs. This is very important, because they have found that the lack of liquidity may influence the entrepreneurial choices. Moreover, they found that firms are generally unable to raise financing to fund all the investments that managers wish to do (Evans and Jovanovic, 1989). This research was based on a static model, where at the beginning of the period the single person had to decide whether working for himself or as employee. The research investigates the relevance of credit constraints through the estimation of a model of entrepreneurial choices, where the binding of the credit constraint is a parameter of the model itself. The most important parameters in the model are the level of liquidity constraint, the returns to capital in entrepreneurship, mean and variance of the distribution of entrepreneurial ability in the sample and correlation between entrepreneurial ability and assets. Their sample was made of 1500 white men who were employee in 1976 and employee and self-employed workers in 1978 and data were extracted from the National Longitudinal Survey of Young Men[1]. They found that credit constraint lows the quantity of capital in two ways. First, individuals will be discouraged to consider a career as entrepreneurs. Second, people who try to become entrepreneurs, tend to use less capital. It resulted that the implied capital stock is no more than one-half times their wealth; moreover, they cannot imply the amount of capital they wish to. However, this research was just a starting point in access to credit, because it considered only white males and only after it was exploited to understand whether demographic characteristics could change results or could imply even more barriers to obtain liquidity. Consequently, more recently, researchers decided to discover whether there were demographic differences among people who faced financial constraints, including gender. One of the most famous researchers, who considered financial constraints based on gender discrimination is Muravyev et al. 2008. They studied discrimination based on gender made by financial institutions and to do this, they used the Business Environment

[1] National Longitudinal Surveys are a collection of surveys made to assemble information in various points in time on the labour market activities and other meaningful events of several groups of men and women.

and Enterprise Performance Survey[2] (BEEPS), which was led by European Bank for Reconstruction and Development[3] (EBRD) and the World Bank since 1999. The survey considers samples extracted randomly from national registries of companies; most of them are small and medium enterprises. Data from the survey give information about ownership, competition, performance and management, moreover, they give information also about finance, which can give proxies to represent financial constraints. First, they defined discrimination in access to credit as the moment when the financial institution denies a credit because of personal characteristics, which do not have anything to do with the operation. Muravyev et al. (2008) managed to lead one of the few analysis with data from Europe and part of Asia and verified the presence of discrimination against women entrepreneurs. It was interesting to investigate whether there were differences also in terms of financing received to cover their own investments per gender. The research analysis a comparison between entrepreneurs' gender and liquidity constraints at country level, exploiting the multinationalism of the dataset. Moreover, the research studies if differences in gender are connected to the financial development of the single country. The analysis employs indexes of financial constraints and, in addition, loan approvals, interest rates charged and demanded collateral. It may happen that women, because they think they might be discriminated and their demand for a loan would be rejected, they do not even ask for credit, so, in order to eliminate this bias Muravyev et al. (2008) decided to model a manager's decision to apply for a loan. In the econometric model, they included variables that characterize firms and the environment where the firm is located. The sample's data date back to 2004 and 2005 and include 5534 firms, where they excluded firms represented by general public, legal individuals and government. The results obtained are in line with the hypothesis of discrimination against women. They found that the probability of obtaining a loan for women entrepreneurs/managers is 5% lower than the probability for a male entrepreneur/manager to obtain a loan. Moreover, women managers pay higher interest rates, that is 0,5% more than men do. Another important thing is that discrimination based on gender is lower in countries with more developed financial markets. Researchers have found that there might be several reasons why there are gender differences in the allocation of bank credit. Explanations may various, but the most accredited ones are: supply-

[2] The Business Environment and Enterprise Performance Survey provides firm-level data on a broad range of issues about the business environment and performance of firms, including business-government relations, firm financing, labor, infrastructure, informal payments and corruption, and other topics such as training and innovation. (*Source: www.data.worldbank.org*)

[3] The European Bank for Reconstruction and Development (EBRD) helps businesses flourish. Through our financial investments, business services and involvement in high-level policy dialogue, we're well-placed to promote entrepreneurship and change lives. (*Source: www.erbd.com*)

side discrimination, this means that bankers take decisions about loan applications of people with a similar situation of creditworthiness and solvency, according to the gender of the applicant. Another explanation may derive from the fact that human capital, personal wealth and risk aversion (usually women are found to be more risk-averse than men, because they expected to be rejected by financial intermediaries, even before than asking for credit) are different (Muravyev et al., 2008).

The academics quoted in this paragraph based their researches on the theory of discrimination by Becker (1957), who suggests that discrimination occurs when the lender would be willing to pay a price, to not relate himself to a certain type of borrowers. Or, alternatively, discrimination arises when certain demographic characteristics are linked to their creditworthiness; in this way, lenders would use their characteristics as a measure of the risks associated with loans. In his research, Becker studied the augmentation of married women in the labour force, especially in Western countries, increased very much since 1920s. At the beginning, the augmentation was due to older women, but then, also young women (who were also mothers) managed to enter the labour market. He also observed the main reasons why women decided to enter the market, because it could give a complete framework where his model is installed. He found that the main reasons why women labour participation rate increased was the augmentation of earning power of married women in the Western economies, which were more developed, together with the spread of the service sector. The increase in the earning power conducted women to spend less time in the family and household; and substituted the time spent in the family taking care of children to participate in the labour market. He claimed also that with the increase of earning power of women, women found marriage less attractive and divorce rate tended to increase with the consequence that female labour participation rate increased. However, after 1950s there was no further increase in earning power and economic progress. Becker also discussed that taking care of children and families makes women allocate energy in different ways, because those activities are quite tiring and imply large amounts of hours, which bring women to not apply for jobs that require travels or strange hours. Women who imply their hours to housework, will employ, consequently, less time in the labour market and the direct consequence is that women will earn less than men and there would be job segregation. Becker established a model of the right labour division among household member, who are intrinsically equal among each other and who apply their time in different types of activities which require specific human capital. With this model, he discovered that returns on investment in certain human capital, led to a labour division which

strengthened differences in market and female and male household productivity due also to discrimination against women. Then, Becker modelled the optimal allocation of time of a single person in different activities. Through this model, he managed to measure the value of time in different activities, the forces which push the production of energy and the differences between men and women in wages and occupational rates; moreover, he derived an equation for the optimal supply of energy of a single activity per hour. Becker (1957) in his economic model of discrimination found that workers who belong to a minority should compensate the other employers by being more productive at a given wage or, equivalently, by accepting a lower wage for identical productivity. Furthermore, he found that married women employ their hours in taking care of families and household and tend to choose more segregated jobs; hence, they invest less human capital in the labour market, also when men and women work the same market hours. Moreover, when individuals do belong to a minority obtain less liquidity, because of this disamenity value they represent. Becker (1957) found that returns deriving from specialized human capital create a labour division in the time allocation and in the investments in human capital, also among individuals who are perfectly the same. Moreover, when men and women are different in their comparative advantages between family and market activities, returns do not lead to a traditional sexual labour division. Through the model developed on a single individual, he found that if an individual spends an hour on activities which are energy-intensive, the share of energy per hour in any of the two activities depends on individual's effort intensity, and not on energy, utility function, money income, allocation of time and human capital. Last, since women take care of children and household, differential between men and women in earnings and occupancy is inevitable (Becker, 1957).

It is important to highlight that research in the field of gender and access to credit has been developed with two different methods. The first one is usually conducted by using household surveys (which are important sources of demographic and social data in the US), which detects financial constraints and eliminates the effect of personal wealth. However, this approach has some negative sides: it does not capture the different aspects of access to financing, like the probability of obtaining a loan and its interest rate. Moreover, it does not consider differences between the type of business conducted by men and women (Muravyev et al., 2008). This is important because usually women-conducted firms have particular characteristics, in fact, it is also true that gender differences are obvious in the way firms are structured: size of the firm, business ownership rates and financing patterns (Muravyev et al., 2008). Indeed, according to a survey

made by the Pew Research Center[4] in 2012, firms managed by women are smaller, than those managed by men. Moreover, even if there are less firms owned by women, their number is increasing: a report of 2015 from the Institute of Women's Policy Research shows that women-owned small-businesses are increasing of almost 40% compared to 2007.

As far as financing patterns are concerned, women-owned business, in order to finance their initial investment, rely on Small Business Administration loans or government grants (Van Auken and Horton, 1994). Van Auken and Horton (1994) led this study in order to introduce results a survey based on a questionnaire prepared in 1992, which investigated the features of initial financing and the lately acquired capital of 67 firms, which were owned by minorities. The investigation found the source of capital, the share of implied source of capital and the financing mix of these minorities (including gender). Moreover, it examined requirements demanded by lending institutions and the use of seasonal financing. They also led a correlation analysis to understand the connection between the difficulty to obtain the initial capital and the financing mix, loan requirements and lack of capital. They wanted to analyze the general framework of the way minorities are financed. A further purpose of the study is presenting the different experiences of firms owned/managed by minorities. They tried to gather as many as possible firms owned by minorities in Iowa; so, in order to accomplish this goal, they created a sample using several sources of data, which are: Iowa Department of Economic Development, Office of Minority Affairs; Chambers of Commerce in the ten cities in Iowa; membership lists from minority business associations. The sample, on which analysis were carried on, was made of 194 firms located in the state of Iowa. They led the analysis through a questionnaire developed in 1992, using previous studies on small-firms' financing patterns. The questionnaire made by Van Auken and Horton (1994) covered several information regarding characteristics of minority-owned firms and sources of capital: initial capital, refinancing, seasonal capital, effort of obtaining capital, level to which capital has impacted on operations. The total questionnaires which could be used were 67. Van Auken and Horton (1994) found that owners of small businesses relied on equity, in order to finance the initial operations. Their source of initial equity was mainly personal savings, even if other sources were also important. The main initial debt financing was SBA[5] guaranteed loans and

[4] The Pew Research Center is a nonpartisan American "fact tank", which is based in Washington, D.C. It provides information on social issues, public opinion, and demographic trends shaping the United States and the world. *(Source: www.pewresearch.org)*

[5] The US Small Business Administration Loan or Certified Development Company program is designed to provide financing for the purchase of fixed assets, which usually means real estate, buildings and machinery, at below market rates. *(Source: www. federalreserve.com)*

loans from lending intermediaries, but also government grants and borrowings from friends or relatives. The owners/managers of minority small firms have to gather a set of alternative sources of capital, to finance initial operations. Personal savings (but also other forms of equity capital) is one of the major component of the start-up capital. While direct and SBA guaranteed loans and borrowings from friends or family members are an important source of debt capital. Moreover, minority firms' owners must provide more information and files, compared to other kinds of business owners, to obtain start-up debt. Indeed, providing documentation is an important step, which has to be well organized, because for businesses the documentation required is highly increased. (Van Auken and Horton, 1994). More recent research about differences in financing patterns and gender found that there is a relationship between barriers in financing patterns and gender: women find more limitations and constraints to financing patterns than men (Constantinidis et al., 2006). Constantinidinis, Cornet and Asandei wanted to conduct the research in order to confirm or deny previous research in this field, which claimed that obstacles to financing depend on owner, manager or firm features. In this study, they analyse the connection between financing patterns and obstacles and gender from the viewpoint of a female entrepreneur. They investigated behaviours and representations of female entrepreneurs towards financing and took into account how much women consider their approaches different than men ones. Their analysis found that there is a gender effect and they try to detect its location. First, they presented the general framework in which the research is installed; so, they made a distinction between patterns which are demand-side and patterns which are supply-side. Demand-side patterns are the behaviours of female entrepreneurs and they found in previous research that start-up capital invested in firms owned by women is lower than male ones. Moreover, women tend to use personal savings, credit cards or loans from relatives or friends, instead of recurring to intermediary loans or commercial credit. While supply-side partners are the behaviours of bankers and public funders and according to a survey made by the Center for Women's Business Research (2000), women entered the venture-capital sector only in the 2000s. Constantinidis et al. (2006) found that women face barriers in order to receive external financing, especially debt financing through intermediaries' loans and obstacles to equity financing through venture and business angels' capital. Their research is made from the entrepreneurs' point of view and, in order to understand the general framework, they studied the evolution of female firms and how intermediaries perceive them and behave towards them. They found that gender effect play an important role, above all in these locations: choices of women in terms of firms features (sector,

size, growth); women's self-perception and their relationships with investors and intermediaries. Costantinidis et al. (2006) conducted the research at quantitative and qualitative level, through a questionnaire; 1100 questionnaires were distributed to women entrepreneurs chosen on a random basis, selected in a document of the National Social Security Institute for the Self-Employed[6]. They constructed the sample inserting female managers of commercial companies and self-employed women and included female professionals, such as doctors, lawyers and so on. The questionnaire was separated into three parts: profile of ventures owned by women; profile of women entrepreneurs, financing patterns and need in the management; training, networking and business support. They found that for several female entrepreneurs there are specific financing patterns and barriers. They also underlined the fact that women in the sample did not have the same role in the labour market and did not have the same social background, so they made differences at human, social and financial capital level. They found that there are gender effects connected to "separation" phenomena, which is difference at choice, taste and need level or "hierarchy" phenomena, which is a different value for firm's attributes, entrepreneur's features. They also suggested that in further research it has to be considered these two-different gender bias. Both researches of Van Auken and Horton (1994) and of Constantinidis et al. (2006) investigated whether female owned businesses have, in general, different characteristics compared to men ones and, if these characteristics could lead to liquidity constraints and a more difficult access to finance; we highlighted this, because the first method of conducting a research about gender and access to finance does not consider these analyses. The second method individuated is leading the research based on firm-level data, which manages to detect financial constraints from credit applications, loan denials, interest rates and so on, which was the method used by Muravyev et al. (2008) (quoted and explained previously) and by Cavalluzzo, Cavalluzzo and Wolken (2002), who also conducted research on credit constraints faced by women-led firms and applied this second methodology. The research by Cavalluzzo et al. (2002) was conducted implying data from the National Survey of Small Business Finances (NSSBF), which is one of the biggest dataset regarding small firms of 1993 and they investigate elements which influence on small firms' credit market across different demographic group. They also added to the previous dataset information by the Board of Governors and Federal Reserve on the structure of local bank

[6] The National Institute for the Social Security of the Self-employed (NISSE) protects the self-employed entrepreneurs' social status – from the establishment of their company to their pension – in order to contribute to their social and economic well-being. (*Source: www.rsvz-inasti.fgov.be*)

market, together with Dun and Bradstreet[7] credit scores of the firm. An important characteristic of dataset by NSSBF is that it includes businesses which do not imply credit market. They examine credit applications, loan denials and interest rates paid according to gender, race and ethnicity of the managers/owners of the small firms. Moreover, they examine data collected from owners/managers of small firms, who did not ask for credit, because they thought that their application would have been rejected. They highlighted the fact that there are differences among demographic groups in the credit market for several reasons, such as financial features of the business, credit history, owner/manager of the business, age, background, experience and education, moreover, credit (risk) score of the business, and relationships of the business with financial intermediaries and suppliers. Nevertheless, after checking all these elements, differentials among different demographic groups may remain. Data are useful to analyse the degree of circulation of information about firm and owner/manager features, which explains differences in credit market experiences of small firms (Cavalluzzo et al., 2002). The sample used in the research is made of 4570 small firms in which 1025 are firms owned by ethnical minorities (431 African American, 301 Hispanic and 303 Asian-owned/managed), 816 owned/managed by women and 2951 business owned/managed by white men. The NSSBF dataset gives information about the age of the firm, the location, the share of employment, the SIC code, ownership and management features, capital structure, income statement and balance sheet. Additionally, it provides characteristics of the credit market experiences of the businesses together with the ability of obtaining financing. So, the dataset includes whether the business asked for a loan in the last three years, if and why the owner/manager believed that his loan demand would have been turned down, the characteristics of the most recent loan the firm received and if the business was denied financing for the most recent loan it applied for and throughout the last three years. In addition, the dataset gives information about variables on the credit history of the owner/manager, application's features and loan costs. The dataset allows to analyse discriminatory operations which obstacle access to credit and the group of firms which did not ask for a loan. Cavalluzzo et al. (2002) investigated whether small firms owned by minorities or women were: (i) less likely to ask for financing, (ii) more likely to admit they did not ask for loans, because of the belief of being rejected, (iii) more likely to be rejected financing they applied for the last three years, (iv) less likely to receive financing, (v) more likely to be rejected financing in their most recent application and (vi) more likely to pay higher interest rates compared to those

[7] Dun and Bradstreet is the largest global commercial database. (Source: *www.dnb.com*)

paid by white men. In every investigation, they examine the financial features of the firm, the features of the owner (education, age, experience), information on the firm and the owner/manager credit history, credit score computed by Dun and Bradstreet, as well as information about firm's relationship with financial intermediaries and suppliers. They also introduce demographic indicators, with a proxy that measures the competition in the business' local geographic area. The first analysis made by Cavalluzzo et al. (2002) investigates the probability of the owner to ask for a loan. Results show that apart from the Asian managers, all else equal, there are no differences in the probability of small firms' owner to have asked for credit across demographic groups and this results remain also considering all loans and lines of credit. Important elements which were considered in the decision to apply for financing are firm's use of financing from suppliers, education of the manager/owner, number of business financial relationships and diverse measures of firm size, together with a firm's asset base and number of employees. In the decision to apply for financing was not considered firm profitability. The second analysis investigates self-reported credit need and when individuals do not apply for credit because they believe their application will be rejected. Self-reported credit needs made by African American and Hispanic owners were more than those of white managers. Elements that impacted on the application avoidance (not applying for credit because of the belief of being rejected) were if the business had ever been rejected trade credit and a firm's assets and sales-to-assets ratio. They discovered also that for the business and for the owner, an important role was covered by self-reported credit history, together with the credit score by Dun and Bradstreet. The analysis on the application avoidance finds out that African Americans, Hispanics, but not Asians were more probable to have rejected the application for financing than business owned by white men. Using firms owned firms, it was found that those were more probable to have avoided applying for financing when lender market concentration augmented. Later, Cavalluzzo et al. (2002) focused a set of studies on denial rate among demographic group. They took into account three characteristics of the rejection decision: (i) whether the firm has been rejected to receive a loan throughout the last three years; (ii) whether firm has been rejected financing or whether there were times when the firm was in need of financing throughout the last three years but did not ask for belief of being rejected; (iii) whether the firm was rejected to receive financing on its most recent loan. The main variables which explained differentials across demographic groups are firm assets, credit score by Dun and Bradstreet, self-reported credit history of business and whether the business has ever rejected financing by suppliers. After considering these elements,

differences among demographic groups still remained. It was found that African-Americans were more probable to have been rejected credit throughout the last three years, less probable to receive their financing and more probable to have rejected credit on the business' most recent loan. These differentials tended to augment with the augmentation in the lender market concentration. African American-owners' rejection rates also increase with the augmentation in lender market concentration. Hispanics and Asians have a higher rate of credit need which were not met, compared to those white men. Denial rates for women-owners were at least one across the last three years and unmet credit needs increase with the augmentation of the lender market concentration; moreover, women rejection rates on the most recent loan augmented with the augmentation in lender market concentration. The final analysis investigated the nominal interest rate paid on the business' most recent loan. The financial features of the business and the self-reported credit history did not have a significant influence in the computation of the loan's interest rates. On the other hand, credit score by Dun and Bradstreet, the market index rate at the time of the application and the loan features, like the loan type, if the loan rate is a fixed or a floating one and the amount of financing borrowed played an important role in the decision of the initial interest rate paid. These elements were sufficient to cancel out differences in interest rates paid throughout demographic groups. Nevertheless, also considering a full collection of explanatory variables, it has been found that shares paid by African American-owners and women-owners (but not Hispanic- and Asian- owners/managers) decreased with the augmentation in lender market concentration. Credit analysis does not find any proof that interest rates paid by African American- or women-owners were related to the level of competition across lenders. Nonetheless, they do not find proof that interest rates paid by Hispanics for lines of credit augmented with the increase of lender market concentration.

Research, even more recently, started to explore gender and how it is connected to other economic dimensions and it will be explained in the following paragraphs.

1.2 GENDER AND LEADERSHIP

In the last years, women participation rate in labour market is increasing; however, the number of women in companies' leading roles are still only a few.

An important research was made by Kolb (1997) and examined whether leadership was still based on stereotypes regarding men and women. The study implied either self-reported and group assessment of leaders rising. Men usually are considered better leaders compared to men, even if

they had a behaviour which is objectively the same as those of women (Kolb, 1997). In this study, Kolb (1997) made participant stay together for two months and then subdivided into groups and gave them tasks who were "gender neutral", in order to make less incisive the perception of biology and sex. The first hypothesis investigated whether there were differences in self- or group-reported assessments of leader emergence which could be determined by biological sex of those being assessed. The second hypothesis examined whether ranking for male managers correlated in a positive way with self- and group-reported assessments of leader emergence. the first hypothesis studied whether persons described as a man or an androgynous individual will be considered higher on level of self- and group- reported assessments of leader emergence, compared to those who were described as women. The fourth hypothesis investigated whether the way leadership was faced and leadership experience correlated in a positive way with self- and group- reported assessments of leader-emergence. The participants of the study formed the sample of the study and they were 60 undergraduate students, where the average age was 21 years either for the 28 women and for the 32 men. They both had work experience, with an average of 18-month part-time experience and a 6-month full-time experience. Results of the research made by Kolb found that there is no difference in self- or group- assessments of leader emergence which could be a result of biological sex. Women described themselves more times than men, as taking charge. While men were considered more times by their group members as contributor of ideas, opinions and suggestions. So, the study found that, at least in situations were small groups are taken into account, women consider themselves as effective leaders. The second result that Kolb (1997) found was that men and androgynous persons are more probable than women to emerge as leaders. As androgynous, she described a woman who has balanced female and male characteristics (this definition has been criticized through years); she found that also androgynous individuals have the perception of leadership. Finally, Kolb (1997) found that attitude towards leadership managed to foresee in a significant manner the group-assessed leader emergence. She highlighted that group assessments played an important role in leader emergence, because individuals operate as leaders only if they are also seen as leaders by group members. This means that is not masculinity the element that makes an individual think he can be a leader, but it is the way that individual is seen by his group members.

One year later, further researches have been made in this field in order to investigate more on the relationship between gender and leadership. Several researches have tried to understand which could be the differences beyond male and female careers. Usually, the characteristics which are

analysed when investigating on career advancement are salary, hierarchical level, number of promotions and speed of promotions (Chênevert and Tremblay, 1998). Chênevert and Tremblay (1998) conducted a research to understand whether gender impacted on four goals of career success. In order to study this possible influence of gender, they decided to examine four characteristics: salary, hierarchical level, number of promotion and speed of promotion. In this research, they tried to study the factors which influence the career advancement in top positions and the degree of influence of gender on career advancement itself. They examined especially the human capital theory (Becker, 1957), family background, socioeconomic origin, individual values, motivation and structural elements, with regards to salary, hierarchical level, number of promotions and speed of promotions of men and women managers. The main goal of the research is to understand whether gender influences career advancement for managers in Canada. The first hypothesis that they have put is whether women have a lower level of success in the corporate management field considering salary, hierarchical level, number of promotions and speed of career advancement as proxies. The second point they have studied is whether the difference in career success of men and women managers is given by the human capital theory. The third hypothesis investigated whether the difference in female and male career success is given by the family background. The fourth hypothesis studied whether the difference in male and female career success is given by the socioeconomic origin of the individuals. The fifth hypothesis examined whether the difference between male and female career success is given by the personal motivations and values. The sixth hypothesis studied whether the difference between male and female career success is given by the structural differences. The last hypothesis examined whether, in case of not influence of human capital theory or structural differences on the difference between career advancement for men and women managers, the role of discrimination cannot be excluded. To conduct the research, Chênevert and Tremblay (1998), used a sample made of 2562 male managers and 498 female managers from 41 different organizations which were subdivided into three sectors of the Canadian economy: paper sector, food industry and public sector. They considered the term manager as all the employees that have the role of supervisor and that have a functional connection with the administration. Data were gathered through questionnaires and after collecting all the responses, they have made two subsamples of equal number with 282 female managers and 282 male managers. The variables were measured in the following way: (i) salary was divided into 5000 dollar brackets (the lowest level was “less than 15000” and the highest level was “60000 or more”); (ii) hierarchical level was measured through a

scale of seven steps that went from senior management level to foreman level; (iii) number of promotions was obtained by the response to the question *"how many promotions did you receive?"*; (iv) seniority was measured through the number of operating years of the current boss; (v) speed of promotion was obtained through the ratio "number of promotions on seniority"; (vi) human capital was measured through the level of education and the qualifications received; (vii) family background was measured through three variables, which are "living alone", "married" and number of dependents; (viii) socioeconomic origin was indicated as a dummy variable where 1 represented a father whose job was farmer, non-specialized worker, office labourer, executive, professional and entrepreneur and 0 stood for all the other cases; (ix) values and motivations were computed through three groups of variables, which are organizational commitment, perception of "performance/reward" and a four-point Likert[8] scale which ranged from "will not happen" to "will happen"; (x) structural variables which included public and private sector, together with administrative and budgetary duties. The results of this research were that female managers face more difficulties to get to leadership positions and they do have a lower level of success in companies. Chênevert and Tremblay (1998) found that the different variables that have been considered (human capital theory, family background, socioeconomic origin, values and motivations, sector-based and organizational environment) and modelled do not determine the volatility to cancel out the gender effect, apart from speed of promotion in the model of "values and motivation". Moreover, they discovered that discrimination cannot be cancelled out. These are among the main characteristics analysed in research because here there are the main differences between men and women. Still now, salary is one of the most important problems: a research made in 2015 by the Institute for Women's Policy Research[9] (IWPR) claims that the gender pay gap (which is the salary differential between men and women) is still at high levels; a woman for the same job earns the 20% less than a man. Moreover, always according to the IWPR, women's poverty rate could be the half, if the they earned as much as men for the same job. Another topic that is often considered is the "glass ceiling", that is, the difficulty for women to get to top positions in companies (and also in politics); as top positions, we mean corporate boards, management positions and senior management positions. In other words, women make more effort to get to positions in higher hierarchical levels and often do not have the possibility to get

[8] Likert scale is used to measure behaviours and attitudes using answering options which range to an extreme to another. (*Source: www.simplypsychology.org*)

[9] The Institute for Women's Policy Research conducts and communicates research to inspire public dialogue, shape policy, and improve the lives and opportunities of women of diverse backgrounds, circumstances, and experiences. (*Source: www.iwpr.org*)

the same number of promotions as men. In addition, women take more time to reach decision-making positions, compared to the time employed by men. Chênevert and Tremblay (1998) have considered also human capital theory (Becker 1957), socio-economic context and familiar context as the reasons why career advancement is different between men and women. Human capital theory was firstly used by Becker (1957) to explain that the willingness in investing in human capital is related to time spent doing that activity. Later, the theory was used to explain differentials in wages between men and women (in fact, research was led on married women): according to human capital theory, married women earn less than men, because their participation in labour market is lower (or, at least, it was in those years). Moreover, further researches made by Becker (1985) found that human capital brings to a different allocation of time and division of labour; married women take care of children and family, which is more tiring, than men's leisure time. Consequently, women tend to choose less demanding jobs (Becker, 1985). The evolution of human capital theory made by Becker is considered, because in his researches it is stated that women usually take care of the family and home, investing in these activities most of their time. This makes the woman look for a job which is not too much tiring and demanding, so it does not even try to pursue a career that might enable her to get to top positions. Therefore, human capital theory may be at the basis of the difference between men and women career advancement and this is confirmed in the research made by Chênevert and Tremblay (1998), because they found that human capital manages to explain differences in career. Another dimension analysed is socio-economic context, which is often the reason why women do not even try to achieve several positions. In some countries, where women are discriminated at social level and are the individuals who have to administrate and take care of the family, they are not even thought as managers who can reach high levels in a company or just participate in the labour market. In addition, usually countries who have high percentages of poverty, are those who have low women participation rates in labour market (Nussbaum, 2000). Martha Nussbaum is a philosopher and economist which considered in her book "*Theory of Human Justice*" the role of the woman in different dimensions, such as economy, labour market, politics, education, society and so on. She examined the role of the woman in different countries, with a special focus on India and claimed that with higher education and a better social role, the development of the country where the woman was integrated would have improved. She also made more modern the "Theory of the Capabilities", first developed by Amartya Sen, who claimed that development of a country was influenced by gender role, society, level of education in the country, healthcare, level

of employment, child condition, care of the environment. Nussbaum did not make any quantitative research, but she had studied the condition of women in poor countries for several years. Moreover, she has always been in first line to help to develop the situation of poor countries, under an economical point of view. This happens often because high levels of poverty, mean low levels of education, which may bring to lower levels of women's employment. Family context influences on women's career success. Women are more penalized than men by characteristics of the family context. Generally, a woman that does not participate in the labour market is considered as a further resource for the men, who is able to invest more in work (Becker, 1957). Furthermore, the number of children has a dual consequence: men are more stimulated and put higher motivation and commitment in work; for women, instead, presence of children force women to employ their time in family responsibilities.

Apart from the reasons why men are more likely to get to decision-making positions and, in general, in the labour market, research has investigated to see whether there was a difference in the way leadership was faced by women and men. Appelbaum, Audret and Miller conducted a research in which they studied the relationship between leadership and gender. They investigated whether there are true differences between leadership style of men and women and whether the style of one of the gender is more effective than the other one. Their research is not quantitative, but it describes various researches made in this field, giving a general framework of the relationship between women and leadership. Moreover, they investigated whether the effectiveness of women as leaders is based on real facts or is just a perception. They highlighted that management is very important, because it has to be able to obtain the best from their resources, including human capital and, consequently, including women. When managers are not capable of exalt women employees, organizations fail in two ways. First, employers do not exploit talent and point of view of women. The differences in styles of leadership between men and women are very important inside an organization. Secondly, organizations investing time and money in making their employees experience, get a very little return by them. Research has individuated four schools of thought (Appelbaum et al., 2002) which may be the cause in differences in governance between gender. The first is biology and sex, which was seen as a symptom of differences in leadership in research of the first years. This first theory states that leadership is determined by biology, so, it is innate in men, while it is unreachable for women. Indeed, they also say that for women is easy to become leaders as easy as becoming men. These results have been criticized in other researches, because it is a narrow, antiquated and biased

vision of leadership. But they also investigated in deeper research and discovered that men and women differentiate in leadership styles. Moreover, they discovered that women may as affective as men as leaders, although stereotypes about the inefficiency of female leadership. However, with the development of studies, this was not considered in this way anymore. Researchers found that being leaders is a male characteristic. However, this results have been criticized in other researches, because it is a narrow, antiquated and biased vision of leadership.

The second is the gender role, which means that the stereotype of effectiveness of masculine behaviour in leadership does still exist. With gender role, two elements are considered: biological sex is not a probable determinant of the difference between men and women; differences between men and women leaders exist, but there are also other determinants of efficiency in leadership. Gender role determines the connection between certain behaviours and gender. Feminine characteristics are important as well, some of them, which are considered crucial in the development of a firm are: encouraging participation, sharing power and information, improving self-worth and energizing others (Appelbaum et al., 2002). However, in the preselection of leaders, women are unfavourite. Moreover, male behaviour is often more valued compared to the same of women. Gender role considers two factors: biology and sex as a differential in leadership styles and differences in effectiveness of leadership per gender and other elements. There are many researches which have investigated whether there are different leadership styles according to gender; results showed that differences do exist. There are characteristics which describe leaders, that are linked to gender and are agentic and communal attributes. Agentic attributes are usually related to men and describe an individual, who is assertive, controlling and confident. While communal attributes tend to describe female leaders: they describe a person who is worried about welfare of other people and are affectionate, helpful, sympathetic and interpersonally sensitive (Appelbaum et al., 2002).

The third school of thought is: environmental factors, a mix of very complex factors, the most important ones, which are usually faced by research are women's attitude, self-confidence, experience, corporate environment and old boys' network (Appelbaum et al. 2002). Women's attitude, self-confidence and experience may be the real causes that lead people to view individuals as leaders. Corporate environment is fundamental because can make feel women comfortable or uncomfortable. Often this is the most challenging environment and here is exactly where women are expected to excel (Appelbaum et al., 2002). Furthermore, firms are places where women feel more discriminated, and this leads them not to face new challenges, which

could bring them to reach new accomplishments. The old boys' network is a system in which men are suspected to use their position in order to help other men that have their same educational and cultural background. This system leads to a discrimination and obstacles women career advancement. The old boys network creates institutional barriers, which do not allow women to advance in their careers. Moreover, it tends to sexualize, control and divide women and brings to the general vision where men are the owners of power.

The fourth school of thought is attitudinal drivers, which are feminine values that allow firms to be more competitive, compared to those guided by masculine values. Some feminine values which are seen as positive influencers of women-led firms are: high communication skills, good listeners, diplomacy skills, especially in situations of negotiation or discussion and a tender approach when handling people. So, firms with female leadership tend to be more inclusive and more rewarding; people have the possibility to achieve every level they aspire (Appelbaum et al. 2002). They have a more collaborative spirit inside the firm. Moreover, women tend to integrate and balance different roles, such as the one inside their family life and the one in their work life.

Several researches have investigated on the reasons why women have difficulties in reaching leadership roles. The most accredited is discrimination against women. When a woman carries on an action, which is the same conducted by a man, she is viewed less favourably compared to the man. This means that a woman has to face more barriers while trying to get to top positions (Appelbaum et al. 2002).

1.3 GENDER AND GOVERNANCE

Several researches have been conducted in order to investigate whether there is a relationship between gender diversity in governance and financial performance. However, researchers found very different results. In some cases, researchers did not find any relation between firms' performance and female management; in other ones found negative relations between firms' performance and presence of women in boards (Shrader et al. 1997). Shrader, Blackburn and Iles (1997) conducted a research in which they investigated the relationship between women in governance and the financial performance of the business. At the beginning of their research, they assume that businesses which employ women managers take the best out of managers, because they employ them from the total pool of managers available. These businesses turn to be more competitive, because they actually mirror the existing market. In their research, they made a brief description of the general framework, where their research is installed. They underlined that the

firm is an ensemble of capabilities, skills and resources, where the human capital is the key resource, which is difficult to copy by other businesses in the market. However, they also highlighted the fact that there are human resources which often are not taken into account, such as women and minorities with different ethnicity. This is considered a mistake, because these minorities may bring inside the frim different perspectives, that might enrich the business and give competitive advantage. Shrader et al. (1997) affirm that women may bring important skills in management positions, even because they have strong ideas and are innovators. Indeed, the first hypothesis they will explore in the study is whether the share of women in management position has a positive relation with firm performance. The second hypothesis investigates whether the share of women in top management is positively related to firm financial performance. Also the role of the board of governance is considered very important in a business, so they state that because of the skills women have, more women should be inserted inside the board of directors. Hence, they pose the third hypothesis which studies whether the share of women in the board of directors is related to firm performance in a positive way. The sample has been built through a collection of articles which were published in 1994 on the Wall Street Journal; these articles introduced data from the 200 American firms with the highest market value. The sample was made of firms with female managers (one-fourth of the sample) and male managers. Firms with more than 100 employees must give full documentation regarding their employees, with information about role inside their business, gender and race to the Equal Employment Opportunity Commission[10], so they managed to collect data from the government database. With the term manager, they define managers or officials, consequently, they involve supervisors, CEOs and so on. In order to conduct the research, they have as independent variables percentage of women in management, percentage of women in top management, percentage of women in the board of directors; as control variables, total number of managers, total number of top managers and total number of board managers; four dependent measures, net income/net sales (Return on Sales), net income/total assets (Return on Assets), net income/invested capital (Return on Investments) and net income/equity (Return on Equity). The results of the research showed that firms with higher share of managers who are women have high performance indicators (ROS, ROA, ROI and ROE). However, they do not claim that women are better managers, but they support the fact that firms which considered the entire pool of good managers, do obtain benefits. The results

[10] The U.S. Equal Employment Opportunity Commission (EEOC) is responsible for enforcing federal laws that make it illegal to discriminate against a job applicant or an employee because of the person's race, colour, religion, sex (including pregnancy, gender identity, and sexual orientation), national origin, age (40 or older), disability or genetic information. (*Source: www.eeoc.gov*)

do not show a clear evidence of positive relationship between high financial performance and high shares of women in top management. As far as the third hypothesis is concerned, there is not a clear result, because women in boards are still only a few, so they do not have an incisive role inside it, consequently, their presence does not influence decision-making.

A research of 2001 by Adler found, instead, that there is a positive relationship between presence of women in the board and firm performance. Adler (2001) conducted a research in order to highlight the problem of glass ceiling in Europe, where the glass ceiling is the difficulty for women to get to decision-making position, both in firms and politics. In order to lead the analysis, he examined the 215 Fortune 500 firms regarding the involvement of women in executive positions for the period from 1980 and 1998. The analysis started in 1992, when every single firm of Fortune 500 was invited to provide data regarding the number of women in their business' top positions, the next 10 executive positions and the Board of Directors for every single year since 1980. This data collection made possible to build the historical performance of firms and make comparisons during years among firms. The research was led by first computing a score for the firms, basing it on the years the data is referred to and the number of women. The first 31 businesses who had the highest scored, were then evaluated considering their performance. This type of study was not conducted before, because of the scarce number of women in executive positions. Another point that Adler (2001) underlined was that firms come from different sectors, so they might use measures of profitability different from each other. Hence, he decided to apply four dimensions of profitability. The dimensions of profitability were profits as a share of revenues, assets and stockholders' equity, for each firm. After this, they considered a fourth measure, that is whether these dimensions for each firm was higher or lower than its median industry counterpart. Results of the research were very clear: the Fortune 500 firms with a higher percentage of women among the executives had higher level of performance, compared to their industry median firms on all the three dimensions of profitability taken into account. Moreover, firms which promoted women had the very best scores, compared to those firms who had "only" good performances. Another research of 2003 by Carter, Simkins and Simpson found also that there is a positive relationship between percentage of women and minorities inside the firm and firm value (which was proxied by Tobin's Q). They conducted a research which explored the connection between board diversity and firm value for Fortune 1000 firms. First of all, Adler et al. (2001) gave a definition of Board diversity, as the share of women, African American, Asians and Hispanics in the Board of Directors. Their main objective is to understand whether board diversity is related to an enhancing of

financial value of the firm. The first controls they have made are about size of the firm, industry and other corporate governance measures. To lead the research and examined the connection among corporate governance, board of director diversity and firm value, they centred the study on Fortune 1000 firms. They extracted data about board of directors' characteristics for 1997 from the "Significant Data for Directors 1999: Board Policies and Governance Trends". Furthermore, data about accountancy of these firms were extracted from the COMPUSTAT database[11]. The final sample is made of 638 firms, which had all the data requested. To analyse the relationship between board of directors' diversity and firm value, they made either comparisons of means and regression analysis. In the regression analysis, the null hypothesis was that Board of Directors' diversity does not affect firm value, measures as a proxy of Tobin's Q. At the end of the analysis, results showed that firms which engage themselves to promote women in Board of Directors and have a higher presence of women in BoD, also have more minorities and vice versa. Moreover, firm value and diverse Boards are positively related between each other. Furthermore, another research, which dates back in 2003, led by the Catalyst, a non-profit organization, whose goal is to enlarge opportunities for women and business, found that firms with the most diverse board had also the best financial performances. Catalyst provides often new researches and data in this field.

Researchers investigated when usually women are advanced in decision-making positions and found that women face a "glass cliff", which means that they are given leadership position when the firm undergoes periods of high potential risk and failure (Ryan and Haslam, 2005). Ryan and Haslam (2002) wanted to explore the moment in firms' life in which women were inserted in top positions and the fluctuations in the performance of the businesses; in this way, they want to understand the connection between the nomination of women leaders and the firm performance in that moment. To find all the women that were appointed in leadership positions in 2003, Ryan and Haslam (2002), made a search in websites of all FTSE 100 companies[12] and found also the month in which women were appointed throughout 2003. Data about firms were found through their annual reports, press releases and direct biographies. They found that in 2003 19 women were appointed in the Board of Directors, so they also looked for 19 firms which appointed a man in the Board in 2003. After this, Ryan and Haslam (2003) matched the firms according to the period of appointment and economic sector. Firm performance was measured in two ways: first, through the online London Stock Exchange Share Monitoring Service and for each firm was

[11] Compustat is a database of financial, statistical and market information on active and inactive global companies throughout the world (*Source: www.compustat.com*)
[12] Listed companies in the London Stock Exchange. (*Source: www.londonstockexchange.com*)

computed as the share movement over the 12 month before 17 December 2003. When the value was negative, there was a loss in the share price, vice versa, when the value was positive, there was an acquisition of the share price. The second method to measure performance was used to examine fluctuations in the firms' performance. They measured it through the online monthly trading summaries, supplied by the London Stock Exchange. After this, they computed the total value of shares bargained by the number of the shares bargained. Then, the mean of the monthly share price was computed for the six month before and after the assignment of an individual in the Board of Directors. To investigate whether the connection between women on Board of Directors and company performance does exist, they led a correlation analysis: they examined the strength of the connection between the share of women in leadership positions and the annual performance of the company in 2013. Results from FTSE 100 companies showed that correlation between the share of women in the Board of Directors and performance measured as the movement in share price is marginally significant negative. This would mean that the higher is the share of women in leadership positions, the lower is the corporate performance. Furthermore, they led another analysis to understand whether the annual performance of a business differed whenever in the leadership positions a man or a woman was appointed. Results of the analysis showed that companies that appointed a woman in leadership positions did not have significant difference in performance in 2003, compared to firms which appointed a man. Moreover, companies that appointed a man in leadership positions had an augmentation in the share price, while companies that appointed a woman did not show an augmentation. To explore movements in the firms' performance before and after the appointment of a man or a woman in leadership positions, fluctuations in the mean of the monthly share prices were computed. The performance of the month in which the individual was appointed was defined as the share of the movement in share price from the previous month. A positive change indicates an augmentation in the average monthly share price, while a negative movement indicates a decrease in the share price. They found that people that were inserted in leadership position in the first half of the year, were related to an enhanced performance. While, individual who were inserted in BoD in the second half of the year, were connected to a monthly stable or positive performance. Results show that when companies appointed a man in leadership positions had a stable performance either in the first half of the year and in the second part. For firms who inserted a woman in leadership positions performance changed a lot throughout time: when a woman was inserted in the first half of the year, that is, when the stock market was down, company performance had then a

significant augmentation in time. On the other hand, for firms which inserted a woman in the BoD in the second half of the year, results were not that clear: before the appointment the performance was positive, while after it, the performance was stable. However, before the appointment the performance's trend was positive, but actually, it had fluctuated over time between positive and stable. So, results of Ryan and Haslam (2003) show that the insertion of a woman in the Board of Directors did not lead to a decrease in firm's performance. But during a period of drop of the stock market, firms which appointed a woman had a market enhancement in share price, since the appointment. In addition, when a firm appointed a woman in leadership position when times were positive, after the appointment share price resulted stable.

Some claim that the positioning of women in leading roles inside a firm is due to tokenism, which are actions that are a result of pretending to give advantage to those groups in society who are often mistreated or treated in an unfair way, in order to give the appearance of correct treatment. Some researchers have sought whether this hypothesis of tokenism could influence on the relationship between performance and board diversity. If women who are positioned inside a board know that they reached that role because of tokenism, they do not result effective inside the board. Moreover, when the other members of the board know that women are tokens, it would appear a situation of contrast, which might conduct to social and professional isolation of tokens (Kanter, 1977). Kanter in 1977 led an analysis on different types of group, where the proportion of a some kind of individual was significantly higher than the other kind, to the opposite type of group were the two-different kind of individuals had a perfect 50:50 proportion. Groups were a kind of individual is dominant are defined skewed group, while groups were the presence of these two kinds of individuals is equal are called balanced groups. This psychology study was conducted also to understand the interaction between men and women in organizations. This research, in particular, studied how the structure of groups influenced interaction between men and women. This study examined the interaction between men and women, when the group is unbalanced in favour of men. Hence, it studied when women had the role of tokens, that is an individual who is alone inside a group; this research was made, because usually women were disproportioned in groups, in favour of men (Kanter, 1977). This token status was usually covered by women in management and all level of professions. The research made by account using a sample made of Fortune 500 firms showed that tokens, even if they make right decisions and do perform well, they have to do an extra effort to be considered as good as they are, by the other member of the group. They must face the stress of being rejected by the other

dominant members. The fundamental result is that the insertion of tokens inside an organization is not helpful, but actually it has an ambiguous result, which is that the dominant individuals despise even more the tokens' performance.

Another more recent research about gender and governance is the one conducted by Adams and Ferreira (2004). The important issue they faced in their research is the "glass cliff" and it claims that usually firms in riskier situations have a more diverse board. However, in a growing number of countries, there are policies which aim to diversify boards and focus on the importance of having female directors inside a firm. Some of the recent proposals have the explicit objective of integrating women inside a firm's top positions (Adams and Ferreira, 2008). In one of the most recent researches, it was found that there is a positive effect on board governance, when there is presence of women inside. Moreover, higher is the percentage of women inside a board, the better is the attendance of men inside (Adams and Ferreira, 2008). So, the major part of the few researches made on governance and women attendance claim that their presence inside boards influences positively the board governance. Adams and Ferreira (2008) conducted the research in order to understand the relationship between tokenism[13] and Board of Directors effectiveness. To conduct this research, they used a sample made of an unbalanced panel of director-level data for Standard & Poor's 200, Standard & Poor's MidCaps and Standard & Poor's SmallCap firms, gathered by the Investor Responsibility Research Center[14] for the time period from 1996 to 2003. The dataset gives information about directors from the company proxy statements and/or annual reports, such as gender of director, number of directorships every director has, age and retirement status. Moreover, they give information about directors' independence. In order to get also financial data, directors' compensation data and number of board meetings, Adams and Ferreira (2008) extracted data from ExecuComp[15]. They extracted SIC codes from Compustat and stock prices from CRSP[16]. The final sample was made of 86714 directorships on 1939 firms. Adams and Ferreira (2008) investigated the following dimensions regarding gender and governance: whether firms with women as directors are different from men ones; gender diversity and Board

[13] Tokenism is the ensemble of actions which are a result of pretending to advantage minorities, who are often treated unfairly, with the purpose of giving appearance of fairness. (*Source: www.merriam-webster.com*)

[14] The Investor Responsibility Research Center Institute (IRRCI) is a nonprofit research organization that funds environmental, social and corporate governance research, as well research on the capital market context that impacts how investors and companies make decisions. (*Source:www.irrcinstitute.org*)

[15] ExecuComp includes base salary, bonus and stock option data as well as company financial data. It is one of the databases of the Harvard Business School (*Source: www.library.hbs.edu*)

[16] The Center for Research in Security Prices (CRSP) is a provider of historical stock market data. The Center is a part of the Booth School of Business at the University of Chicago. (*Source: www.crsp.com*)

of Directors; attendance at meetings of the Board; director pay and diversity; board meetings and diversity; diversity and performance; differences in features between female and male directors. In order to conduct these analysis, they implied OLS models. This research shows that women directors have a different behaviour than men ones in the Board of Directors. Moreover, whenever women are inside the Board, the decisions made by the Board are more effective. They also found that diversity has a positive influence on the companies' performance, that it would have had a non-effective governance, otherwise. This non-effectiveness is the capability to support and resist takeovers. Nevertheless, results showed that when governance is strong, augmenting the share of gender quotas in the Board of Governance may low the shareholder value. Probably, because a higher diversity may lead to an over-control of those companies. Finally, they discovered that even if women were appointed because of tokenism, women leaders have an important and valuable influence on governance structure. Hence, the demography of individuals appointed in leadership positions is a relevant factor in governance (Adams and Ferreira, 2008).

It must be highlighted that researches in this field are still a few; therefore we would like to keep research in this topic alive and bring new and most recent results.

However, we continue the literature review on the other topic encountered in the dissertation.

In order to understand whether discrimination arises and access to credit is really different between men or women-managed businesses and whether there is a difference in the type of governance chosen between men and women and whether this choice may influence performance, we have decided to conduct a further analysis on European data even applying the Integrated Rating Model (Mantovani and Castellan, 2015), which will be explained thoroughly later in this chapter.

1.4 THE INTEGRATED RATING MODEL

We base the analysis on the paper by Mantovani and Castellan (2015), who studied the development of an Integrated Rating system, in order to allocate credit in a more efficient way, after the financial crisis and the evolvement of Basel banks' capital regulation framework. They investigated whether corporate governance influenced on firm performance and bank allowances. They discovered that it does exist a significant relationship between performance and contribution of human capital into corporate process, especially at managerial and ownership level. Furthermore, the inner firm's performance and its perception by investors show evidence of

enhancing. Hence, human capital can be considered a key element, which is missing in the different models of the firms along with models of optimal bank allowances.

Moreover, we base also on the paper by Mantovani et al. (2014) where it was investigated the relationship between historical and prospective firm performance, together with the effective financing received by banks. In the study, the proxy of merit of credit (which will be explained later) confirms the inefficiency of the banking system in credit allocation. In addition, they discovered that the relation between governance and ownership structure with firm performance and its capability to raise capital from the banking system is established as follows: the banking system prefers firms with concentrated ownerships and governed by only one manager, while the integrated rating system does not appreciate firms governed by only one manager. There are several studies which discovered that there is a positive relationship between corporate governance characteristics and corporate performance (Rajan and Zingales, 1998; Brickly et al., 1994). The research made by Rajan and Zingales had as objective the investigation about whether industrial sectors, which usually need more external credit, develop way more rapidly in countries where financial markets are more developed. They stated that all the services provided by financial intermediaries are fundamental for the economic growth. They also show ideas against this previous statements, which are: (i) the factor which connects financial development and economic growth may be the propensity to savings of the households of the country; (ii) financial development (which is usually computed through the level of credit and the dimension of the stock market) can foresee the economic growth, only thanks to the ability of financial markets to predict future growth. Rajan and Zingales wanted to understand the mechanism under the impact of financial development on economic growth. Their hypothesis was whether sectors which relied more on external financing would have higher growth rates in countries, which have more developed financial markets. The sample was made of data from the Industrial Statistical Yearbook[17] (value added and gross fixed capital formation), from the International Finance's Corporation[18] (equity market capitalization), from the International Financial Statistics[19] by the International Monetary Fund (countries' gross domestic product, Produced Price Index, exchange

[17] The Statistical Yearbook provides in a single volume a comprehensive compilation of internationally available statistics on social and economic conditions and activities, at world, regional and national levels, for an appropriate historical period. It is prepared by the Statistics Division, Department of Economic and Social Affairs, of the United Nations Secretariat. (*Source: www. unstats.un.org*)

[18] IFC supplies solutions to clients in developing countries to promote development. (*Source: www.ifc.org*)

[19] The IMF International Financial Statistics (IFS) is a compilation of financial data collected from various sources, which is published monthly by the International Monetary Fund (IMF). (*Source: www.imf.org*)

rate and the index of industrial production). In order to lead the analysis they use crude proxies to measure financial development, which are ratio of domestic credit plus stock market capitalization to GDP (capitalization ratio), accounting standards in a country. Their findings show that financial development has a great impact on the percentage of economic growth, by lowing the cost of external finance to financially dependent companies; financial market weak points influence investments and growth; development of financial market is completed by historical accident or governments, the fact that there is a well-developed market in some countries represents a source of benefits in countries where there are certain sectors, which are more dependent on external financing. Byrd and Hickman gave further evidence on the importance of corporate boards by exploring the relationship between the presence of corporate boards and the returns to shareholders of bidding firms in public companies. In order to do this, they constructed a sample made of 128 acquisitions bids constituted by 111 companies during the period 1980-87 and includes bidders who satisfy five criteria: (i) bidder and target were listed on the New York Stock Exchange in the moment of the bid and the bidder did not have a controlling interest in the target; (ii) tender offer bid was recorded with the Security Exchange Commission between 1st January 1980 and 31st December 1987; (iii) the tender was previously revealed in the Wall Street Journal and there were not opposite news revelations the day before (such as changing in dividends or earnings); (iv) every single bidder had stock returns per day on the Center for Research on Security Prices[20] (CRSP) Daily Returns File for a minimum of 210 trading days before the bid announcement date; (v) the shareholders' meeting per year had a proxy statement before the bid announcement and was present in the Q-file Corporate Microfile[21] or from Bechtel Information Services[22]. The explanatory variables used in the analysis are Board Independency, Fraction Directors Independency, Inside Stock Ownership, Affiliated Outside Stock Ownership, Outside Stock Ownership Independency, Inside Ownership Dummy, Affiliated Outside Ownership Dummy, Affiliated Outside Ownership Dummy, Other Directorships, Offer Terms, Within One Three-digit SIC code. In the analysis, Byrd and Hickman (1992) investigated the relationship between the characteristics of the bidding companies' boards and the effects of shareholders' wealth of tender offer bids. They found that returns to shareholders which are less negative are related to

[20] The Center for Research in Security Prices (CRSP) is a provider of historical stock market data. (*Source: www.crsp.com*)

[21] Quarterly report required by the SEC each quarter. Provides a comprehensive overview of a company's state of business. (*Source: www.financial-dictionary.thefreedictionary.com*)

[22] Bechtel is among the most respected engineering, construction, and project management companies in the world. (*Source: www.bechtel.com*)

companies' managers. Hence, their results are in line with the statement that independent boards have positive influence on shareholders. They also found out that a nonlinear connection between the share of independent directors on a board and the shareholder wealth effects of tender offer bids. Results do not confirm the fact that shareholders would benefit more by a board made by outside directors. Having only outside directors could damage shareholders, because they could make less effective decision-making and advisory positions. The final result is that shareholders have positive influence when managers and independent external directors have at least a small share of the bidding firm's common stock. Results highlight the value of corporate governance. This result is found also by Claessen et al. (2002), who claimed that better corporate governance frameworks benefit firms through greater access to financing, lower cost of capital, better performance and more agreeable treatment of all participant. Moreover, in a research led by Donaldson (2003) it was found that good corporate governance could augment investors' confidence and market liquidity. Furthermore, as stated in OECD principles (2004), and efficient corporate system has enough incidence to lower the cost of capital and encourage firms to use resources to incite growth (Mantovani et al., 2014). The consequences of superior corporate governance will be higher firm value and more effective firm performance. This is also contemplated, because governance structure specifies the spread of rights and responsibilities among the different stakeholders in the firms, such as Board of Directors, managers, shareholders, creditors and so on.

However, it has not been investigated whether the major presence of women or men in the corporate board may influence the firm performance, the merit of credit and governance. Since governance is an important element of the success of companies, we want to have a general overview of the way gender may influence it. In the first section, we have seen that men and women result, in multiple researches, that have different leadership styles, so we think it is important to understand also in this analysis whether this is true or not. In the last chapter we explain that there are some governance characteristics which are more effective in corporate governance and that make companies being more stable, so we think it is important to understand the relationship between gender and governance and ownership characteristics, because it allows to observe whether one of the gender is related to those characteristics which make the firm more stable. We want to understand this relationship between governance and gender, by posing the following research question:

RQ1: *Does governance differentiate whether management roles are mainly covered by females or by males*?

In the analysis we proxy performance with the Return on Investments. We want to understand through the analysis whether performance is influenced by our main variables, which are gender and governance. We do this, because through gender we want to understand whether there are characteristics intrinsic to biological sex, that would allow to make a gender more effective on corporate performance or not. Moreover, we want to understand whether the assumptions that will be shown in the last chapter about the more robustness of some governance characteristics result to be reflected on data or not. Hence, we have decided to divide in two questions about influences on firms' performance.

RQ2.a: *Is Return on Investments (i.e. our proxy to measure the performance of the adopted business model) different whether in the leading positions there is a major presence of women or men?*

In order to lead a more complete analysis, we wanted to see whether governance has different influences on governance according to the gender of corporate board's members. So, we pose a further research question linked to the previous one.

RQ2.b: *Is ROI influenced by governance and the way governance influences changes whether managers are mostly women or men?*

After analysing whether gender influences firm's performance, we wanted to investigate whether gender influences merit of credit. Studying previous literature, such as Bellucci et al. (2009), in small business lending, female entrepreneurs face a more difficult access to credit, but they do not pay higher interest rates, compared to men. Moreover, they discovered that gender of loan officers, because female ones are more risk averse, may impact on merit of credit. Other research made on this topic analysed whether prejudice linked to gender characteristics does exist in the credit market or not, however, results are different changing considered data. Using US data, it was found that women who work in small businesses do not face any discrimination (Blanchflower et al., 2003; Cavalluzzo and Cavalluzzo, 1998; Cavalluzzo et al., 2002). While analysing European and Asian data, it resulted that female entrepreneurs face discrimination (Muravyev et al. 2008). Another characteristic of individuals that is often considered when leading studies on discrimination is race, because as found in Cavalluzzo and Wolken (2005) Africa-Americans encounter even further difficulties. A more recent research by Moro, Mantovani and Tomasz

(2016), which considered data from 13 countries (both European and Anglo-Saxon countries), claims that women-led firms tend to receive less credit, because they are less likely to ask credit and not because they face higher levels of discrimination. As we have just highlighted and also shown previously, investigating whether women are more credit constrained than men is very important. In particular, we want to observe whether credit lenders give credit because of firms' characteristics (solvency, revenues, returns, performance and so on) or whether they give credit basing their decision on the biological sex of the borrower. In this way, we want to understand whether there is presence of discrimination in credit market. Moreover, we think it is important to analyse whether the methodology of giving credit by intermediaries may impact on the firm performance, because it is known that some choices are also made on credit availability.

So, we would like to observe whether banks' allocation credit is made in a different way, whether managers who ask for it are women or men.

RQ3: *Does the way banks allocate credit relate to the gender influences on the corporate performance?*

In previous researches it has been observed also that often credit allowances are distributed inefficiently, because the banking system is constraint in the adoption of affordable rating systems (Mantovani et al., 2013). Hence, low efficiency of the financial system may bias empirical evidences on RQ3. Consequently, we would like to end this analysis observing whether governance affects firms' performance using alternative indicators of risk-adjusted performance. So, we test whether governance affects merit of credit, this last one measured through the Integrated Rating Model (Mantovani et al., 2013). The last thing that we want to analyse is the relationship among all the variables we have tested before. Indeed, we have shown that previous researches underline the fact that whether the same decision is taken by women or men, the one that is better accepted is the one made by men. Hence, we think it would be important to understand whether this happens also when corporate performance and cost of debt capital are taken into account. We do this, by observing whether gender-driven governance results to give different expectations about performance and equity. So, we think it is important to complete the analysis to pose the following research question:

RQ4: *Does gender-driven governance affect expectations of corporate performance, therefore the merit of credit and the cost of debt capital?*

We carry on in chapter three these analyses for nine countries, in order to have robust results, that may cover some of the major countries in the European Union and, in this way, we may represent different socio-economic situations and environment.

2. GENDER IN CORPORATE BOARDS: EUROPEAN OVERVIEW

2.1 EUROPEAN SITUATION IN 2009-2010

To understand better the following chapter, we have decided to enlighten the European situation in terms of gender in top positions in European firms.

The analysis of the European situation will be made from October 2010 to 2015, because 2010 is the year when the European Commission decided to underline the issue of women in decision-making positions.

First of all, one of the fundamental principles of the European Union stated in the Treaties and in the European Union's Charter of Fundamental rights is the equality between men and women.

Even if almost 50% of the labour force and 60% of new university graduates are women, they are still under-represented in the top positions of decision making. Often women do not have the possibility to express their talent, which could bring benefits to the entire society and the economic system. This represents a waste in the investment of human capital. Business leaders are represented only (on average) by one-third of women. However, the situation is different for each country. Moreover, in the largest listed companies of the European Union, only one of ten board members is a woman, always on average. In recent years, progress has been very slow.

The five important goals of the European Commission's Strategy for Equality between Women and Men of 2010-2015 were: equal economic independence, equal pay for equal work and work for equal value, dignity, integrity, an end to violence against women, gender equality in external action and, most relevant, equity in decision-making. In this document, together with the Women's chapter (2010), claim that one of the objective of European Union is to augment the attendance of women inside the boards. Improvements concerning the number of women in top positions have been made; these improvements have pushed corporations to fix the situation in each Member State.

Career advancement is very different between men and women; this difference highlights the lack of equality in firms' top positions. The survey made by the European Commission in 2009 highlighted that 45,4% of the total workers are women, but only 32,8% are firms' leaders. In Figure 1 it is possible to see the percentages of women and men as business leaders, together with the percentage of women in the total workforce. We will highlight the situation of the following countries, that are Czech Republic, Germany, Spain, France, Italy, Hungary, Poland, Slovakia and

United Kingdom, because they are the European countries which we will examine in the next chapter.

As you may see the countries which have more women as business leaders (above 30%) are: Germany, Spain, France, Italy, Poland and United Kingdom; while countries which have less than 30% of business leaders are Czech Republic and Hungary (both entered inside the European Union in 2004). The problem stays in the fact that 9 years before the percentage of women who were business leaders was 30,7%. So, the growth of only 2,1% in nine years is rather disappointing.

If we look at statistics of 2010 of the top-listed companies in Europe (Figure 2), it is possible to see that discrimination reaches high levels: in a board of ten people, only one is a woman and in 97% of cases the board is chaired by a man. In the largest publicly listed companies in European Union the presence of women is below 12% of total board members and they account for just 3% of board chairs.

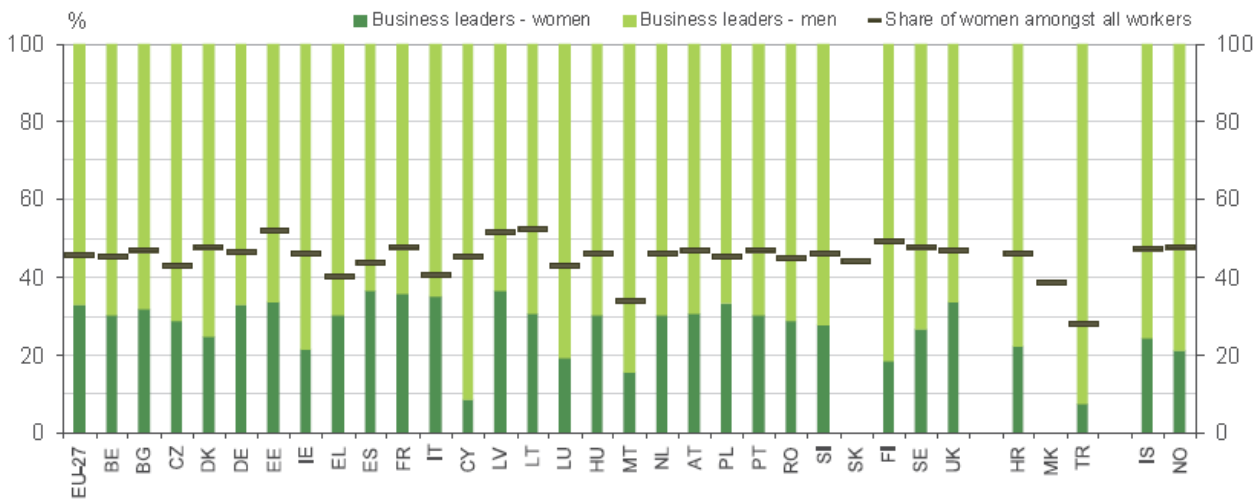

Figure 1: women and men among business leaders (2009)

Source: *Eurostat, Labour Force Survey*

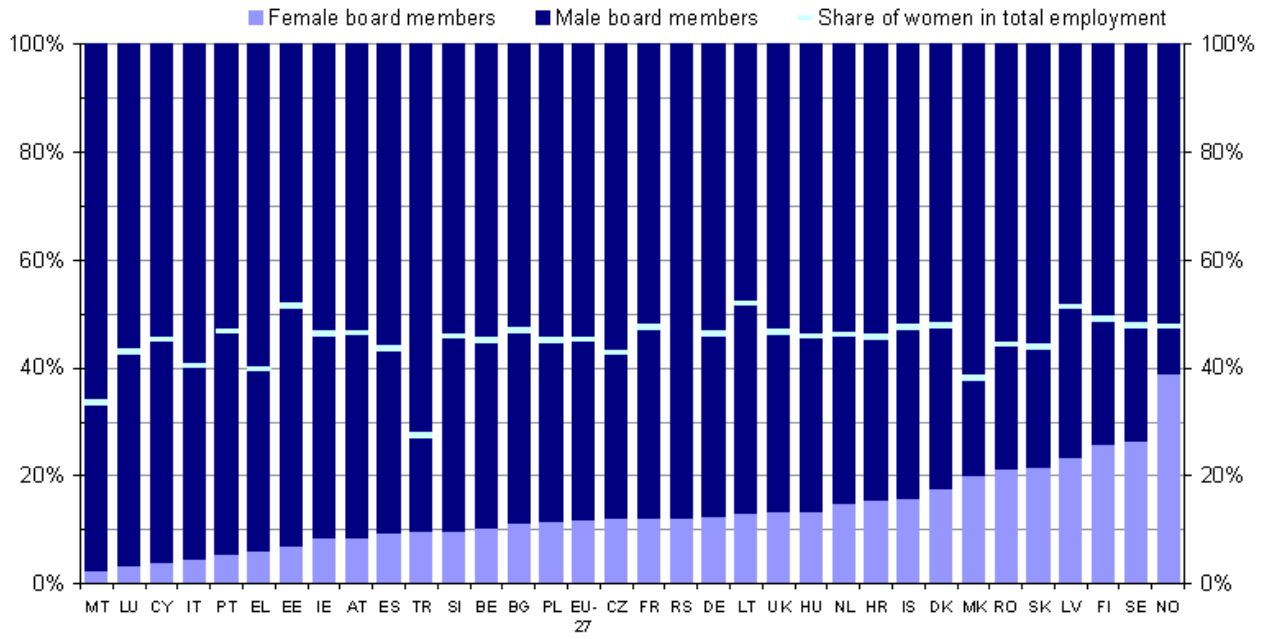

Figure 2: women and men on the boards of the largest listed companies

Source: European Commission. Database on women and men in decision-making

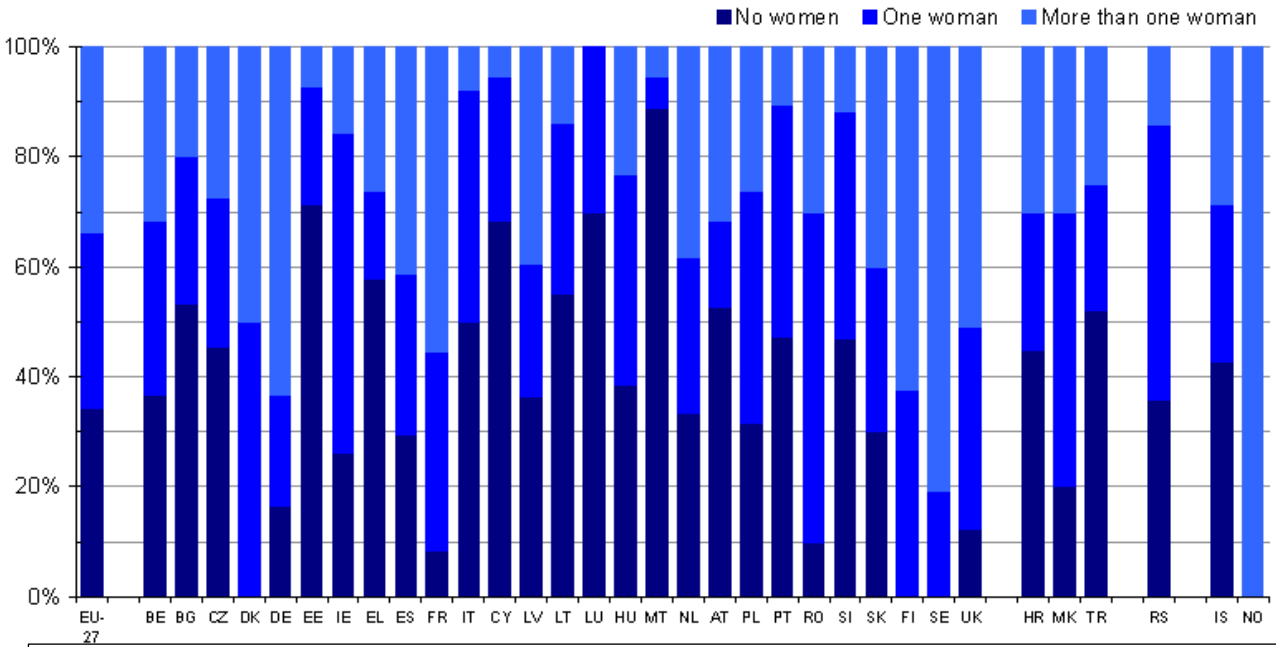

Figure 3: percentage of largest companies in each country by number of women on highest decision-making bodies (2010)

Source: European Commission. Database on women and men in decision-making

Moreover, we analyse briefly the nine countries listed above: the percentage of women who are on boards of the largest listed companies in Spain are less than 10%, while the countries who have a percentage lower than 15% are Poland, Czech Republic, France, Germany, United Kingdom and Hungary, while Slovakia is one of the countries who has one of the highest shares, in fact it overpasses 20%. Italy has one of the worst rankings because its share is lower than 5%.

We must underline that many firms now promote equality and they claim as one of their main principles the non-discrimination between men and women when considering career advancement. However, this kind of companies are still the minority: in 2010, 34% of firms did not have any women inside their board. Moreover, only 32% had only one woman as representative and there was a percentage lower than 3% of CEOs in the largest companies. Looking at Figure 3, we may see that countries which have more companies with no women inside the board are Czech Republic and Italy with more than 40%, Poland and Hungary with less than 40%, Spain and Slovakia with less than 30%, Germany and United Kingdom with less than 20% and France with less 10%.

2.2 EUROPEAN SITUATION IN 2012

We have seen before some data about 2009 and 2010, but we want to watch how shares have continued developing in 2012. Obviously, in 2012 the imbalance between men and women inside corporate boards is still present. Some progresses have been made thanks to the introduction of gender quotas or other polices with the aim of promoting the advancement of women inside corporate boards.

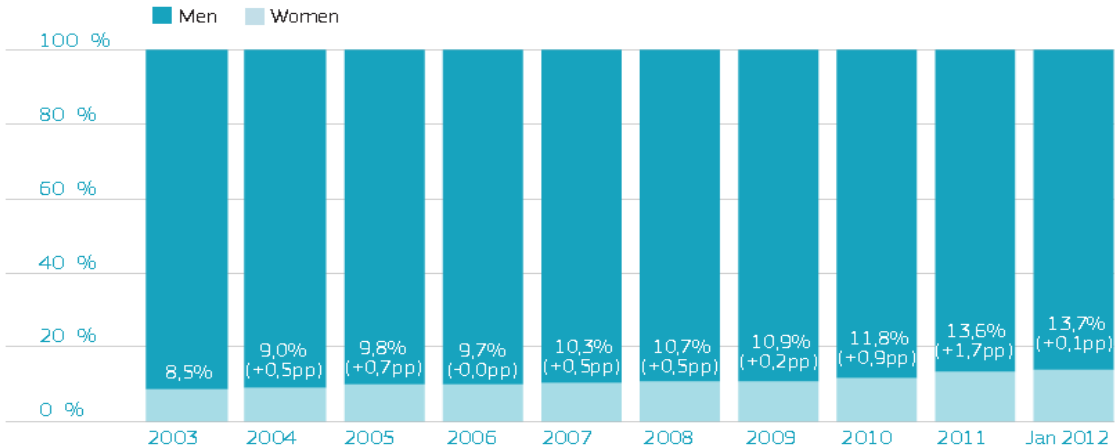

Figure 4: Women and men on corporate boards in the European Union, 2003 – 2012

Source: European Commission, Database on women and men in decision-making

In 2012 the percentage of women who participate in the labour market in European Union are around 45%. However, it is important to highlight that 56% of people who has a tertiary education are women. This means that there is a major presence of women who has a better education. Consequently, women enter the labour market with a higher education. Despite this, women do not have a consistent representation in senior positions. So, women face more obstacles and their education and capabilities are not exploited in their full potential; this represents a waste of human capital and potential for the entire economy.

We see the evolution of women and men inside corporate boards across European Union from 2003 to 2012 (Figure 4). We notice that the main evolution has taken place between 2010 and 2011 with 1,7 percentage points. However, generally, the growth has been very slow (and still it is), with the consequence that the path to gender equality is still long.

Moreover, we notice in Figure 5 how shares of women on corporate boards evolved from October 2010 (data showed previously) to January 2012 for the nine countries we have focused on before. The worst performances belong to Hungary, Slovakia and Poland who had a negative changing in percentages. While the countries who had positive changings are Italy and Spain (less than 2 pp), United Kingdom, Germany and Czech Republic (less than 4pp) and France with an increase of almost 10pp. France, in January 2011, introduced gender quota, this is the reason why it had the major increase. Moreover, the percentage of women in boards of French companies has increased from 12,3% in October 2010, to 22,3% in January 2012. France contributed to increase the 40% of the whole change of European Union.

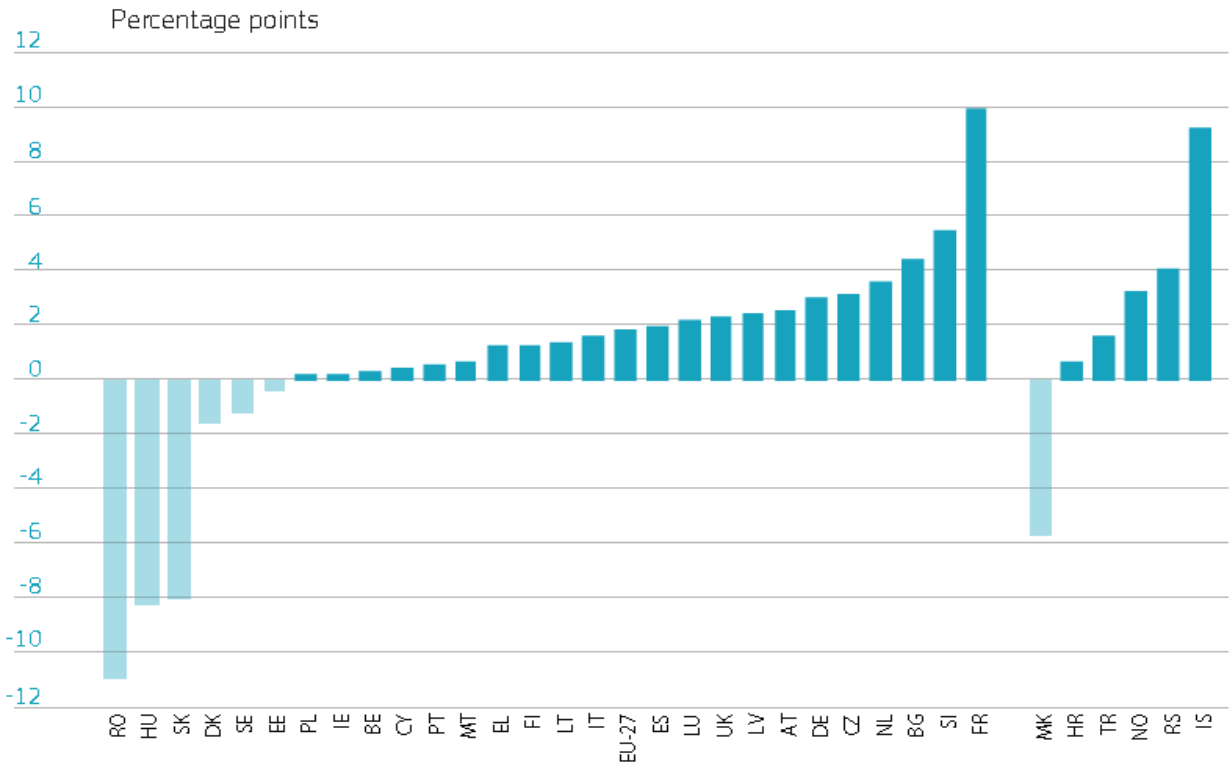

Figure 5: Change in the share of women on corporate boards, October 2010 – January 2012

Source: European Commission, Database on women and men in decision-making

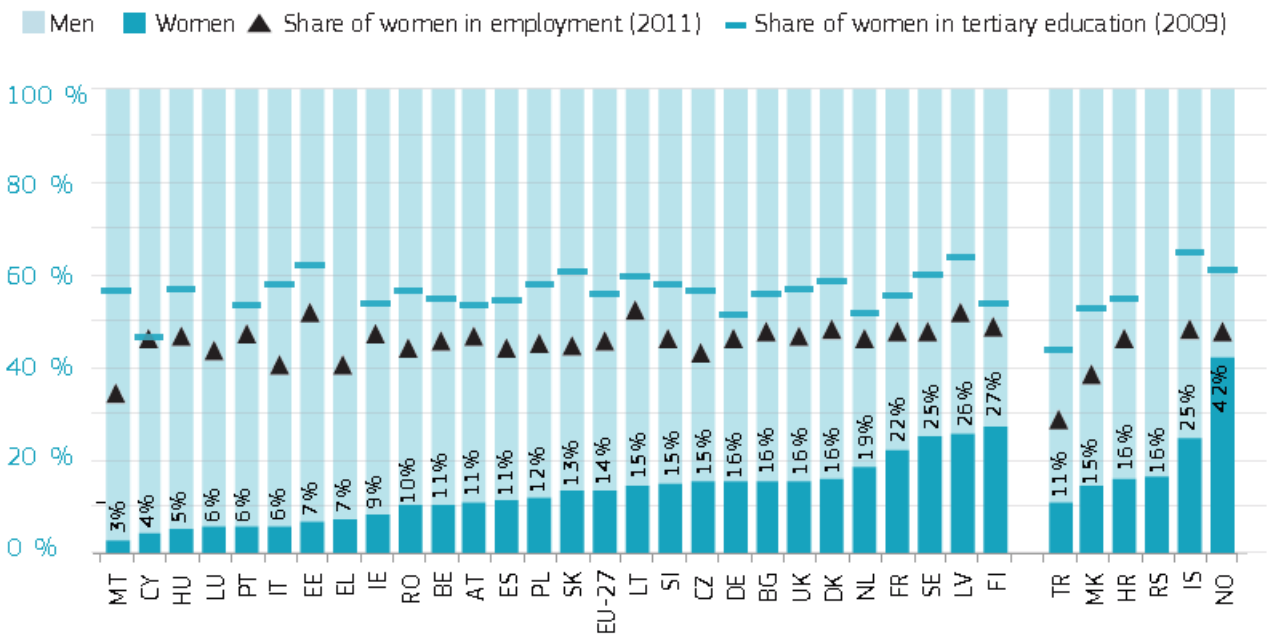

Figure 6: Women and men on the boards of the largest listed companies, January 2012

Source: European Commission, Database on Women and men in decision-making and Eurostat, Labour Force Survey

Data of 2012 highlight also in Figure 6 the situation of gender unbalance in the largest listed companies: Hungary and Italy have less than 10% of largest listed companies with women inside Boards; Spain, Poland, Slovakia, Czech Republic, Germany and United Kingdom have less than 20% and France has a percentage equal to 22%.

The share of women in corporate boards has augmented of 1,9 percentage points from 2010 to 2012; this means that there is a constant growth of 1,5 pp, which is above the long-term growth of 0,6 pp per year. Even if there has been an improvement in the situation, still six out of every seven people of corporate boards are men (86,3%). Furthermore, the performance varied a lot among countries. In fact, if we consider the share of women in corporate boards' increase, but without taking into account France, figures change a lot: the augmentation from October 2010 to January 2012 would be respectively from 11,8% to 12,9%; so, the increase would not be of 1,9 percentage points, but of 1,1 pp. Although growth would be always above the long-term one, it is not as substantial as the augmentation considering France.

We consider now figures of January 2012 to analyse the number of companies who have at least one woman inside their board (Figure 7) for the nine countries we are examining across the dissertation. Hungary situation got worse and there are 64% of firms who do not have any women in their corporate boards, while there are only 36% of companies who have only one woman inside their board. Slovakia has 50% of companies without any women inside the board, 30% of companies with only a woman in the board and 20% with more than one woman inside the board. In Czech Republic, 45% of companies do not have women in the board, 19% has only one woman in the board and 36% of companies have more than one woman in their boards. Italy has 42% of companies with no women in their boards, 44% of companies with only one woman in their boards and just 14% of companies with more than one woman in the board. In Poland, there is 26% of companies which have no women inside the boards, 54% of companies which have one woman in the board and around 20% of companies which have more than one company inside the board. Situation is better for the following countries, because they are even above the European Union average: United Kingdom with 14% of companies without any women inside corporate boards, 26% of companies with only one woman and 60% of companies with more than one woman; Germany has 10% of companies with no women in the corporate boards, 20% of companies with only one woman in the board and 70% of companies with more than one woman;

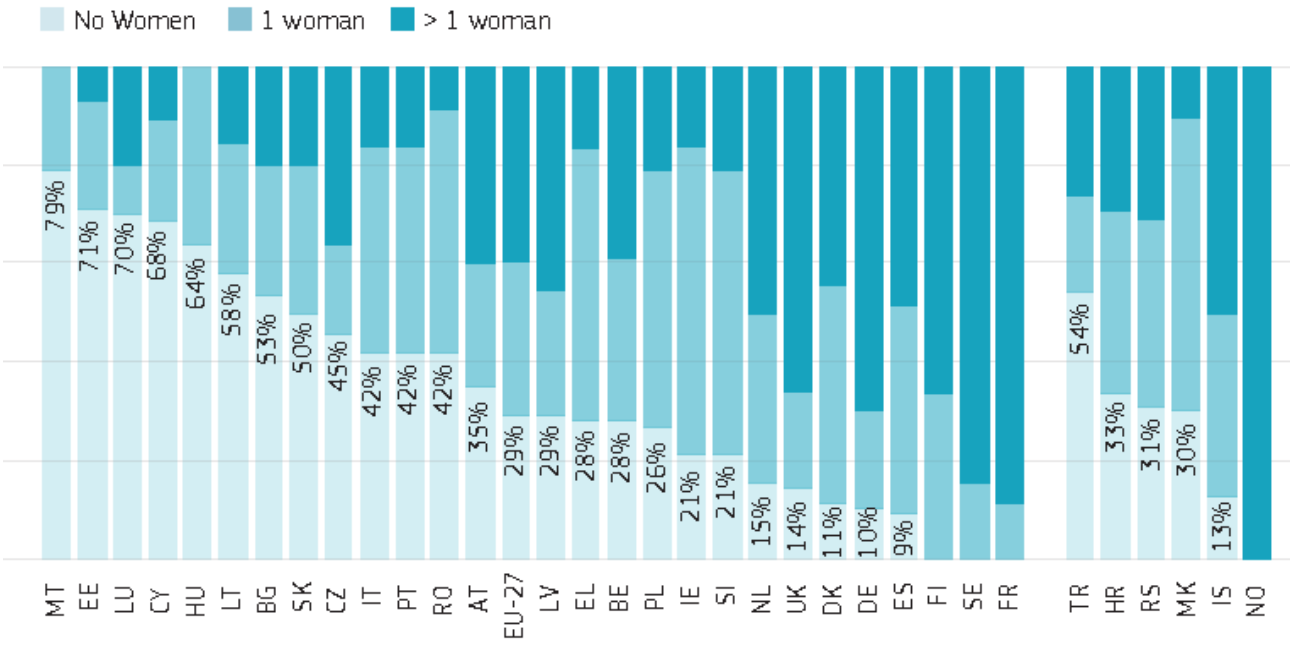

Figure 7: Distribution of companies by number of women on the board, January 2012

Source: European Commission, Database on women and men in decision-making

Spain has 9% of companies with no women, 43% of companies with one woman and around 48% of firms with more than one woman in the board. The "best performer" is France with no companies without women in the corporate boards in 2012 and 10% of companies with only one woman in corporate boards and 90% of companies with more than woman in corporate boards. Even if the presence of women on average increased, the presence of women as chairs has decreased from 2010 to 2012. as we may see in Table 1, compared to 2003 the number of women as chairs has duplicated; however, compared to 2012 the already low share has decreased of 0,2 percentage points. So, it seems like there is no sign of progress in eliminating barriers for women to get to top positions. We now keep watching how the situation has developed, by considering data of 2015.

%	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Men	98,4	97,4	96,9	96,3	97,1	97,2	97,0	96,6	97,3	96,8
Women	1,6	2,6	3,1	3,7	2,9	2,8	3,0	3,4	2,7	3,2

Table 1: Men and women presidents/chairpersons of large companies, European Union 27, 2003 – 2012

Source: European Commission, Database on women and men in decision-making

2.3 EUROPEAN SITUATION IN 2015

Although 60% of university graduates are women, they are still underrepresented in top positions of corporate sectors. In European Union, on average, the share of women in decision-making positions in the largest listed companies is of 21,2%; there has been a significant increase since October 2010, when the percentage was equal to 11,9%, however, this figures do not represent the number of women with tertiary education. This means that there is a loss of human capital, which may influence positively the whole economic system.

We now see for each country the share of women on boards of the largest listed companies in April 2015 (Figure 8).

In April 2015, the average of the women who were on corporate boards in European Union is 21,2%. In France, the share of women in corporate boards was 32,8%, in United Kingdom 25,9%, in Italy 25,8%, in Germany 25,4%, in Poland 17,6%, in Spain 16,8%, in Slovakia 13,6%, in Czech Republic 11,6% and the worst situation is in Hungary with a percentage of 11,1% of women.

As we said at the beginning of the chapter, European Commission started developing Strategies for Equality and putting the issue as a priority for European Union in 2010. In 2011, there were not significant changes, so, European Commission started putting pressure on companies in the Member States to make progress visible. In November 2012, the European Commission put

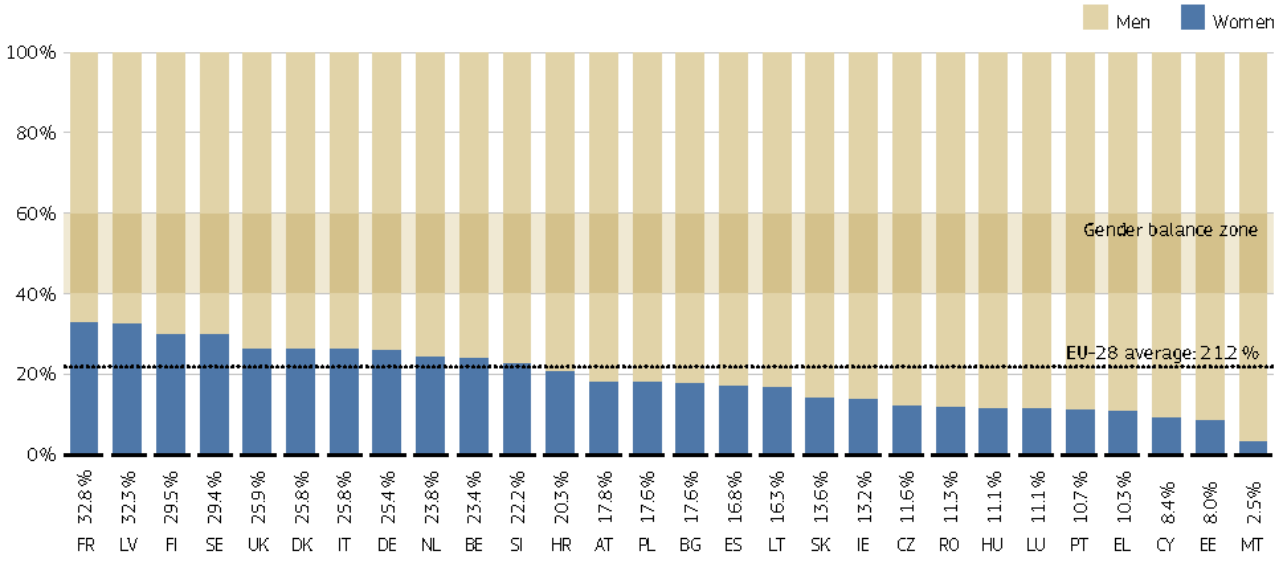

Figure 8: Representation of women and men on the boards of large listed companies in the European Union, April 2015

Source: European Commission. Database on women and men in decision-making

forward a law to promote gender balance on supervisory boards. From 2003 to 2010 the rate of growth of women inside corporate boards rose from 8,5% to 11,9%, with an average growth of 0,5 percentage points per year, while from October 2010 to April 2015 the rate has grown of 9,3 percentage point, which means an average growth of 2 pp per year; the average growth since the introduction of the law promoted by European Commission has quadruplicated (Figure 9).

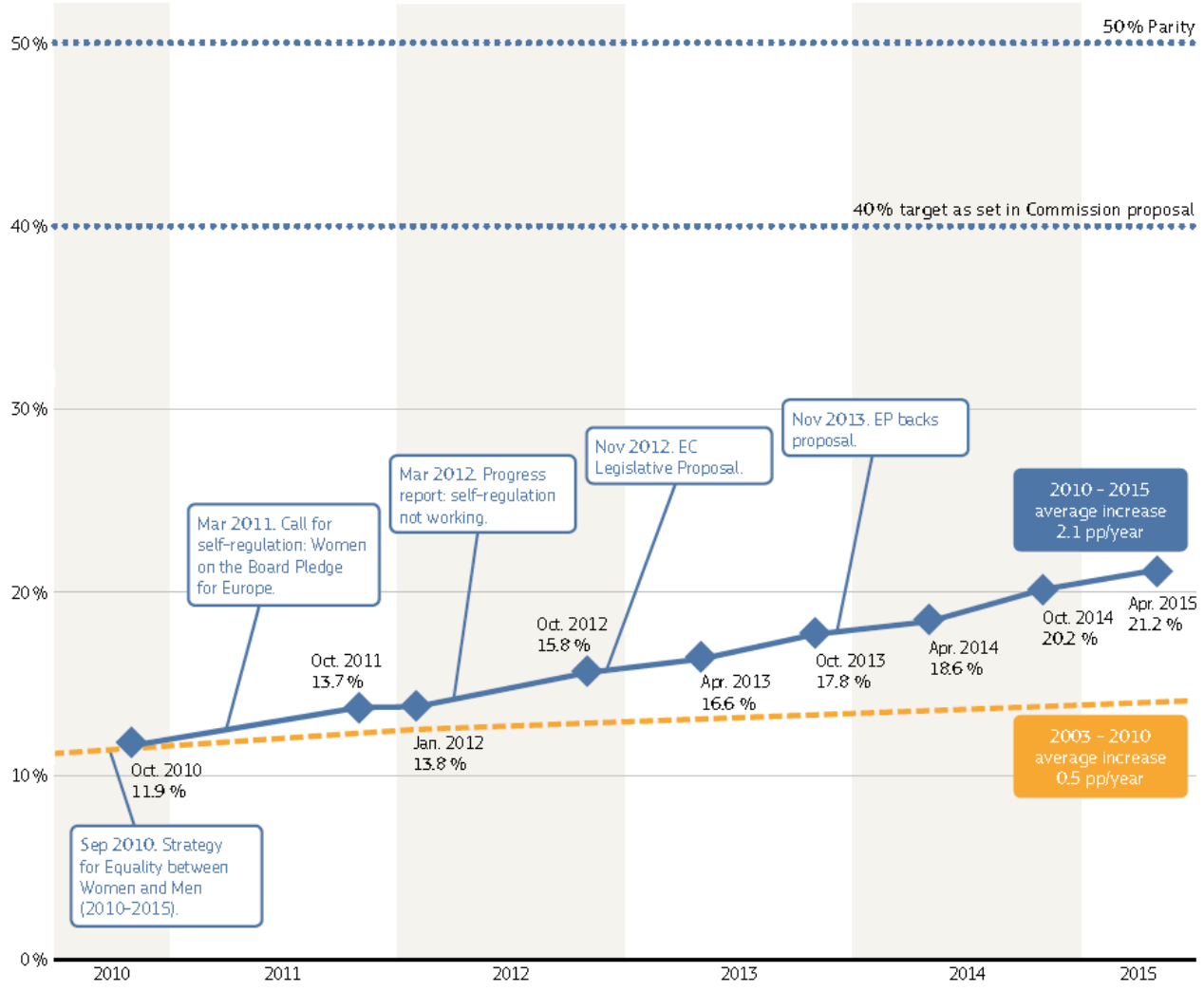

Figure 9: Representation of women and men on the boards of largest listed companies in the European Union, October 2010 – April 2015

Source: European Commission, Database on women and men in decision-making

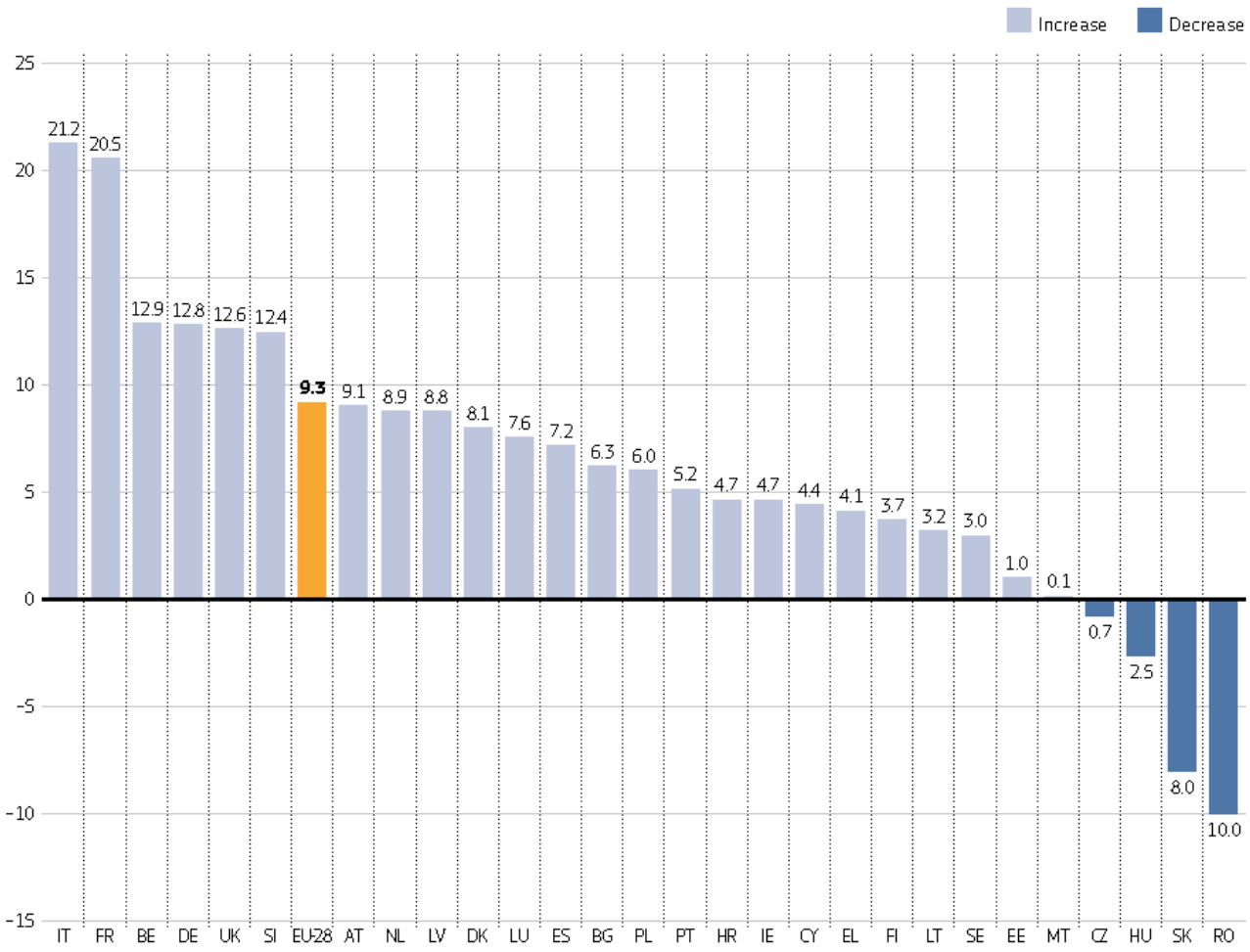

Figure 10: Change in the share of women on boards, European Union – 28, October 2010 – April 2015 in percentage points

Source: European Commission, Database on women and men in decision-making

The growth of rates from October 2010 to April 2015 for each Member State has been strongly positive for most of the countries who introduced policies to promote equality between men and women inside boards (Figure 10). Italy managed to increase the share of women of 21,2%, France of 20,5%, Germany 12,8%, United Kingdom 12,6%, Spain 7,6%, Poland 6%; Czech Republic, Hungary and Slovakia are the three over countries which had a decrease in the period considered.

Although there is an enhancement in the percentage of women on corporate boards, this is not true for executive positions. Women in board chairs are around one on fourteen; the number has doubled from October 2011 to April 2015, respectively from 2,8% to 7,1%. However, this growth is not reflected in executive positions: only 3,6% of largest listed companies in European Union have a woman who is Chief Executive Officer, and the rise since October 2011 has been only of 0,3% (Figure 11).

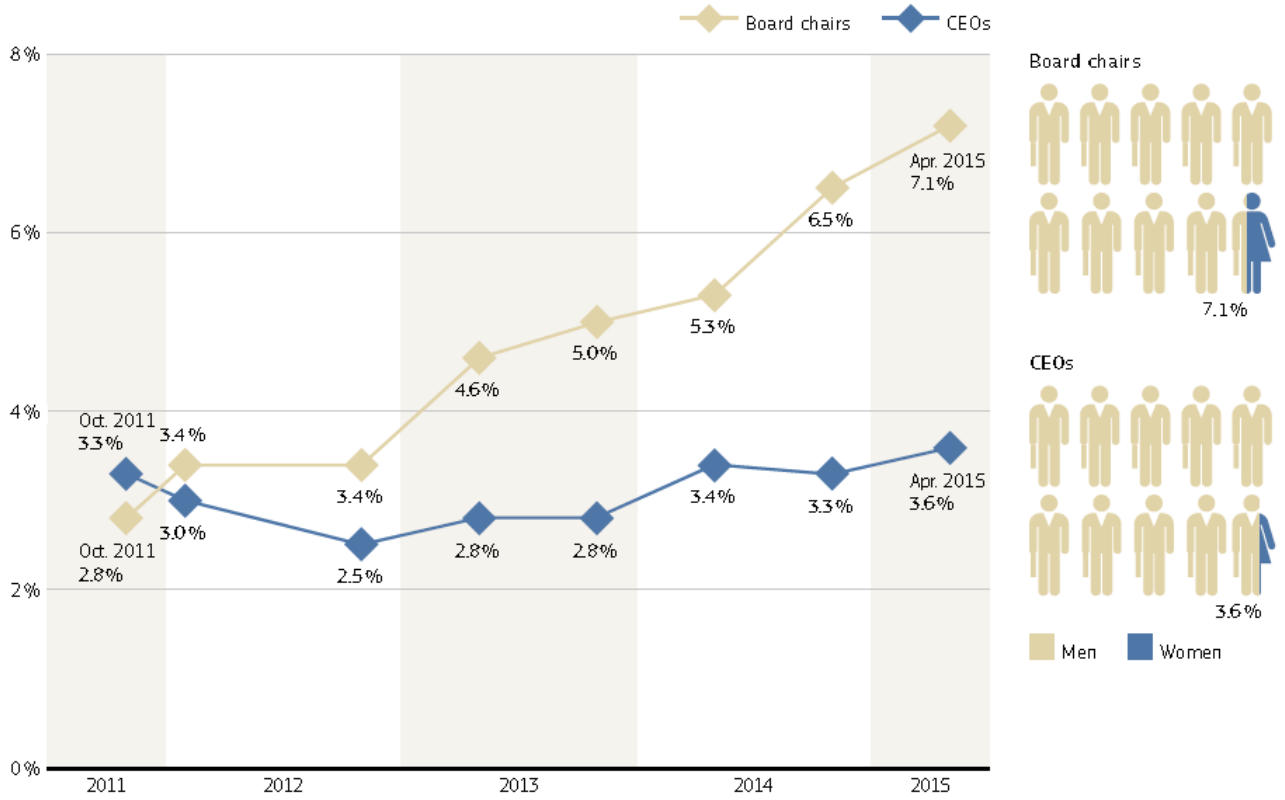

Figure 11: Change in the share of women CEOs and board chairs, European Union – 28, October 2011 – April 2015

Source: European Commission, Database on women and men in decision making

Each member state has its own regulation and it is working in different ways to develop strategies, in order to increase the share of women in decision-making positions (Table 2).

Member State	Share of women in corporate boards	Quotas in place	Other national measures in place
Czech Republic	11,6%	No	No
France	32,8%	Yes: from 2011 -40% by 2017. Applicable to non-executive directors in large listed and non-listed companies	The AFEP-MEDEF[23] Corporate Code: recommendation containing same quotas as in the Law of 2011, applicable to all board members

[23] The AFEP-MEDEF Code is the corporate governance code of reference for publicly traded companies. It defines principles of corporate governance by outlining rules on remuneration for corporate officers, controls and transparency. (*Source: www.societegenerale.com*)

Germany	25,4%	Yes: from 2016 -30% for supervisory boards of the listed companies that are submitted to parity co-determination	Other companies that are either listed or fall under parity co-determination have to set individual quantitative objectives of women on boards with regard to non-executive and executive board members and senior managers below board level and deadlines to achieve them
Hungary	11,1%	No	Soft positive action measures in public sector
Italy	25,8	Yes: 33% by 2015 for listed companies and state-owned companies. Applicable to management boards and supervisory boards (i.e. executives and non-executives)	Yes
Poland	17,6%	No	The executive ordinance of Minister of Stat Treasury obliges state-owned companies to choose adequately prepared members of supervisory boards, taking into account the balanced participation of women and men. The Code of good practices attached to that ordinance establishes a target of 30% for 2015 and a priority rule for equality qualified women. No sanctions are envisaged.
Slovakia	13,6%	No	No
Spain	16,8%	Yes: 40% (both executives and non-executives) by 2015 (but no sanctions, thus rather a recommendation by nature) in state-owned companies with 250 or more employees. New possible models under discussion.	Soft positive action measures in public sector.
United Kingdom	25,9%	No	Self-regulation from 2012 on these bases of principles of UK Corporate Governance Code (following the Lord Davies' recommendation). The recommendation target for listed companies in FTSE 100:

			25% by 2015 is applicable to all board members. FTSE 350 companies recommended setting their own aspirational targets to be achieved by 2013 and 2015.

Table 2: Statistics and National Measures in Place
Source: Europe Commission, Database on women and men in decision-making

From 2010 to 2015, progresses to promote women in top-positions have been made, however, there are much other things to do, in order to reach gender equality. European Commission has planned a "strategic engagement for gender equality" for the period from 2016 to 2019. In the agenda, gender equality in decision-making positions is one the goals.

European commission has fixed several objectives to promote gender equality in top positions. By the end of 2019 every Member State should have 40% of women inside corporate boards in non-executive positions; this will be done by continuing to support the adoption of the 2012 proposal to create a Direct in order to enhance balance between men and women in non-executives' positions of listed companies. Moreover, every company must increase the number of women in executive positions: European Commission will keep collecting data on men and women shares in executive positions, cooperating also with EIGE[24]. The Commission has decided to put an objective of 40% of women in senior and middle management in 2019.

Analysing the evolution of the percentages of women from 2010 to 2016, with a focus on Germany, France, Spain, Hungary, Italy, Poland, Slovakia, Czech Republic and United Kingdom, is important to understand some results of the analysis that will be shown in the next chapter. Moreover, it will be possible to make all the comparatives between all these countries and Italy. In this way, we would to understand whether there are differences between our country and the other countries, which will be considered as a representation of Europe.

[24] European Institute for Gender Equality. (*Source: eige.europa.eu*)

2.4 FOCUS ON ITALY

As we have seen previously, Italy had had very low shares of women in corporate boards until the government implemented Directive 2010/41/EU. However, before the implementation of the Directive, Italy promoted positive actions, dictated by the article 42 of the Code of Equal Opportunities. Several positive actions concerned female entrepreneurship. Moreover, the article promoted self-employment even by making easier the access to financing, by enhancing training and qualifications or by helping to get more attention from public for female-owned or managed businesses. Those measures could be effective, because most of the problems used to derive form the lack of funds and bureaucratic aspects which used to slow down the payments for new projects.

However, those measures did not promote enough gender equality, in order to inspire companies to have more women inside corporate boards.

The Directive 2010/42/EU has been implemented through the Article No. 120 of July 2011 (*Golfo Mosca* law) which introduced a gender quota system to appoint managing directors and auditors of listed companies and state companies. Regulation affirms that each gender must be represented at least for a share of one third; furthermore, this must be enforced for three offices for directors and auditors. In case the rule is not respected, the National Securities and Exchange Commission, after two warnings, has the power dissolute the Corporate Board. Moreover, according to the Decree No. 251/2012, state subsidiary companies not listed on the stock market cannot infringe the previous regulation.

After only two years after the implementation of the Directive, in Italy there has been a duplication of the percentage of women inside Boards of listed companies and state-owned companies. In 2011, when the rule was signed by Lella Golfo and Alessia Mosca (both members in 2011 of the Chamber of Deputies), women in corporate boards were 7,4%. When the law became operative on 12th August 2012, women were already 17,1%. In 2015, with the second office, the compulsory gender quota will be of 30%; this compulsory mechanism will last nine years, hoping that this will not be needed anymore. These measures have been introduced because usually, in this way, new forms of conciliation between family and work are consequently promoted.

A last research shows that, in 2015, Italy ranked fourth based on percentage of women in Corporate Boards. Moreover, it has been seen that firms with a major presence of women in decision-making positions keep creating higher revenues. In 2015, the share of women in

corporate boards in Italy was equal to 30,8%; so, compared to 2010, the share is six time higher. However, as far as senior management is concerned, there is still a long path to do to achieve gender equality.

3. ANALYSIS

3.1 RESEARCH METODOLOGY

The sample that will be analysed was extracted from ORBIS database (a database which contains items of balance sheet and profit and loss account, together with further corporate information, about global firms, edited by Bureau van Dijk) for nine countries and for each of the nine countries, we extracted 4000 firms. After the extraction, we "cleaned" data, in order to eliminate NAs (not available data) and have all data exploitable from 2006 and 2015. Information we needed for each firm was: Operating Revenue, Cost of Employees, Loans, Long Term Debt, Cash and Cash Equivalents, Fixed Assets, Working Capital, Depreciation and Amortization, Creditors, Material Costs, Operating Profit/Loss, Current Assets, Current Liabilities, Intangible Fixed Assets, Tangible Fixed Assets, Interest Paid, Shareholders' Funds, Taxation, Added Value, Stock and Debtors. With these data, we are able to construct 25 indices that allow us to understand whether companies are well-performing, robust and "healthy" or not, and consequently, whether they do deserve credit or not. The data that resulted after cancelling out unavailable data were the following: 1646 firms for Czech Republic, 1399 for Germany, 3483 for Spain, 828 for France, 70 for Hungary, 6145 for Italy, 13 for Poland, 1579 for Slovakia and 56 for United Kingdom. The sample is also subdivided in two categories: firms with higher share of women in the Board and firms with a higher rate of men in the board and involves firms with balance sheets available from 2006 and 2015. So, we considered a panel of 10-years balance sheet, to analyse performance both at operating and financial level. In addition, to determine a long-term merit of credit, we applied the same dataset to calculate the spread between P(ROI) and T(ROI) (Mantovani and Castellan, 2015) through 25 indices typically used to describe the risk profile of a corporation for all the balance sheets.

Moreover, to investigate governance characteristics for each company, we computed seven indices and each of them tells us different information over the type of governance of the firm. The database by Bureau van Dijk gives au basics for the computation of the indices, which are:

1. *Ownership Concentration* transforms the BvD Independence Index into a figure where the lower is the numeric variable, the less the ownership concentration is. A lower value means a better governance;
2. *Presence of a Manager in the Ownership Structure* is a variable built as a dummy, where the value is equal to 1, if there is a manager in the ownership structure;

3. *Team Size* is the number of individuals involved with the management of the firms and it constructed considering the size of the firm; the higher the adjusted team size, the better is the governance practice;
4. *One Manager* is a variable constructed as a dummy, where the value is equal to 1, if the company is managed by only one person. For a good governance, we assume that firms are managed by a team and not by a single individual;
5. *CEO duality* is a variable built as a dummy, where the value equals 1 if the CEO is also the Chairman of the Board. In our opinion, to have a good governance, CEO and Chairman of the Board of Directors should be performed by two different individuals;
6. *Board of Director Independence* is constructed as a dummy where the value is equal to 1, if there are two or more managers in the Board of Directors. We think that it would be better for managers not to be in the Board of Directors;
7. *Board of Director Size* tells how many people are present in the Board of Director Size and it is adjusted by the firm size. We assume that the higher the adjusted Board of Directors, the more effective the governance is.

It must be highlighted that these seven governance indices are all punctual data, while for the financial statements, time series are concerned. This happens because corporate cycles have a length in time, which makes governance characteristics more stable over time.

To investigate the first research question, we compare corporate governance according to the higher percentage of women or men in the leading positions. We compute a t-test of difference analysis to evaluate whether there are significant differences among the nine countries.

To investigate the second research question, we compare Return on Investment according to the higher rate of women or men in the leading positions. first, we compute a t-test of difference analysis to evaluate whether there are significant differences among the nine countries. Second, we regress firms' ROI with corporate governance and ownership indices to analyse whether there exists a positive relation between these variables for firms with major female or male presence.

Lastly, to compute third and fourth research questions, we compute a regression in which the independent variables are respectively the E(ROI) and the difference between ROI and E(ROI), and the dependent variables are the indices of governance and ownership. We lead this analysis to observe whether there are differences between influence of governance on E(ROI) and the difference between ROI and E(ROI), for firms which have a higher share of women or men. In

addition, we classify firms by comparing their performance at operating level and observing financial capability to acquire debt.

The analysis was based on the median level of some proxies, which are: corporate ROI as a measure of corporate performance, that is also considered as their expected long term return rate (*ROI*$_i$, where *i*, in this case, represents the single firm) and standard deviation $\sigma_{ROI,i}$, given a market driven z-number, according to the equation [1]

$$ROI_t = \frac{EBIT_t}{(FIAS_t + WKCA_t + FIAS_{t-1} + WKCA_{t-1})/2} \quad [1]$$

Intensity of debt represents the financial performance, as in equation [2]

$$\text{Intensity of debt} = DEB/OPRE_t = \frac{[(NFP_t^* + NFP_{t-1}^*) / 2]}{OPRE_t} \quad [2]$$

Where,

EBIT = Earnings before interests and taxes

FIAS = Fixed Assets

WKCA = Working Capital

NFP = Net Financial Position = total – cash and cash equivalents

OPRE = Operating Revenue

The long-term merit of credit performance is computed through the Integrated Rating Model methodology (Mantovani and Castellan, 2015). As highlighted previously, the methodology is measured by the difference between ROI and E(ROI), where E(ROI) is the threshold of the risk-adjusted expected return as defined moving from Lintner (1965).

Beginning from a panel data, the relations among ROI and risk indexes can be used to estimate the sample's expected ROI [3] and, integrating formulas with the covariance matrix of risk indexes, the standard deviation of ROI [4]

$$E(ROI_i) = \beta_0 + \beta_j * X_j + \epsilon_t \quad [3]$$

where, β_0 is the constant component, X_j is the matrix of j risk independent variables, β_j is the vector of single risk relations for j independent variables, and ϵ_t a random component. And

$$\sigma_{ROI_i} = \beta_j * S_j * \beta_j^T + \delta\epsilon_t, \quad [4]$$

where, S_j is the $j*j$ variance and covariance matrix of the risk independent variables and β_j^T the transposed vector of risk relations.

Using equations [3] and [4], it is possible to estimate the confident equivalent of the panel aggregate:

$$CE_i = E(ROI_i) - \mathrm{z} * \mathrm{c} * \sigma_{ROI_i} \quad [5]$$

and contemporary, to find the return-risk relations for a sample of firms. In fact, by integrating equations [3] and [5], we find:

$$E(ROI_i) = CE_i - \mathrm{z} * \mathrm{c} * \sigma_{ROI_i} = \beta_0 + \beta_j * X_j + \epsilon_t \quad [6]$$

This last equation indicates that the firm's future volatility is related to the composition of the 25 risk indexes. So, we may say that when firms present an $E(ROI_i) > ROI_i$ means that the firm over-performed its risk-based $E(ROI_i)$, that is a firm positive composition of return-risk mix.

3.2 RESULTS

First of all, we compare governance indexes for firms with a higher share of women, with firms with a higher share of men for every single country. Governance characteristics are influenced by gender of the person who is in the leading positions in the firm. In Spain and Slovakia, every governance characteristic is very influenced. Instead, for a few countries, not each characteristic is influenced with the same intensity. Variables which are not influenced by gender are: “Board Independence” and “Team Size”, for Czech Republic, “Ownership Concentration” and “Team Size”, for Germany, “Ownership Concentration” and “Team Size” for Italy. In France, “Ownership Concentration” and “Team Size” have lower level of significance; this means that gender influences in these characteristics, but not as much as with the other variables. In United Kingdom, “CEO Duality” is extremely significant and “Presence of Managers among Shareholders” is significant, but with a lower intensity, compared to the previous one; these are the only significant variables for UK.

For Hungary and Poland there are no significant characteristics. We underline that for United Kingdom and Poland the number of available data is quite low, so we do not confirm that for these two countries not a characteristic is influenced by gender for real. Among all the listed characteristics, “CEO Duality” is the most influenced by gender, while “Ownership Concentration” and “Team Size” are the least influenced.

At the first Research Question, we answer positively, because results confirm that governance characteristics are influenced whether in management positions there are women or men, however, results are not homogeneous in all countries. In Czech Republic (Table 3) all results are significant, but “Board Independence”. So, on average, governance and ownership are different according to gender. In this case, looking at “Ownership Concentration”, “Only One Manager”, “CEO Duality”, “Board Independence” and “Board Size”, firms with a higher share of women in leading roles have better ownership and governance performance than men. Instead, for “Team Size” and “Presence of a Manager in the Board”, firms with a higher percentage of men in leading roles have better governance performance.

Table 3: Czech Republic's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability (test on difference)
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,08288288	0,0761505187	0,09349221	0,084829169	0,4694
CEO Duality	0,08288288	0,1274140567	0,22273144	0,17328097	8,895e-16 ***
Ownership Concentration	1,70902702	3,7588661996	2,2008249	3,680210878	0,0007269 ***
Presence of Managers among Shareholders	0,2360360	0,1806485185	0,3143905	0,215746852	0,0006345 ***
Only one manager	0,1459459	0,1248707191	0,2016499	0,16113489	0,003976 ***
Team Size	2,84504504	0,6799167398	2,94042163	0,65241046	0,8997
Board of Director Size	0,14745394	0,072685921067	0,08669439	0,034099981	2,173e-06 ***
* significance at 10% ** significance at 5% ***significance at 1%					

Table 4: Germany's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,1704374	0,141602074	0,00000000	0	< 2,2e-16 ***
CEO Duality	0,2594268	0,192414776	0,00000000	0	< 2,2e-16 ***
Ownership Concentration	3,146169	1,867539379	3,042187	2,0651564	0,1658
Presence of Managers among Shareholders	0,01960784	0,01925241396	0,00000000	0	0,0002954 ***
Only one manager	0,01357466	0,013410616	0,00000000	0	0,00264 ***
Team Size	3,574661	0,3747043786	3,536685	0,4313054569	0,2632
Board of Director Size	0,089795212	0,060014579	0,10788477	0,1729764	0,003231 ***
* significance at 10% ** significance at 5% ***significance at 1%					

In Spain, governance and ownership characteristics are different per gender; firms conducted by women have better performance in “Ownership Concentration”, “Presence of Managers” and “Board of Director Size”, firms conducted by men have better performance in all the other indexes (Table 5).

In Germany, five over seven indexes are significant and all the indexes, apart from “Team Size”, firms with a higher percentage of men in leading positions have better results, as shown in Table 4.

Governance and ownership characteristics in France are different whether firms are led by men or women: Ownership Concentration”, “Presence of Managers among Shareholders” and “Board of Director Size” are better for firms carried on by women, while the others are better for firms carried on by men (Table 6).

Table 5: Spain’s governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,09173205	0,08336758	0,0000000	0	< 2,2e-16 ***
CEO Duality	0,4821967	0,2498338	0,0000000	0	< 2,2e-16 ***
Ownership Concentration	2,770742305	2,748576079	3,0827765607	2,311055135801	0,00891 ***
Presence of Managers among Shareholders	0,9390465	0,05727276	0,0000000	0	< 2,2e-16 ***
Only one manager	0,1140616	0,1011125	0,0000000	0	< 2,2e-16 ***
Team Size	2,919734	0,5811139391	3,125411	0,491112844903	< 2,2e-16 ***
Board of Director Size	0,1503510	0,078645704	0,1040583	0,04667258413	6,512e-08 ***
* significance at 10% ** significance at 5% ***significance at 1%					

Table 6: France's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,08937198	0,0815816869612	0,00000000	0	5,152e-10 ***
CEO Duality	0,2584541	0,19211963832	0,0000000	0	< 2,2e-16 ***
Ownership Concentration	3,352271	1,62834931162	3,512729	1,26170851259	0,05515 *
Presence of Managers among Shareholders	0,07246377	0,06737551321	0,00000000	0	2,541e-08 ***
Only one manager	0,03864734	0,0372436864	0,00000000	0	5,527e-05 ***
Team Size	3,350242	0,533208173959	3,577295	0,38989484273	1,815e-06 ***
Board of Director Size	0,10239055	0,034949002636	0,07790589	0,0442754794185	0,07711 *
* significance at 10% ** significance at 5% ***significance at 1%					

Hungary and Poland do not show differences in governance between genders in leading positions (Table 7 and 9).

Table 7: Hungary's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,2903226	0,212903225806	0,2307692	0,182186234817	0,5813
CEO Duality	0,3548387	0,23655913978	0,3333333	0,228070175438	0,8536
Ownership Concentration	0,5696774	1,89642989247	0,6492308	1,84670728744	0,81
Presence of Managers among Shareholders	0,6774194	0,2258064516	0,6410256	0,23616734143	0,7537
Only one manager	0,4516129	0,25591397849	0,4102564	0,248313090418	0,7335
Team Size	3,129032	0,44946236559	3,128205	0,430499325236	0,9959
Board of Director Size	0,08529327	0,0171429050069	0,0825954 1	0,014094555317	0,9292
* significance at 10% ** significance at 5% ***significance at 1%					

Table 8: Italy's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,04120603	0,0395213332075	0,0000000	0,0000000	< 2,2e-16 ***
CEO Duality	0,4110553	0,242169965107	0,0000000	0,0000000	< 2,2e-16 ***
Ownership Concentration	3,204087102177	1,80886901385	3,1948987341	1,8150175902	0,9989
Presence of Managers among Shareholders	0,1279732	0,111633457726	0,0000000	0,0000000	< 2,2e-16 ***
Only one manager	0,08341709	0,07648429816	0,0000000	0,0000000	< 2,2e-16 ***
Team Size	3,340034	0,505317023006	3,350633	0,52089228685	0,562
Board of Director Size	0,1299351	0,214468168016	0,1586728	0,395003128646	0,04058 **
* significance at 10% ** significance at 5% ***significance at 1%					

Table 9: Poland's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,000	0,000	0,125	0,125	0,3506
CEO Duality	0,60	0,3	0,25	0,2142857142857	0,271
Ownership Concentration	2,732	3,35912	2,415	3,26477142857	0,7676
Presence of Managers among Shareholders	0,000	0,000	0,000	0,000	1
Only one manager	0,000	0,000	0,000	0,000	1
Team Size	3,4	0,3	3,5	0,285714285714	0,7544
Board of Director Size	0,02450867	0,000715400986	0,01711744	0,0005275176514	0,6237
* significance at 10% ** significance at 5% ***significance at 1%					

Italy shows differences in governance and ownership in all dimensions, but "Ownership Concentration" and "Team Size". Furthermore, businesses led by businesses have only "Presence of Managers among Shareholders" as good performing index (Table 8). On average, businesses led by men have better governance and ownership indicators. Italy, in this case, is in line with the average of the other countries.

Governance and ownership characteristics in Slovakia are different between gender: women have better indicators for "Presence of Managers among Shareholders" and "Team Size"; while all the others are better for men (Table 10).

In United Kingdom, there are only two significant indexes: "CEO Duality", which is better performed by men and "Presence of a Manager in the Ownership Concentration, which is better performed by women (Table 11).

Table 10: Slovakia's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,02083333	0,02044663573	0,00000000	0,000000	0,002608 **
CEO Duality	0,05092593	0,04844461631	0,00000000	0,000000	2,1e-06 ***
Ownership Concentration	0,5562269	1,8573191409	0,8904534	2,61081044001	4,104e-05 ***
Presence of Managers among Shareholders	0,1597222	0,13452242846	0,0000000	0,000000	< 2,2e-16 ***
Only one manager	0,05324074	0,05052311592	0,00000000	0,000000	1,215e-06 ***
Team Size	2,673611	0,5637567672	2,524847	0,60911156047	0,0005446 ***
Board of Director Size	0,1789621569	0,3860939355	0,2123826092	0,55265197195	2,1e-05 ***
* significance at 10% ** significance at 5% ***significance at 1%					

Table 11: United Kingdom's governance and ownership indicators sample statistics (t-test of difference)

	Women in the Board		Men in the Board		Probability
	Mean	Variance	Mean	Variance	P(test.t)
Board Independence	0,03448276	0,034482758 62	0,00000000	0,0000	0,3259
CEO Duality	0,9310345	0,066502463	0,0000000	0,0000	< 2,2e-16 ***
Ownership Concentration	0,9710345	0,819331034	0,9940741	0,874363532 76	0,9258
Presence of Managers among Shareholders	0,1034483	0,096059113 30049	0,0000000	0,0000	0,08306 *
Only one manager	0,06896552	0,066502463 054	0,0000	0,0000	0,1609
Team Size	3,98989	0	3,8978	0,0000	
Board of Director Size	0,008144679	0,000098173 782224	0,007713813	0,874363532 7	0,8697
* significance at 10% ** significance at 5% ***significance at 1%					

To sum up, results are the same among countries, but Hungary, United Kingdom and Poland, where the response to Research Question number one is negative. However, United Kingdom and Poland do not have enough data to have consistent result.

To answer Research Question number 2, we observe whether there are differences on firms' performance according to gender through the conduction of a t-test on mean differences.

Table 12: T-test of difference in mean for ROI between male-led and female-led firms.

Return on Investments 2015			
	Women in the Board (mean)	Men in the Board (mean)	P (Value)
Czech Republic	0,04822460	0,09436441	0,5854
Germany	0,1560107	-0,2535532	0,3004
Spain	0,1107511	0,1179329	0,3894
France	0,2238505	-0,6891290	0,255
Hungary	0,1710859	0,2177479	0,8232
Italy	0,1162332	0,1123631	0,8663
Poland	0,1217316	0,1325226	0,8914
Slovakia	0,1494740	0,2220133	0,5997
United Kingdom	0,1429951	0,1542258	0,8941
* significance at 10% ** significance at 5% ***significance at 1%			

In Table 12, we observe that there is not difference in historical ROI between women-conducted and men-conducted companies.

In particular, for Italy, we observe that the t-test of difference in mean does not show significant differences between ROI in firms led by women or by men, so, results are equal to the other countries.

Furthermore, we want to understand whether governance has a different influence on punctual ROI of 2015 for women-led or men-led firms, by regressing these variables. Observing Table 13, it is possible to see that considering women-managed firms, significant variables are “Team Size” for Germany (10%), Spain (1%), France (1%) and Slovakia (1%); “Board of Directors Size” for France (5%) and United Kingdom (1%); “Only one Manager” for Czech Republic (10%) and Hungary (1%). Considering men-managed firms, there are no significant variables but two, which are “Team Size” for France (5%) and “Only one Manager” for Hungary (10%).

In Italy, there are no significant variables, meaning that in women-led enterprises the different governance characteristics do not impact on ROI (Table 13).

In men-led firms (Table 14), results are even worse, because there are no significant variables in all countries. Consequently, we are able to say that in European men-led firms’ governance characteristics do not impact on ROI performance and Italy is compliant with these results.

Table 13: Regression Statistics - Dependent Variable ROI.

Dependent Variable: ROI in women-led enterprises									
Independent Variables	**CZECH REPUBLIC**	**GERMANY**	**SPAIN**	**FRANCE**	**HUNGARY**	**ITALY**	**POLAND**	**SLOVAKIA**	**UNITED KINGDOM**
Const	-0,1120	0,4255 **	0,1551 ***	2,0052 ***	2,1895	0,1335	0,0464	1,0001 **	0,2736
	(0,7827)	(0,0105)	(1,502E-07)	(0,0018)	(0,3152)	(0,1838)	(n.a.)	(0,0355)	(0,6995)
Board Independence	-0,0213	-0,1009	0,0012	-0,1999	0,2741	0,0421	n.a.	-0,1155	0,0339
	(0,9546)	(0,2809)	(0,9369)	(0,5957)	(0,8307)	(0,6179)	(n.a.)	(0,9152)	(0,9091)
CEO Duality	0,0441	0,0951	-0,0043	-0,0532	-1,2709	0,0028	0,0531	-0,0694	-0,2345
	(0,8769)	(0,2611)	(0,6625)	(0,8315)	(0,3189)	(0,9359)	(n.a.)	(0,9264)	(0,6884)
Ownership Concentration	-0,0169	0,0177	0,001	0,0195	0,3331	0,0143	-0,0067	0,0167	-0,0751
	(0,8684)	(0,4591)	(0,7906)	(0,7879)	(0,1577)	(0,2506)	(n.a.)	(0,8605)	(n.a.)
Presence of Managers among Shareholders	-0,4893	-0,0647	0,0208	-0,0056	1,3290	-0,0693	n.a.	-0,0062	0,1855
	(0,0364)	(0,8601)	(0,2281)	(0,9907)	(0,1122)	(0,3805)	(n.a.)	(0,9878)	(0,5353)
Only One Manager	0,5213 *	0,0803	0,0019	-0,1075	-1,7847***	0,0611	n.a.	0,0695	-0,1266
	(0,0504)	(0,8511)	(0,8809)	(0,8685)	(0,0346)	(0,5219)	(n.a.)	(0,9141)	(0,7338)
Team Size	0,0722	-0,0841 *	-0,0208***	-0,4993***	-0,6027	-0,0176	n.a.	-0,3158 *	n.a.
	(0,5595)	(0,0601)	(0,0029)	(0,0012)	(0,3348)	(0,4786)	(n.a.)	(0,0630)	(n.a.)
Board of Director Size	0,0797	-0,0289	-0,0101	-1,3427 **	-0,2123	-0,0273	2,5159	-0,0686	18,2989***
	(0,7536)	(0,4606)	(0,2922)	(0,0259)	(0,9277)	(0,4710)	(n.a.)	(0,7331)	(0,0041)
Adjusted R-squared	-0,0036	-0,0012	0,0033	0,0107	0,0582	-0,0012	1	-0,0079	0,1582
F-stat (p-value)	0,6642	0,5229	0,0870	0,1217	0,3102	0,8393	n.a.	0,8209	0,1509

Table 14: Regression Statistics – Dependent Variable ROI

Dependent Variable: ROI in men-led enterprises									
Independent Variables	**CZECH REPUBLIC**	**GERMANY**	**SPAIN**	**FRANCE**	**HUNGARY**	**ITALY**	**POLAND**	**SLOVAKIA**	**UNITED KINGDOM**
Const	-0,0104	-2,0585	0,1328 ***	-11,2365 *	1,0941	0,1184	-0,0755	0,3841 **	0,0107
	(0,9563)	(0,45798)	(0,0013)	(0,0876)	(0,4754)	0,2034	(n.a.)	(0,0746)	(0,9116)
Board Independence	0,1248	n.a.	n.a.	n.a.	0,0636	n.a.	-1,732	n.a.	n.a.
	(0,4661)	(n.a.)	(n.a.)	(n.a.)	(0,9349)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
CEO Duality	0,0509	n.a.	n.a.	n.a.	-0,6906	n.a.	1,4035	n.a.	n.a.
	(0,6722)	(n.a.)	(n.a.)	(n.a.)	(0,3487)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Ownership Concentration	-0,0134	-0,1424	0,0047	-0,2005	0,3574	-0,0154	-0,0425	0,0539	-0,0144
	(0,5581)	(0,6074)	(0,3239)	(0,7787)	(0,0555)	0,2035	(n.a.)	(0,1490)	(n.a.)
Presence of Managers among Shareholders	0,0495	n.a.	n.a.	n.a.	0,8447	n.a.	n.a.	n.a.	n.a.
	(0,7012)	(n.a.)	(n.a.)	(n.a.)	(0,1259)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Only One Manager	0,0191	n.a.	n.a.	n.a.	-1,0648 *	n.a.	n.a.	n.a.	n.a.
	(0,8964)	(n.a.)	(n.a.)	(n.a.)	(0,0664)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Team Size	0,0287	0,6141	-0,0104	3,1425 **	-0,3241	0,0136	0,1415	-0,1306	n.a.
	(0,6379)	(0,3803)	(0,3858)	(0,0452)	(0,4728)	0,5775	(n.a.)	(0,1078)	(n.a.)
Board of Director Size	0,0842	0,6131	0,0282	0,1262	0,1996	-0,0147	-18,6265	-0,0210	20,4577
	(0,7357)	n.a.	n.a.	(n.a.)	(0,9199)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Adjusted R-squared	-0,0044	-0,0080	-0,0014	-0,0021	0,0858	-0,0012	n.a.	-0,0024	0,2029
F-stat (p-value)	0,9481	0,9920	0,7312	0,5280	0,2006	0,8766	1	0,7459	0,1177

We answer Research Questions number three and fourth contemporarily. We applied the following method to conduct the analysis: first, we have decided to observe the relationship between merit of credit, proxied by the difference between the permanent P(ROI) and the threshold E(ROI), according to the integrated rating model developed by Mantovani et al. (2013). Results are divided per the majority of the gender in the Board. This is important because Mantovani et al. (2013) demonstrated that, although a high percentage of correct credit allocation of debt resources, bank's efficiency in debt resources allocation can be considered independent from a return and risk consideration. Secondly, we have analysed whether there is any influence of firms' governance and ownership characteristics on the E(ROI), which is the ROI adjusted by risk and on the proxy of merit of credit, regressing these variables of governance and characteristics both for firms managed by women or men, first with E(ROI) and then with the difference of ROI and E(ROI) as independent variables.

In Table 15 and 16 we explain the meaning of the analysis and all the results showed from Table from 17 to 26.

Table 15: cross section match between ROI – T(ROI) and DEB/OPRE

		ROI - T(ROI)	
		POSITIVE	NEGATIVE
DEB/OPRE	HIGHER	1. firms with positive integrated rating that raise than due finance	2. firms with negative integrated rating that raise more than deserved
	LOWER	3. firms with positive integrated rating that raise less financial resources than deserved	4. firms with negative integrated rating that raise less than due finance

Table 16: cross section match between ROI – T(ROI) and INTE/DEB classification

		ROI - T(ROI)	
		POSITIVE	NEGATIVE
INTE/DEB	HIGHER	1. firms with positive integrated rating that overpay for their financial resources	2. firms with negative integrated rating paying more the financial resources
	LOWER	3. firms with positive integrated rating that pay less than due for their raised financial resources	4. firms with negative integrated rating underpaying their financial resources

In banking practices, we observe if a firm has an average relation of ROI < T(ROI) or ROI > T(ROI), if raises higher or lower financial resources (DEB/OPRE) than the average of the sample, if pays more or less interest rates for the financial resources (INTE/DEB); in this way, we have the capability to compute a measure of banks' ability to identify risk components in firms' performance. Starting from here, we are able to detect four segmentations of firms per the receive banking allowances. In Tables 15 and 16, numbers 1 and 4 detect an efficient debt allocation and pricing by banks, while in segmentations number 2 and 3 there is an inefficient one. (Mantovani and Castellan, 2015).

Looking at Tables from 17 to 26 (where Tables in the left side represent women-led firms and those in the right side identify men-led firms), we see that considering intensity of debt, firms with a higher share of women covering leading positons worth receiving credit and do receive it; moreover, comparing results with men-conducted firms, less women-conducted firms are at risk of default (that means that they receive credit, even if they have a negative Integrated Rating score). Furthermore, more women-led firms should receive credit, but they do not. The only exceptions are in Poland, where the share of firms that worth receive credit and do receive it and risk-of-default firms are the same either for women and men; for Slovakia, results are exactly the opposite of the sample's average ones.

Considering price of financing (Interests on Debt), all countries but Hungary and Slovakia have the following results: less women-managed firms underpay their financial risk. However, those firms overpay their raised financial resources, always comparing them to men-managed ones. In Hungary, results are exactly the opposite. In Poland, there is a higher share of men-conducted firms, which underpay their financial risk, but the share of firms that overpay their raised financial resource are the same either for women-conducted and men-conducted businesses.

Table 17: Czech Republic's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	3,42%	49,37%
	Lower	3,96%	43,24%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	0,73%	52,25%
	Lower	0,92%	46,10%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	2,88%	46,67%
	Lower	4,50%	45,95%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	0,46%	51,05%
	Lower	1,19%	47,30%

Table 18: Germany's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	4,22%	45,70%
	Lower	5,13%	44,95%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	2,72%	48,37%
	Lower	2,58%	46,33%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	3,77%	47,81%
	Lower	5,58%	42,84%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	1,22%	49,32%
	Lower	4,08%	45,38%

Table 19: Spain's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	5,25%	46,23%
	Lower	3,50%	45,02%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	4,22%	47,21%
	Lower	2,63%	45,95%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	4,89%	47,68%
	Lower	3,86%	43,57%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	3,72%	48,30%
	Lower	3,12%	44,85%

Table 20: France's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	23,67%	38,41%
	Lower	13,29%	24,64%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	1,44%	85,63%
	Lower	2,26%	10,68%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	19,08%	32,13%
	Lower	17,87%	30,92%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	1,63%	83,80%
	Lower	2,37%	12,20%

Table 21: Hungary's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	9,68%	41,94%
	Lower	12,90%	35,48%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	2,56%	48,72%
	Lower	7,69%	41,03%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	9,68%	41,94%
	Lower	12,90%	35,48%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	16,13%	41,94%
	Lower	6,45%	35,48%

Table 22: Italy's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	7,37%	43,48%
	Lower	9,01%	40,13%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	7,22%	43,77%
	Lower	8,83%	40,19%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	7,84%	43,99%
	Lower	8,54%	39,63%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	7,97%	44,40%
	Lower	8,07%	39,56%

Table 23: Poland's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	0,00%	40,00%
	Lower	0,00%	60,00%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	0,00%	37,50%
	Lower	0,00%	62,50%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	0,00%	60,00%
	Lower	0,00%	40,00%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	0,00%	25,00%
	Lower	0,00%	75,00%

Table 24: Slovakia's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	17,59%	35,19%
	Lower	11,34%	35,88%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	37,93%	14,91%
	Lower	32,87%	14,30%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	16,67%	35,65%
	Lower	12,27%	35,42%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	38,54%	12,29%
	Lower	32,26%	16,91%

Table 25: United Kingdom's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms

		Rating	
		Positive	Negative
DEB/OPRE	Higher	13,79%	41,38%
	Lower	13,79%	31,03%

		Rating	
		Positive	Negative
DEB/OPRE	Higher	0,00%	51,85%
	Lower	3,70%	44,44%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	17,24%	41,38%
	Lower	10,34%	31,03%

		Rating	
		Positive	Negative
INTE/DEBT	Higher	3,70%	48,15%
	Lower	0,00%	48,15%

In Italy, women-led firms are more (7,37% against 7,22%) with a positive integrated rating that raise the finance deserved and there are less women-led firms which have a negative integrated rating that raise more than deserved (43,48 vs 43,77%). Moreover, there is a higher percentage of women-led firms which raise less financial resources than deserved and there is a lower share of women-owned firms with a negative integrated rating, that raise less than due finance. As far as price of financing is concerned, in Italy, there is a lower share of firms conducted by women with positive integrated rating that overpay for their financial resources and also a lower share of firms with women in top positions that have a negative integrated rating, but paying more than financial resources. Furthermore, there is a higher share of women-led firms with positive integrated rating that pay less than due for their raised financial resources and a higher percentage of women-conducted firms, which have negative integrated rating, underpaying their financial resources (Table 22).

After these analysis, we have decided to investigate deeply by carrying on some regressions in which we wanted to understand whether characteristics of governance influenced the threshold ROI and the Integrated Rating and whether results were different, if in the top positions of the companies there is a major presence of women or men. Starting from the observation of the influence of the type of governance on the E(ROI), which is the Return on Investments adjusted for risk, either for women and men (Table 26). This impact is more obvious for women-conducted companies, in particular for France, where the significant variables are "Board Independence" (10%), "Presence of Managers among Shareholders" (1%), "Only one Manager" (5%), "Team Size"

(1%) and “Board Size” (1%). Other countries in which governance and ownership characteristics influence threshold ROI are “Board Independence” for Czech Republic and “Board of Directors Size” (1%) for United Kingdom. Computing the same regression for men-conducted businesses results vary a lot: for Czech Republic, the significant variables are “Board Independence” (5%), “Presence of a Manager in the Ownership Structure” (1%) and “Only one Manager” (5%) and for Slovakia the significant variable is “Team Size” (5%) (Table 27).

In Italy, both for women and men-led companies there is no influence of the type of governance on threshold ROI, although regressions have different results, because it turns out that regression for women-led businesses do make more sense, in fact this type of regression express better data for women-led enterprises (Table 26 and 27).

Furthermore, we have computed an analysis in order understand whether the type of governance influences the Integrated Rating, that is the difference between ROI and E(ROI). In Table 28 women-led enterprises’ results are shown and we observe that for Czech Republic, the significant variables are “Presence of Managers in the Ownership Structure” (5%) and “Team Size” (10%), for either Germany (5%) and France (10%) is “Board of Directors Size” and for Hungary is “Only one Manager” (10%). However, for men-conducted enterprises the significant variable is “Ownership Concentration” both for Czech Republic (1%) and Spain (1%) (Table 29).

In Italy, as previously, governance’s characteristics do not influence on Integrated Rating, though the regression represents in a better way data from women-conducted businesses (Table 28 and 29).

So, on average, businesses with a higher share of women in top positions, do have governance and ownership characteristics which influence ROI adjusted for risk and merit of credit (proxied by the difference between ROI and E(ROI)). Businesses conducted by men do not have a clear impact of governance and ownership characteristics on E(ROI) and Integrated Rating. Moreover, we have to highlight the fact that for Poland results are not very clear because of the lack of data.

Italy does not follow the average results, because for women-led businesses governance and ownership characteristics, there is no influence on E(ROI) and Integrated Rating. Instead, for men-conducted businesses it is not that clear the influence of governance.

Table 26: Regression Statistics – Dependent Variable E(ROI)

Dependent Variable: E(ROI) in women-led enterprises									
Independent Variables	**CZECH REPUBLIC**	**GERMANY**	**SPAIN**	**FRANCE**	**HUNGARY**	**ITALY**	**POLAND**	**SLOVAKIA**	**UNITED KINGDOM**
Const	130,8960	0,4809 **	0,1046 **	9,9893 ***	0,6008	0,5662	0,1752	-0,3366 *	0,5105
	(0,3360)	(0,0346)	(0,0349)	(0,0002)	(0,5735)	(0,4294)	(n.a.)	(0,0737)	(0,7072)
Board Independence	-252,2842 **	-0,0479	-0,0415	-2,7923 *	0,5569	-0,3999	n.a.	0,2545	0,2627
	(0,0458)	(0,7084)	(0,1259)	(0,0719)	(0,3824)	(0,5074)	(n.a.)	(0,5539)	(0,6455)
CEO Duality	-13,4396	0,1128	0,0361 **	1,2452	-0,4908	0,0726	0,2577	-0,0657	-0,4502
	(0,8881)	(0,3302)	(0,0305)	(0,2259)	(0,4333)	(0,7753)	(n.a.)	(0,8256)	(0,6881)
Ownership Concentration	-10,5366	0,0189	0,0061	0,3283	0,0232	0,0458	-0,0687	0,0310	-0,1127
	(0,7585)	(0,5644)	(0,3399)	(0,2699)	(0,8382)	(0,6077)	(n.a.)	(0,4109)	(n.a.)
Presence of Managers among Shareholders	-30,9972	0,0146	0,0295	6,1908 ***	0,1675	0,0007	n.a.	0,0153	0,3997
	(0,6917)	(0,9767)	(0,3124)	(0,0021)	(0,6771)	(0,9990)	(n.a.)	(0,9240)	(0,4867)
Only One Manager	-94,2589	-0,0035	-0,0184	-6,2903 **	-0,5609	0,0936	n.a.	0,1490	-0,2800
	(0,2902)	(0,9952)	(0,4126)	(0,0188)	(0,1661)	(0,8906)	(n.a.)	(0,5590)	(0,6950)
Team Size	-24,6244	-0,0911	0,0098	-2,8051 ***	-0,0528	-0,1605	n.a.	0,1349	n.a.
	(0,5526)	(0,1366)	(0,4035)	(0,00001)	(0,8626)	(0,3660)	(n.a.)	(0,0449)	(n.a.)
Board of Director Size	64,8479	-0,0106	-0,0029	-14,3383***	-0,0365	-0,0172	11,7794	0,0555	32,9323***
	(0,4461)	(0,8433)	(0,8557)	(1,2679E-08)	(0,9748)	(0,9492)	(n.a.)	(0,4856)	(0,0064)
Adjusted R-squared	0,0108	-0,0034	0,0027	0,0973	-0,1276	-0,0018	1	-0,00005	0,1120
F-stat (p-value)	0,0729	0,6881	0,1173	2,4839E-08	0,8137	0,9779	n.a.	0,4329	0,2196

Table 27: Regression Statistics – Dependent Variable

Dependent Variable: E(ROI) in men-led enterprises									
Independent Variables	**CZECH REPUBLIC**	**GERMANY**	**SPAIN**	**FRANCE**	**HUNGARY**	**ITALY**	**POLAND**	**SLOVAKIA**	**UNITED KINGDOM**
Const	0,1463 ***	-18,4977	0,1683 ***	1,6924	0,1652	0,4017	1,6918	-0,0165	0,0032
	(0,0367)	(0,4184)	(0,0008)	(0,1677)	(0,8128)	(0,5174)	(n.a.)	(0,7693)	(0,9866)
Board Independence	-0,1183 **	n.a.	n.a.	n.a.	0,4579	n.a.	-3,7824	n.a.	n.a.
	(0,0617)	(n.a.)	(n.a.)	(n.a.)	(0,2046)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
CEO Duality	0,0422	n.a.	n.a.	n.a.	-0,1725	n.a.	3,3538	n.a.	n.a.
	(0,3434)	(n.a.)	(n.a.)	(n.a.)	(0,6066)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Ownership Concentration	0,0199	-1,3053	0,0057	0,0554	0,0689	0,1011	-0,0742	0,0096	0,0037
	(0,0183)	(0,5676)	(0,3240)	(0,6773)	(0,4078)	(0,2112)	(n.a.)	(0,3252)	(n.a.)
Presence of Managers among Shareholders	-0,1241 ***	n.a.	n.a.	n.a.	-0,0688	n.a.	n.a.	n.a.	n.a.
	(0,0094)	(n.a.)	(n.a.)	(n.a.)	(0,7811)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Only One Manager	0,1053 **	n.a.	n.a.	n.a.	-0,2915	n.a.	n.a.	n.a.	n.a.
	(0,0519)	(n.a.)	(n.a.)	(n.a.)	(0,2629)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Team Size	0,0168	5,3454	-0,0006	-0,4039	0,0689	-0,1562	-0,2353	0,0434 **	n.a.
	(0,4568)	(0,3542)	(0,9662)	(0,1671)	(0,7375)	(0,3375)	(n.a.)	(0,0417)	(n.a.)
Board of Director Size	0,0889	4,9339	0,0968	-0,5897	0,3015	-0,0289	-43,0499	-0,0469	37,5605
	(0,3351)	(n.a.)	(n.a.)	(n.a.)	(0,7398)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Adjusted R-squared	0,0068	-0,0078	0,0004	-0,0115	0,0028	-0,0014	1	0,0104	0,1528
F-stat (p-value)	0,0440	0,9882	0,3533	0,9417	0,4398	0,9235	n.a.	0,0082	0,1765

Table 28: Regression Statistics – Dependent Variable

Dependent Variable: RATING in women-led enterprises									
Independent Variables	**CZECH REPUBLIC**	**GERMANY**	**SPAIN**	**FRANCE**	**HUNGARY**	**ITALY**	**POLAND**	**SLOVAKIA**	**UNITED KINGDOM**
Const	0,0069	0,0475	-0,1811 *	-0,5952	2,0177	-0,0109	-0,2395	-0,0053	-0,2321
	(0,9366)	(0,6704)	(0,0635)	(0,4188)	(0,3149)	(0,9251)	(n.a.)	(0,9669)	(0,9510)
Board Independence	0,0074	0,0709	-0,0011	0,1932	0,0245	0,0869	n.a.	-0,0016	-0,7086
	(0,9264)	(0,2598)	(0,9831)	(0,6562)	(0,9834)	(0,3755)	(n.a.)	(0,9955)	(0,6558)
CEO Duality	-0,0190	-0,0463	-0,0156	0,0373	-1,1622	0,0323	-0,1271	-0,0461	0,6737
	(0,7558)	(0,4156)	(0,6331)	(0,8969)	(0,3223)	(0,4341)	(n.a.)	(0,8206)	(0,8289)
Ownership Concentration	-0,0245	0,0218	0,0082	-0,0269	0,2856	-0,0102	0,0378	0,0091	-0,0732
	(0,2646)	(0,1786)	(0,5145)	(0,7468)	(0,1871)	(0,4805)	(n.a.)	(0,7232)	(n.a.)
Presence of Managers among Shareholders	-0,1108 **	-0,0058	0,0774	-0,3430	1,3308	-0,0016	n.a.	-0,0347	-1,0248
	(0,0272)	(0,9813)	(0,1783)	(0,5402)	(0,0857)	(0,9856)	(n.a.)	(0,7506)	(0,5214)
Only One Manager	0,0774	-0,0780	0,0726	0,2178	-1,4910 *	0,0032	n.a.	-0,0992	-0,8723
	(0,1751)	(0,7866)	(0,1014)	(0,7709)	(0,0534)	(0,9769)	(n.a.)	(0,5682)	(0,6609)
Team Size	0,0441 *	-0,0553	-0,0005	0,1011	-0,6543	-0,0253	n.a.	-0,0065	n.a.
	(0,0977)	(0,0663)	(0,9814)	(0,5679)	(0,2575)	(0,38049	(n.a.)	(0,8875)	(n.a.)
Board of Director Size	-0,0022	0,0674 **	0,0150	1,2276 *	-0,2092	-0,0056	-1,6416	0,0052	-18,2958
	(0,9667)	(0,0109)	(0,6373)	(0,0766)	(0,9227)	(0,8982)	(n.a.)	(0,9232)	(0,5528)
Adjusted R-squared	0,0064	0,0186	-0,0005	-0,0056	0,0579	-0,0010	1	-0,0136	-0,0603
F-stat (p-value)	0,1606	0,0071	0,5223	0,6946	0,3109	0,7894	n.a.	0,9905	0,6168

Table 29: Regression Statistics – Dependent Variable Rating

Dependent Variable: RATING in men-led enterprises									
Independent Variables	**CZECH REPUBLIC**	**GERMANY**	**SPAIN**	**FRANCE**	**HUNGARY**	**ITALY**	**POLAND**	**SLOVAKIA**	**UNITED KINGDOM**
Const	-0,1266 ***	-0,4038	-0,0621	1,2004	0,0127	-0,0477	-0,6508	0,0362	-0,1049 ***
	(0,000075)	(0,3191)	(0,3295)	(0,1241)	0,9565	(0,6445)	(n.a.)	(0,4471)	(0,0004)
Board Independence	0,0392	n.a.	n.a.	n.a.	-0,1006	n.a.	1,1207	n.a.	n.a.
	(0,1738)	(n.a.)	(n.a.)	(n.a.)	(0,4025)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
CEO Duality	-0,0168	n.a.	n.a.	n.a.	-0,0919	n.a.	-0,9977	n.a.	n.a.
	(0,4058)	(n.a.)	(n.a.)	(n.a.)	(0,4145)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Ownership	-0,0099***	-0,0172	-0,0260***	-0,0240	-0,0049	-0,0012	-0,0238	-0,0089	0,0113
Concentration	(0,0096)	(0,6704)	(0,0004)	(0,7769)	(0,8590)	(0,9246)	(n.a.)	(0,2788)	(n.a.)
Presence of Managers	0,0353	n.a.	n.a.	n.a.	0,1121	n.a.	n.a.	n.a.	n.a.
among Shareholders	0,1039	(n.a.)	(n.a.)	(n.a.)	(0,1829)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Only One Manager	-0,0265	n.a.	n.a.	n.a.	-0,0157	n.a.	n.a.	n.a.	n.a.
	(0,2811)	(n.a.)	(n.a.)	(n.a.)	(0,8559)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Team Size	0,0079	0,0834	0,0125	-0,3590	-0,0507	-0,0181	0,1058	0,0032	n.a.
	(0,4447)	(0,4144)	(0,5006)	(0,0539)	(0,4639)	(0,5046)	(n.a.)	(0,8578)	(n.a.)
Board of Director Size	-0,0034	0,0481	-0,0206	-0,2449	-0,0553	-0,0028	16,0086	0,0043	-1,3480
	(0,9360)	(n.a.)	(n.a.)	(n.a.)	(0,8558)	(n.a.)	(n.a.)	(n.a.)	(n.a.)
Adjusted R-squared	0,0025	-0,0083	0,0034	-0,0061	0,0657	-0,0020	1	-0,0045	-0,1535
F-stat (p-value)	0,2027	0,9958	0,0662	0,7220	0,2478	0,9992	n.a.	0,9688	0,8189

3.3 ANALYSIS CONCLUSIONS

Through the analysis, we wanted to investigate about three topics connected to gender: (i) a major presence of women in top positions influences governance? (ii) what are the results if we decide to infer on the impact of gender on the relationship between governance and firms' performance? (iii) what are the results if we compare the fair allocation of banks' credit, if there is a higher share of women or men in decision-making positions?

We have observed that results differ among the nine countries taken into account for the analysis. We expected this kind of results, because as we have seen in Chapter two, although European Union is trying to do its best (with the help of Member States) to improve women position in the society, the share of women in the labour market and, in particular, in top positions, are still very different among European Countries. Consequently, it is consistent that whether in top positions there are men or women, governance and ownership characteristics are very different.

However, in women-conducted businesses there is a higher impact of governance on firms' performance. This result remains stable even when we consider firms' performance as an index adjusted by risk.

Furthermore, we have discovered that, for most of the countries, women-conducted firms are financed by bank when they really deserve to; but, there are also more women-led firms which deserve to receive credit, but they do not. Moreover, there is a higher percentage of businesses conducted by men, which are at risk of default.

Last, considering the price of financing, firms conducted by women that underpay their financial risk are less; but, there is a higher percentage of women-conducted businesses, that overpay their raised financial resources.

CONCLUSIONS

At the beginning, we showed how research about gender in the economic field has evolved during the last few years. We saw that, in the past, research considered the role of gender in labour markets and only in 2000s economists started to analyse the role of gender in top positions, especially because of the lack of women in corporate boards. The most important research about gender discrimination is the one conducted by Gary Becker: he was the first to investigate the relationship between women and the labour market and the reasons behind certain choices made by women at work level. Then, we introduced the Integrated Rating Model, a methodology to explore the financial performance and merit of credit of companies. we analysed the relationship between gender, governance, corporate performance and merit of credit.

In the second chapter, we have presented the general framework in Europe of women in corporate Boards. Then, we have observed women in firms' top positions throughout the years in Europe, focusing especially on nine countries: Czech Republic, Germany, Spain, France, Hungary, Italy, Poland, Slovakia and United Kingdom, but with a focus on Italy. We saw that there are significant figures only from 2010, when the European Commission took in charge the problem of the lack of women in top positions, because of discrimination in their regards. Since then, the share of women in corporate board augmented exponentially in almost all the member States. In Italy, the presence of women in top positions in 2010 was very low, but when the directive was applied by the government, the share improved and there is almost a 50:50 presence in the labour market, considering gender and taking into account managerial positions, the share improved of 30%. Situation in Italy has enhanced in the last ten years, but there is still a long way to get to equality.

Finally, we have computed analysis with European data to understand the relationship between gender, governance and merit of credit, applying the Integrated Rating model, which examines the allocation of credit. As we have said previously, we conducted the analysis employing the Integrated Rating Model (Mantovani and Castellan, 2015) We have observed that in case in top positions there is a major presence of men or women, governance characteristics are different. Moreover, governance characteristics in women or men-led businesses influence in a different way on firms' performance, firms' performance adjusted by risk and Integrated Rating. Last, we have observed that the allocation of credit is different whether we consider women or men-conducted firms.

To sum up, we have seen that even if research is now increasing in this topic, there is a need to pay special attention on the relationship between gender and governance, as it may have a key role in the development of economies. Furthermore, we have seen that the role of women in leadership positions is becoming always more important and the number of female managers is more and more increasing, but there is still a lot of work to do either by governments and people, in order to achieve equality. Finally, the research highlights how there is still presence of discrimination in credit markets, so intermediaries should analyse whether to change the method of allocation of credit, because they should not look to old relationships, but to the current enterprises' status quo.

SUMMARY OF TABLES

Table 1: Men and women presidents/chairpersons of large companies, European Union 27, 2003 – 2012 44

Table 2: Statistics and National Measures in Place 50

Table 3: Czech Republic's governance and ownership indicators sample statistics (t-test of difference) 58

Table 4: Germany's governance and ownership indicators sample statistics (t-test of difference) 58

Table 5: Spain's governance and ownership indicators sample statistics (t-test of difference) 59

Table 6: France's governance and ownership indicators sample statistics (t-test of difference) 60

Table 7: Hungary's governance and ownership indicators sample statistics (t-test of difference) 60

Table 8: Italy's governance and ownership indicators sample statistics (t-test of difference) 61

Table 9: Poland's governance and ownership indicators sample statistics (t-test of difference) 61

Table 10: Slovakia's governance and ownership indicators sample statistics (t-test of difference) 62

Table 11: United Kingdom's governance and ownership indicators sample statistics (t-test of difference) 63

Table 12: T-test of difference in mean for ROI between male-led and female-led firms. 63

Table 13: Regression Statistics - Dependent Variable ROI. 65

Table 14: Regression Statistics – Dependent Variable ROI 66

Table 15: cross section match between ROI – T(ROI) and DEB/OPRE 67

Table 16: cross section match between ROI – T(ROI) and INTE/DEB classification 68

Table 17: Czech Republic's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 69

Table 18: Germany's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 69

Table 19: Spain's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 70

Table 20: France's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 70

Table 21: Hungary's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 70

Table 22: Italy's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 71

Table 23: Poland's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 71

Table 24: Slovakia's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 71

Table 25: United Kingdom's cross section match between ROI – E(ROI) and DEB/OPRE and INTE/DEBT for women-managed firms and men-managed firms 72

Table 26: Regression Statistics – Dependent Variable E(ROI) 74

Table 27: Regression Statistics – Dependent Variable E(ROI) 75

Table 28: Regression Statistics – Dependent Variable Rating 76

Table 29: Regression Statistics – Dependent Variable Rating 77

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