

RELATIONSHIP BETWEEN NUMBER OF WOMEN EXECUTIVES
AND TOBIN'S Q RATIO: AN ANALYSIS ON BORSA İSTANBUL

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Abstract: The purpose of the study is to determine whether gender is effective over the financial performance of companies traded uninterruptedly at the Borsa Istanbul National Index (XULUS) for the period of 2006-2013 inclusive of the effects of the Global Crisis period with panel data analysis. As financial performance measure in the study, Tobin's q ratio which is a market-based indicator has been used. Results show that, the ratio of female members in top management and the fact that the head of the executive board is a woman is positively related to Tobin's q ratio. On the other hand, the ratio of female members in the executive board and the fact that the CEO/the director is a woman is negatively related to Tobin's q ratio.

Keywords: Women Executives, Tobin's Q Ratio, Financial Performance, Panel Data Analysis

KADIN YÖNETİCİ SAYISI İLE TOBIN'S Q ORANI ARASINDAKİ
İLİŞKİ: BORSA İSTANBUL ÜZERİNE BİR ANALİZ

Öz: Bu çalışmanın amacı, cinsiyetin finansal performans üzerindeki etkisini, Küresel Kriz'in etkisini de içerecek şekilde, 2006-2013 yılları arasında Borsa İstanbul Ulusal Endeksi'nde kesintisiz olarak işlem gören firmalar üzerinde panel veri analizi ile incelemektir. Çalışmada finansal performans ölçütü olarak piyasa temelli bir gösterge olan Tobin q oranı kullanılmıştır. Çalışmanın bulguları, üst yönetimde yer alan kadın yönetici oranı ve yönetim kurulu başkanının kadın olması ile Tobin q oranı arasında pozitif ilişkiye işaret ederken, yönetim kurulundaki kadın yönetici oranı ve CEO/Genel müdürün kadın olması ile Tobin q oranı arasında negatif ilişki olduğunu göstermektedir.

Anahtar Kelimeler: Kadın Yönetici, Tobin's Q Oranı, Finansal Performans, Panel Veri Analizi

I. Introduction

In recent years, workforce diversity in organizations has received considerable attention among practitioners and in academic literature. As well as workforce diversity, board diversity has also gained remarkable attention in last years. The term "board diversity" can be explained by several ways linked to differences in boards in terms of observable dimensions of diversity such as age, gender, race, physical disability, ethnicity and less observable dimensions of diversity such as educational background, work experience, marital status, parental status, religious beliefs etc. (Kang, et.al., 2007). Over years, diversity

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in boards has become a strategic issue for organizations for several reasons. Based on business case perspective it is argued that a more diverse board can improve firm's competitive advantage. Improving the image of the firm and creating a positive effect in the eye of customers and society may enhance better performance (Smith et al., 2006). Heterogeneity at the top of a firm is believed to result a wider perspective in problem solving and decision making process. As a result, diversity at the top may create a better understanding of the complexities of the external environment (Campbell and Mínguez-Vera, 2008). Furthermore, a growing body of literature focuses on issues about diversity of boards as they recognized as an important corporate governance control mechanism. It is mentioned that boards has to be heterogenic in order to perform their motoring role effectively (Campbell and Mínguez-Vera, 2008). In this respect, gender diversity on boards assumed to be one of the most important measures for heterogeneity. Campbell and Mínguez-Vera (2008) argue that women participation on boards is based on two arguments: ethical and economic. In ethical arguments not to act unethical or immoral, firms should promote gender diversity (Campbell and Mínguez-Vera, 2008:439). As economic arguments various studies show that board gender diversity has a significant impact on aspects of firm's performance, such as financial benefits (Carter et. al.,2003), corporate social responsibility (Bear et al. 2010) or firm's reputation (Brammer et al. 2007). Robinson and Dechant (1997) suggest that firms in which boards and top management are composed of both genders will promote creativity and innovation with the positive impact of different skills, experience and knowledge.

While earlier evidence about the relationship between board gender diversity and firms' financial performance generally comes from developed economies such as the United States (Carter et. al., 2003) and United Kingdom(Brammer et. al., 2007) latter evidence come from different countries such as Malaysia (Abdullah, Ismail and Nachum,2013), New Zealand (Bathula, 2008), Netherlands (Lukerath-Rovers, 2011), Norway(Bohren and Strom, 2005), Denmark(Rose, 2004), Spain (Campbell and Mínguez-Vera, 2008). As a contribution to the existing literature, this study focuses on the relationship between gender diversity on boards/top management and firms' financial performance in a developing country context, Turkey.

II. Literature View

A. Theoretical Arguments

Gender diversity of boards can be discussed from various perspectives. As one of the most used theory for examining the relationship between diversity of boards and firm performance is Agency theory which describes the relationship between principals -such as shareholders- and the agents -such as managers-. Fama and Jensen (1983), suggest that corporate boards are important mechanisms to control and monitor managers. It is argued that a

diverse board can perform a better controlling and monitoring role than a homogeneous board (Campbell and Mínguez-Vera, 2008; Carter et al. 2003). Board independence is critical for boards to function its role. In this respect, it can be expected that a board consisting people with different gender, ethnicity, race, educational and cultural background etc. can be more independent. In other words, diversity can increase board independence (Carter et al., 2007). Relying on this theory and from gender diversity perspective, it can be suggested that women in corporate boards can increase the effectiveness of boards. There are studies showing the positive contributions of women to the boards such as; asking more questions than male and challenging CEO's decisions (Carter et.al., 2003; Campbell and Mínguez-Vera, 2008), avoiding risky projects (Byrnes et al. 1999), detailing decision-making process and creating a wider variety of viewpoints due to different norms, behaviors, beliefs based on women's cognitive differences (Pelled et. al, 1999; Konrad et. al, 2008; Gallego-Alveres, 2009). In this respect, a differentiated cognitive structure in an organization can provide challenging views, more knowledge, perspectives, and alternative solutions to problems (Dutton and Duncan 1987; Watson et al. 1993). Consequently it is argued that the gender composition of the board can affect the quality of controlling and monitoring role and thus the financial performance of the firm (Campbell and Mínguez-Vera, 2008).

The second perspective is Resource Dependency Theory (RDT). RDT views organizations as open systems which dependent on the external environment's contingencies (Pfeffer 1972; Pfeffer and Salancik 1978). RDT suggest that corporate boards are important instruments in order to manage the relationship between firm's external dependencies regarding that corporate boards maintain a link between the firm and its environment and the critical resources which firm's survival depends on. In this respect, diversity can be an effective instrument for accessing resources that are critical for firm. As markets and customers are getting diverse, organizations require an increasingly diverse work force that will fit into the new business context Gallego-Alveres, 2009). Pfeffer and Salancik (1978) argue that four important benefits which can be provided from boards are 1) advice and counsel, 2) legitimacy, 3) channels for information between the organization and other organizations and 4) access to commitments and support from external actors (Hillman and Dalziel, 2003, 385-386). At this point, it is mentioned that board diversity might facilitate access to critical resources (Stiles, 2001). From gender diversity perspective, existence of women on boards accepted desirable because of their potential to bring a breadth of resources to organization such as prestige, legitimacy, skills, knowledge, connections to external sources of dependency which are critical for organizations to reduce risk and dependencies on external environment (Carter, Simkins and Simpson, 2003; Gallego-Alveres, 2009). As Hillman et al. (2007) emphasize legitimacy and conformity to societal expectations is considered critical for organizational survival. In this respect, in literature gender diversity

in boards is mentioned as a link for providing legitimacy. It is argued that women can ensure legitimacy by linking firms with stakeholders such as customers, investors, employees and society which might enhance the reputation and consequently the performance (Lückherat-Rovers, 2011). Especially for customer-oriented sectors, the proportion of women on board, creates more legitimacy in eye of their customers which strengthen the relations between the firm and its customer (Brammer et al. 2007). Also, in the eye of potential and current employees, the presence of woman boards and top management provides a valuable form of legitimacy which creates a better development of careers' opportunities (Singh and Vinnicombe, 2004 and Hillman et al., 2007). Furthermore, Adams and Ferreira (2004) suggest that gender diversity on boards may have a political dimension that companies which are large and more visible to the society or companies which are required to deal with government agencies which have preferences for diversity may care more about diversity when they are concerned about their public image (Adams and Ferreira, 2004, p. 14).

The third perspective, Resource Based View (RBV) emphasize that organizations' competitive advantage is influenced by "physical, organizational and human resources that rare, valuable, inimitable, non-tradable and non-substitutable, as well as firm-specific" (Barney, 1991). RBV suggest that, corporate boards are important strategic tools to get knowledge from outside the organization and contact with the business world, gain external sources of capital, access new geographical and industrial markets. In this respect, heterogenic boards are considered to be more effective than homogenous boards. RBV focus on advantages with board diversity in terms of having access to a larger network (Eklund, Palmberg and Wiberg, 2009: 7). As gender diversity in boards is an important factor for measuring heterogeneity it is assumed that women can create competitive advantage for organizations due to their contribution of different complementary management styles (Gallego-Alveres, 2009). It is mentioned that although males have qualifications like low emotionality, rational problem solving, high control, women can have different perspectives in decision making and problem solving, facilitate communication and team based work (Litz and Folker, 2002; Gallego-Alveres, 2009). It is mentioned that women can have a positive impact on team performance due to the assumption of diverse teams -with the synergy between men and women- may reach better decisions as a product of multiple thinking and alternative perspectives (Litz and Folker, 2002; Carter et al. 2003). On the other hand, It is argued that wider range of perspectives and different opinions can lead to conflicts. Such a situation may be time consuming for the firm which may slow down the decision making process (Rose 2007) and fail the coordination and increase financial performance (Lückherat-Rovers, 2013).

It is obvious that earlier empirical studies examining the relationship between board gender diversity and financial performance are mostly based on

U.S. data. However, it is remarkable that there is a growing body of literature based on the studies realized in Europe and Asia. While studies based on US data point generally a positive relationship between board gender diversity and financial performance, non-U.S. studies show mixed results which prevent to make a certain judgment. In literature it is interpreted by the differences in national and corporate cultures, institutional; regulative, normative, cognitive elements. (Campbell and Vera, 2008; Maran and Indraah, 2009). The results of studies examining the relationship between gender diversity and financial performance are not consistent. While some studies have found positive relationship between gender diversity and financial performance others have found negative relationship. There are also studies fail to find any significant relationship between gender diversity and financial performance.

For example Carter et al. (2003) with a sample of 638 Fortune 1000 firms, demonstrates a positive relationship between Tobin's Q and proportion of women on the boards. Similarly, Erhardt et al. (2003) found a positive relationship between gender diversity and performance measures ROA and ROI based on Fortune listed companies. Also, within US companies, Adler (2001) found a strong correlation between gender diversity and firm profitability based on 25 Fortune 500 firms using three accounting measurements of operational performance; ROS, ROA and ROE. Adams and Ferreira (2004) based on Fortune 500 firms and Campbell and Mínguez-Vera (2008) analyzing Spanish boards found that the proportion of women on boards of directors has a positive influence on firm performance measured by Tobin's Q. Francoeur et al. (2008), analyzing 500 largest Canadian firms show positive and significant abnormal returns which have a high proportion of women in their board of directors. Abdullah, Ismail and Nachum (2013) in Malaysia and Bathula (2008) in New Zealand, found a positive and significant relationship between gender diversity and firm performance measured by ROA. Lukerath-Rovers (2011) draws attention that firms with one or more women board members obtain a higher ROE than firms no women on their boards in Netherlands. They support the idea that, having women on boards and top management create more innovative, modern, and transparent management which create high performance, better connection with stakeholders and better reputation. Carter et al. (2007) stress this positive relationship, by underlining that gender diversity has a positive effect on financial performance mainly through the audit function of the board. There are also studies focusing on the number of women on boards. Torchia, Calabro and Huse (2011) found a significant and positive relationship with firm innovation only when three or more women were board members in Norway. Similarly, Joecks, Pull and Vetter (2012) in Norway found that firms achieve a higher ROE only when the board is 'balanced'.

On the other hand, there are also studies showing that greater gender diversity may reduce firm performance. For example Lau and Murnighan (1998) argues that greater gender diversity in boards generates conflicts due to

the differentiated opinions which makes decision making process too long and less effective. Jianakoplos and Bernasek (1998) suggest that women are more risk-averse than men which can be problematic if the organization is operating in a highly competitive environment where it is need to be quick to react to changes in the market(Hambrick et al., 1996; Campbell and Mínguez-Vera, 2008). Bohren and Strom (2005) report a significant negative relationship between the proportion of women on the boards in Norwegian firms and Tobin's Q. Rose (2004) points that greater diversity can lead a decreasing effect on boards' effectiveness analyzing Danish firms.

There are also studies fail to find a significant relationship between gender diversity in boards and firm performance. For example, Shrader et al. (1997) analyzing 200 US firms, found insignificant relationship between the percentage of women on boards & top management and measures of performance; ROA, ROS, ROI. Farrell and Hersch (2005) analyzing Fortune 500 companies reported an insignificant stock market reaction to gender diversity in boards. Du Rietz and Henrekson (2000) failed to find any relationship between gender diversity of boards in Swedish firms and firm performance. Smith et al. (2006) analyzing 2,500 Danish firms reported insignificant o significant gender diversity effect on accounting measures of firm performance. Rose (2007) found no significant link between women representation on board of Danish firms and their performance as measured by Tobin's Q. Rondoy et al.(2006) focusing on Denmark, Norway, and Sweden found insignificant relationship between gender diversity on boards and ROA. ; Campbell and Mínguez-Vera and Lopez-Martinez (2010) reported insignificant relationship between the proportions of women on boards for SMEs in Spain. Haslam et al. (2010) in UK and Matala (2011) in South Africa any significant relationship between board gender diversity and financial performance measured by ROE and ROA. Also results for Denmark and Norway do not support relationship between gender diversity and firm performance in Dale-Olsen et al.(2012) study. Gallego, I.M. García, L. Rodríguez Most of the effects of female presence lead to non-significant relationships with corporate performance

B. International and Turkish Context

As discussed above gender diversity on boards and top management is a growing area of research for scholars (Adler, et.al, 2001; Carter et.al, 2003; Brammer et.al, 2007), non-profit organizations as a source of societal pressure (Catalyst) and also for professionals (McKinsey & Company). The importance of women participation in top management and on boards is discussed both in academic and non-academic publications (Catalyst; "The bottom line: corporate performance and women's representation on boards" and McKinsey & Company; "Women matter"). A well-known non-profit organization Catalyst with a mission "expanding opportunities for women and business" publishes a

report every year namely; “Catalyst Census: Fortune 500: Women Board Directors”. Analyzing the report (Catalyst Census Reports (<http://www.catalyst.org>), it can be interpreted that women proportion on boards is increasing year by year. Also, while percentage of zero woman directors is decreasing, the percentage of three or more women is increasing as by 2011. Heidrick and Struggles (2014) also reports an increase in the percentage of proportion of women on boards in European countries. The report indicates that the average number of women in European boardrooms was 5.0% in 2001, 8.4% in 2007 and 17% in 2013. It is declared that “the proportion of women on European boards has increased by nearly 70% over the last four years”. They also draw attention to the independent and non-executive director roles which women have started to fulfill (Heidrick and Struggles, 2014). Unfortunately a report or an index about women in top management and boards does not exist for Turkey but it can be helpful examining the data of OECD about the participation rates of women in labor force in Turkey. Examining the employment rates of women by years in Turkey (OECD ilibrary, <http://www.oecd-ilibrary.org>), one can say that the percentage of women in labor force in Turkey has remained low. It is observed that the employment rates of women when compared to men are not even half (e.g. %26.2 in 2010). Compared to other selected countries, it is possible to say that the employment rates of women in Turkey are far behind them (eg. %26.2 in Turkey, % 72.3 in Switzerland, % 73.3 in Norway in 2010, OECD ilibrary (<http://www.oecd-ilibrary.org>)).

Having one of the lowest employment rates of women Turkey provides an attractive context to examine the gender diversity in boards and top management. Although the employment rates point low participation of women to labor force, considering the developments in recent years, it is possible to say that women’s issues are taking in to consideration in terms of both politically and socially. There are various actions taken by Turkish government, non-governmental organizations (NGOs) and associations in order to increase the proportion of women in labor force. For example Turkey is a counterparty of “Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)” since 1986. Additionally, “Enhancing Women’s Employment and Provision of Equal Opportunity” circular has entered in to force in 2010 by Prime Ministry. In addition, various constitutional arrangements have been realized. A provision; “women and men have equal rights. States are obliged to ensure this equality in practice” has been introduced by 2011 in to constitution. Also, Capital Markets Board (CMB) which adopted a set of Corporate Governance Guidelines in 2003 recommending a significant level of independence for the boards and their functioning (Ararat et. al, 2010) has launched a financial literacy program in 2010 for unemployed, unbaked and low-income women consisting of short seminars by CMB experts. A proposed law; “Combating Discrimination and Equality Committee” has been prepared

by the Ministry of Interior in order to comply with the EU *acquis* and submitted to the Prime Minister 2010. By the way, it is reported by OECD that Turkey was one of the most narrowed gender gap in labor force during the financial and economic crisis by 6% points with Ireland and Spain. According to the report, there was a great rise in employment of women than men in Turkey (OECD, 2012; p.216). Furthermore, “Equality at Work Platform” was created in collaboration with World Economic Forum under the auspices of Republic of Turkey Ministry of Family and Social Policies in 2012. The purpose of the Platform was declared as “to ensure that the economic participation and opportunity gap stated in the Social Gender Gap Report issued in 2012 by the World Economic Forum is reduced to 10% over the next three years” The platform has published a declaration “in order to comply, on a voluntary basis, certain principles aimed at eliminating gender-based discrimination and to lead the way in promoting these principles across Turkey(www.isteesitlikplatformu.gov.tr)”. Also a commission named “Grand National Assembly of Turkey Equal Opportunities Commission” has been established working in the direction of developing solutions to increase women's employment. Besides governmental actions, associations and NGOs are also playing active role for several years. There are several associations working on women equity such as Women Entrepreneurs Association of Turkey (KAGIDER). Declaring the “Equal Opportunity Model” for companies in Turkey, KAGIDER aims to identify the inequalities in recruitment and career planning and developing processes and ending gender discrimination especially in top management (www.kagider.org). Some of other associations and NGOs which are active about gender diversity in Turkey are Women's Labor and Employment Initiative Platform, Federation of Women Associations of Turkey, Foundation for the Support of Women's Work. All these governmental and associations' actions aim to increase representation of women in business. Drawing on literature and the recent developments in Turkey, this study focuses on the impact of board gender diversity and women participation in top management on firms' financial performance.

III. Methodology

A. *Purpose and Scope of the Study*

The purpose of the study is to determine whether gender is effective over the financial performance of companies traded uninterruptedly at the Borsa Istanbul National Index (XULUS) for the period of 2006-2013 inclusive of the effects of the Global Crisis period. The reason why this study was organized in such a way to include the period of 2006-2013 was based on the fact that the financial statements of the companies traded at the capital markets in our country were to be prepared in harmony in accordance with the Standards of International Financial Reporting as of 01.01.2005 was made obligatory by a bulletin No: 25, Serial:XI issued by the Capital Markets Board. In the study,

first of all, the companies that were traded uninterruptedly at the XULUS for the period of 2006-2013 were determined. Since the reporting regulations that they are subject to are different, the financial institutions have been excluded from the analyses. As financial performance measure in the study, Tobin's q ratio which is a market-based indicator have been used. The relevant data used in the study was obtained through the financial statements of the companies in question and their operating reports. The information related to the financial statements of for the period of 2006-2007 were obtained from the website of Borsa Istanbul (<http://www.borsaistanbul.com>); the financial statements for the period of 2008-2013 were obtained from the website of the Public Disclosure Platform (www.kap.gov.tr). In cases where the relevant data was not accessible from the websites of ISE or the Public Disclosure Platform, the data was obtained through the analysis of operating reports of the companies posted on their own websites. The analysis was carried out through the Stata 12.0 program.

B. Hypotheses and the Model

In the study, in order to determine the impact of gender over financial performance, the panel data analysis method that brought together the cross section observations of the company for the period of 2006-2013 was used. The total number of data included in the study was 600 (75*8). Four different hypotheses were designed separately for each of the following; the theory of agency and resource dependence and resource-based approach; the clause "at least one female member is to be available in the executive board" which is one of the regulations of corporate governance, and based on the relevant literature, regarding the correlation between the female members and administrators in the executive boards and top administrative positions and financial performances of companies.

H₁: There is a positive correlation between the ratio of female members in the executive board and the Tobin's q ratio which is the measurement of financial performance.

H₂: There is a positive correlation between the fact that the head of the executive board is a woman and Tobin's q ratio which is the measurement of financial performance.

H₃: There is a positive correlation between the ratio of female members in top management and the Tobin's q ratio which is the measurement of financial performance.

H₄: There is a positive correlation between the fact that the CEO/the director is a woman and the Tobin's q ratio which is the measurement of financial performance.

The model used in the study has been determined as a result of a literature review. There are four independent and five control variables that

determine the financial performance in the model and the model is illustrated in equation 1.

$$(1) \quad TQ_{i,t} = \beta_0 + \beta_1 FMEB_{i,t} + \beta_2 HEBW_{i,t} + \beta_3 FMTM_{i,t} + \beta_4 CGDW_{i,t} + \beta_5 TNEB_{i,t} + \beta_6 LR_{i,t} + \beta_7 LNA_{i,t} + \beta_8 C8_{i,t} + \beta_9 C9_{i,t} + \varepsilon_i$$

In the model;

Dependent Variable:

TQ= Tobin's q ratio

Independent Variables:

FMEB= The ratio of female members in executive board to the total number of board members

HEBW= Whether the head of the executive board is a woman

FMTM= The ratio of female members in the top management to the total number of people in the top management position

CGDW= Whether the CEO/ general director is a woman

Control Variables:

TNEB = The total number of executive board members

LR= The financial leverage ratio

LNA= The natural logarithm of the size of assets

C8= The 2008 effect of the global crisis

C9= The 2009 effect of the global crisis

IV. Findings and Conclusion

A. Descriptive Statistics

Table 1 displays the descriptive statistics for all 75 companies.

Table 1: *Descriptive Statistics*

Variable	Mean	Std. Dev.	Min	Max
TQ	1.4528	1.5342	0.35	26.57
FMEB	0.1261	0.1348	0.000	1.000
HEBW	0.1217	0.3272	0.000	1.000
FMTM	0.1097	0.1645	0.000	1.000
CGDW	0.0461	0.2058	0.000	1.000
TNEB	7.0568	1.9950	3	17
LR	0.4478	0.2328	0.0200	1.0385
LNA	19.1444	1.7380	13.0653	23.9580

As it can be seen in the Table 1, the average ratio of female members in the executive board (FMEB) of the companies that are included of the analysis is 12,6% and the average ratio of female members in the top management to the total number of people in the top management position (FMTM) is 10,9%. For the analysis period, in 73 year-business data the head of the executive board is a woman (HEBW) and in 29 year-business data the CEO/ general director is a

woman (CGDW). For years included in the analysis, one of the growth indicators of institutions, Tobin's q ratio (Alparslan and Aygün, 2013) has the lowest value 0.35, the highest value 26.57 and mean value 1.45. Leverage ratio, reflecting actives financed with debt (Robinson et al., 2004) has the highest value of 1.03 and lowest value of 0.44

B. Panel Data Analysis

A balanced panel data set was used in the study. To identify which empirical methodology is most suitable, the Breusch-Pagan Lagrange multiplier (LM) test is performed to compare the simple OLS regression and the random effect regression. The Breusch-Pagan Lagrange multiplier test indicates that $\chi^2(01) = 126.10$ and $\text{Prob} > \chi^2 = 0.0000$; thus, the null hypothesis is rejected. In other words, the random effect regression is more appropriate for our data. Subsequently, Hausman's specification test is performed to compare fixed effect and random effect regressions. According to the Hausman test ($\chi^2(9) = 8.72$ and $\text{Prob} > \chi^2 = 0.4632$), the null hypothesis is not rejected, and the random effect regression is appropriate for the model for this study. To obtain unbiased statistical inference, the estimated random effects model is analyzed in terms of serial autocorrelation and heteroscedasticity. According to the Durbin-Watson test (Durbin-Watson = 1.4254896), the null hypothesis is not rejected, or, in other words, serial autocorrelation violates the estimation results. In addition, it was test through the Levene, Brown and Forsythe's tests whether there was a heteroscedasticity in the model. The test statistics of Levene, Brown and Forsythe (w_0, w_{50}, w_{10}), were compared with the (74,523) degree of freedom Snedecor F table and the hypothesis H_0 arguing that "variations of the units are equal" was rejected ($W_0 = 7.6013208$, $\text{Pr} > F = 0.00000000$; $W_{50} = 2.4126298$, $\text{Pr} > F = 0.00000001$; $W_{10} = 7.6013208$, $\text{Pr} > F = 0.00000000$). Therefore, there is a heteroscedasticity in the models.

To obtain an unbiased statistical estimation, the panel corrected standard errors (PCSE) method is carried out. Table 2 presents the multivariate results using random effect regression for our sampled companies.

Table 2: Panel Data Analysis

Variable	Coefficient	std.dev.	z-statistics	p-value
FMEB	-1.567411	0.5565881	-2.82	0.005
HEBW	0.3317601	0.1836017	1.81	0.017
FMTM	1.670354	0.4336079	3.85	0.000
CGDW	-0.3763218	0.1438506	-2.62	0.009
TNEB	0.003488	.0424556	0.08	0.935
LR	-0.5760773	0.196838	-2.93	0.003
LNA	-0.1495339	0.0348091	-4.30	0.000
C8	-0.6676279	0.1961351	-3.40	0.001
C9	-0.286042	0.1978515	-1.45	0.148
(_CONS)	4.658498	1.025399	4.54	0.000

The explanatory power of regression estimated in accordance with random effects model corrected by the panel PCSE is approximately 20% for the model. The validity of the regression equation is exceptionally high (Prob > chi2 = 0,0000).

The direction of coefficient obtained as a result of the analysis carried out within the framework of the (H₁) and (H₄) is, contrary to expectation, negative and significant. The direction of coefficient obtained as a result of the analysis carried out within the framework of the (H₂) and (H₃) is positive and significant.

A negative and significant correlation was found between the leverage ratio and the financial performance. In other words, when the debt level of the companies increased, the Tobin's q ratio decreased. Additionally there is a negative and significant correlation between the firm size and the financial performance. Another finding of the analysis showed that the financial performance of the companies in 2008 during which Turkey was engulfed by the Global Crisis were negatively affected.

A possible explanation for the negative relationship between the ratio of female executives and financial performance can be "social window dressing". It is argued that women on boards especially less than two do not have real influence or power on boards like men. They are featured ostensibly which may be treated as peripheral members (Zelechowski and Bilimoria 2004). Thus, the role of women on boards is associated with the legitimacy concerns (Meyer and Rowan 1977). It is argued that less than two women on boards won't be able to affect the decision process of the firm. If the necessary power, authority and responsibility are not given to women, the gender diversity in board may not produce any significant change (Konrad et al. 2008). Additionally, women participation in executive positions is generally accepted as source of non-financial returns such as corporate social responsibility and reputation; it is regarded as logic of social marketing and communication for the stakeholders.

On the other hand, the positive relationship between Tobin's q ratio and the ratio of female members in top management and also the fact that the head of the executive board is a woman provide important evidence of women executives may provide positive contribution on firms' financial performance. There are two main limitations of this study; one is the limited number of firms on XULUS and the other is limited proportion of women in these firms. Despite the mentioned limitations, it is expected that this study can give useful directions for future researches.

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