AUDIT COMMITTEE AND FIRM VALUE: AN EMPIRICAL INVESTIGATION[*]

Associate Prof. Dr. Ahmet ÖZCAN[**]

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ABSTRACT

The objective of this paper is to analyze the impacts of audit committee on firm value. Employing panel data on a sample that consists of 141 manufacturing firms whose shares are traded on Borsa Istanbul during the period between 2011 and 2019, this paper found that the inclusion of audit committee members with accounting and finance background, audit committee size and the number of audit committee meetings positively influence firm value. This paper demonstrates that the value of manufacturing firms listed on Borsa Istanbul is significantly affected by audit committee characteristics. In the context of emerging economies, this paper offers new perspectives on the association between firm value and audit committee. The results of empirical analysis also provide important implications for policymakers, creditors and shareholders.

Keywords: Audit Committee, Firm Value, Agency Theory

JEL Classification: M40, M42, M49

DENETİM KOMİTESİ VE FİRMA DEĞERİ: AMPİRİK BİR ARAŞTIRMA

ÖZ

Bu çalışmanın amacı, denetim komitesinin firma değeri üzerindeki etkilerini araştırmaktır. 2011-2019 yılları arasında Borsa İstanbul'da işlem gören imalat sanayinde faaliyet gösteren 141 firmaya ait veriler kullanılmıştır. Panel veri analizinin sonuçlarına göre, denetim komitesi üyelerinin muhasebe ve finans

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[**] Adana Alparslan Türkeş Bilim ve Teknoloji Üniversitesi, İşletme Fakültesi, Yönetim Bilişim Sistemleri Bölümü, aozcan@atu.edu.tr, orcid.org/0000-0002-9021-6096
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uzmanlığı, denetim komitesi büyüklüğü ve denetim komitesi toplantılarının sıklığı firma değerini olumlu yönde etkilemektedir. Bu çalışma, Borsa İstanbul'da işlem gören imalat sanayinde faaliyet gösteren firmalarının değerinin, denetim komitesi özelliklerinden önemli ölçüde etkilendiğini göstermektedir. Gelişmekte olan ekonomiler bağlamında, bu çalışma firma değeri ile denetim komitesi arasındaki ilişki hakkında yeni perspektifler sunmaktadır. Analizin sonuçları düzenleyici kurumlar, kreditörler ve yatırımcılar için de önemli çıkarımlar sağlamaktadır.

Anahtar Kelimeler: Denetim Komitesi, Firma Değeri, Vekalet Teorisi

JEL Sınıflandırması: M40, M42, M49

1. INTRODUCTION

Many theories have been developed to identify factors that influence firm value. In the globalized economic environment, firms strive to maximize their value. This is because when a firm succeeds to increase its value, it will ultimately soar the wealth of shareholders. The present study aims to analyze factors affecting firm value from the perspective of auditing activities in an emerging market context.

The effectiveness of audit committee is one of the topics that grab too much attention from researchers. Over the last two decades, corporate frauds in several firms (such as Enron, Parmalat Toshiba etc.) have substantially eroded investor confidence in the integrity of firms' financial statements. In fact, agency conflicts between firm management and stockholders have led corporate frauds. Many countries have introduced regulatory reforms (such as SOX in USA, Clause 49 in India, Financial Security Law in France and Code Tabaksblat in Netherlands) that mainly focus on enhancing the quality of corporate governance mechanisms. These reforms have brought critical changes for duties and responsibilities of the audit committee.

In the aftermath of accounting frauds, audit committees have grabbed considerable attention of stakeholders. Due to increasing demand for effective auditing, noticeable attention has been paid to the formation of audit committees (Park 2019; Abbott et al. 2003). In today's business world, private and public firms establish the audit committee, an important corporate governance mechanism, to improve the integrity of financial statements and internal control systems (Ali et al. 2018; Larcker and Richardson 2004; Cohen et al. 2004). Furthermore, audit committee may also bolster the effectiveness of board of directors through monitoring their decisions (Carcello et al. 2002). Setia-Atmaja (2009) stated that audit committee is tasked with monitoring financial reporting process, internal controls and audit process. This enables firm management to reduce agency conflicts by yielding accurate accounting numbers, hence the information asymmetry between external and internal stakeholders can mitigate.

In the global economic environment, a well-established audit committee can increase the public trust towards financial markets, strengthen internal control mechanisms and play a vital role in controlling agency conflicts. In firms where agency conflicts are severe, audit committee can serve as an effective mechanism, alleviating agency problems between shareholders and managers. Audit committees should take steps that decrease agency problems between managers and shareholders by restraining management incentives that do not increase firm value. Audit committees are increasingly playing more proactive role in important areas such as corporate governance and risk management (Martinov-Bennie et al. 2015). When firms clearly set out the scope authority and duties of audit committee, the effectiveness of audit committee in creating value will increase. To provide effective oversight, the audit committee should collaborate with managers of the firm and independent auditors.

In emerging economies, weak legal enforcement and low level of disclosure standards noticeably increase the adverse impacts of agency conflicts. Mitton (2002) claimed that weak investor protection in emerging markets causes firms to establish effective corporate governance mechanisms that can deal with agency conflicts. Audit committee is one of these corporate governance mechanisms that enable firms to overcome problems arising from agency conflicts. In that manner, audit committee serves an important link between firm management and stockholders. In the current business world, audit committee, one of the key components of monitoring function, is the focus of standard setting bodies and financial market participants. A well-established audit committee can prevent the expropriation of minority stockholders by the shareholders who control the firm. Ika and Ghazali (2012) stated that an effective audit committee are likely to urge firm management to disclose financial statements on a timely basis.

Yurtoğlu (2000) asserted that investor protection regulations in Turkey are low like those in other emerging markets, hence the likelihood of occurrence of agency conflicts is significantly high. In weak regulatory environment, the structure and roles of audit committee can vary among firms (Hashim and Amrah 2016). Thus, the contribution of audit committee to enhancing firm value is expected to be different for firms operating in emerging markets.

Despite the increasing importance of audit committee, there has been little empirical studies that clarify the association between audit committee and firm value from the perspective of emerging markets. The present paper aims to elucidate the relationship between the characteristics of audit committee and firm value by employing a sample that consists of publicly traded 141 manufacturing firms. The major contribution of the present paper is that it lends support to the statement that the characteristics of audit committee have strong influence on enhancing firm value measured by Tobin's q. The remainder of this paper is organized as follows. Second section discusses the specificities of Turkish context. Third section provides the literature review and research hypotheses. Research design is provided in fourth section. Fifth section puts forward empirical results. In the last section, the concluding remarks and recommendations for further research studies are presented.

2. THE SPECIFICITIES OF TURKISH CONTEXT

Turkey is an important emerging country located in the intersection of Europe and Asia. Turkish financial markets have attracted considerable attention from international investors, especially in the last two decades. International investors attach great importance to the reliability and accuracy of financial statements of firms. Regulatory authorities in Turkey have taken critical measures related with auditing processes for increasing the integrity of financial statements. Turkish economic environment provides a unique setting where to analyze the impacts of audit committee on firm value.

Turkish economy is mainly dominated by financial institutions. Bank financing appears to be most common form of corporate financing in Turkish business environment. Financial fragility of Turkish firms considerably influences the behavior of bank lending. When banks decide to decrease their lending to firms and households, firms face difficulties in obtaining cash inflows to enhance firm value. Turkish firms exhibit a high level of concentration ownership structure. Like other emerging economies, Turkey has faced the problem of investor confidence (Kriwoluzky and Rieth 2018). To overcome the problems arising from the lack of investor confidence, regulatory bodies in Turkey have initiated structural reforms that boost the investor confidence in the last decade.

Emerging markets are characterized by macroeconomic instability such as high inflation rate, trade deficit and volatile exchange rate. Global economic uncertainty and macroeconomic instability have severely influenced the operational efficiencies of Turkish firms. Güney (2020) stated that investment plays a significant role in economic performance and macroeconomic stability should be adopted as one of the priorities of Turkey’s economic policy.

In Turkey, Capital Markets Board of Turkey (CMB) and Banking Regulation and Supervision Agency (BRSA) have direct authority over the legislation of audit committee. Turkish authorities have enacted a set of regulatory reforms that encourage firms to form an audit committee with the objective of enhancing quality of monitoring activities.

In Turkey, regulatory requirements have significant impacts on the roles and formation of audit committee. Currently, firms listed on Borsa İstanbul are obliged to form an audit committee that must have at least two members selected by the board of directors. Regulatory authorities and standard setting bodies in Turkey have delegated a broad array of responsibilities to audit committees. According to the regulations of Capital Markets Board of Turkey (CMB) and Banking Regulation and Supervision Agency (BRSA), the audit committees' specific duties and responsibilities are as follows:

- To oversee the preparation of financial statements;
- To analyze the efficiency of internal control systems;
- To review regulatory compliance;
- To monitor the activities of independent audit firms chosen by the board of directors.

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In this section of the study, prior studies and hypotheses development are presented. The influence of audit committee characteristics on firm value and performance has been a primary focus for many researchers over the years. Prior studies have found mixed results. The issue of audit committee is mainly explained by agency theory on the literature. This paper uses agency theoretical framework to analyze the relationship between audit committee characteristics and firm value. Agency theory clarifies the demand of monitoring activities performed by audit committees and external auditors. According to the agency theory, monitoring activities performed by audit committee and external auditors contribute to enhance the efficiency of corporate controls, the reliability of financial statements and decrease the asymmetric information between firm management and shareholders (Miettinen 2008). Agency theory states that as agency conflicts become severe, firm management demands for high quality monitoring by the audit committee.

The formation of audit committee has become a critical issue in the business environment. Many stakeholders such as creditors and shareholders are strongly interested in the formation of audit committee. Agency problems are more severe in firms that have no audit committee. Prior studies stated that the composition of the audit committee considerably influences its effectiveness.

Li et al. (2012) stated that the inclusion of independent member on the audit committee improves the organizational efficiency and credibility of financial reporting process. Rahman and Ali (2006) purported that firms include independent member on the audit committee to have organizational legitimacy in the business environment. Using a sample of 200 firms operating in the USA, Chan and Li (2008) supported the assertion that the independence of audit committee positively influences firm value and the efficiency of corporate governance. Mautz and Neumann (1977) claimed that the characteristics of audit committee members significantly influence audit committee's success. In the current business environment, regulatory and legislative authorities heavily emphasize the independence of audit committee. Setia-Atmaja (2009) employed a panel data of firms listed on

Australian Securities Exchange during the period between 2000 and 2005 to investigate the impacts of audit committee independence on firm value. The results of panel data analysis reveal that audit committee independence remarkably enhances the firm value.

Capital Markets of Board (CMB) in Turkey requires audit committees to have a minimum of two members. Some of previous studies (Metawee 2013; Klein 2002) found that the size of audit committee considerably influences the effectiveness of their monitoring activities. Swamy (2011), Bauer et al. (2010) and Kyereboah-Coleman (2008) supported the statement that large audit committees are significantly much more effective in detecting accounting frauds, thereby audit committee size has positive impacts on the effectiveness of internal controls. Generally speaking, the size of audit committee strongly depends on industry, organizational complexity and responsibilities of the audit committee. In the modern business environment, audit committee must be large enough to have members from different views and backgrounds. It is expected that a large audit committee can help the firm to mitigate external uncertainties and provide a wide variety of knowledge and experience. In the light of this discussion, the first hypothesis is formulated as follows;

H1: There is a positive association between audit committee size and firm value.

The inclusion of accounting and finance experts on firms' audit committee is expected to attenuate agency conflicts between firm management and external stakeholders. Corporate governance guidelines in many countries mandate firms to hire at least one accounting and finance experts on the audit committee. Mangena and Pike (2005) and Bedard et al. (2004) stated that the presence of accounting and finance experts on the audit committee significantly contributes to the detection of weaknesses in internal control and gets positive reaction from financial markets. McMullen and Raghunandan (1996) claim that the accounting and finance experts help audit committee to raise awareness about internal control mechanisms and financial reporting issues. Chan and Li (2008) and Hsu (2008) postulated that financial performance of firms is positively influenced by the presence of audit committee members with accounting and finance background. In the context of emerging markets, the role of accounting and finance experts on the audit committee is little known. Based on this argument, the second hypothesis is formulated as follows;

H2: There is a positive association between the presence of accounting and finance experts on the audit committee and firm value.

Independence and accounting expertise cannot increase the audit committee's effectiveness if the audit committee fails to actively collaborate with managers of the firm and independent auditors. Brick and Chidambaran (2010) claimed that frequent audit committee meetings bring pressure on firm management to disclose supplementary financial and non-financial information and a high number of audit committee meetings can increase the monitoring effectiveness of audit committee which in turn has a positive impact on firm value. DeZoort et al. (2002) argued that audit committee diligence refers to the carefully analyzing the firm's business and financial reporting process. Following Abbott et al. (2004) and Ika and Ghazali (2012), the number of audit committee meetings is used as a proxy for the audit committee diligence. The audit committee diligence is one of the key factors affecting the effectiveness of audit committee. Surely, the number of audit committee meetings can vary according to organizational structure, firm size and industry in which the firm operates. In Turkey, Capital Markets Board of Turkey (CMB) states that audit committee must have at least four meetings each year. Based on this argument, the last hypothesis is established as follows;

H3: There is a positive association between the audit committee diligence and the audit committee and firm value.

4. RESEARCH DESIGN

4.1. Data

Sample data are presented in this part of the paper. Research hypotheses are tested employing a dataset of 141 manufacturing firms traded on Borsa Istanbul from 2011 to 2019. Time period from 2011- 2019 is chosen due to the fact that Turkish Commercial Code that came into effect on 14 February 2011 has substantially changed the structure of firms' audit committee and dynamics of the business practices. The sample data are collected from the annual operating reports and financial statements retrieved from public disclosure platform (www.kap.gov.tr).

The sample includes 141 manufacturing firms. Table 1 shows sector classification of sample firms. The sector with the largest representation is chemicals, petroleum rubber and plastic products with 28 firms (19.8 percent), followed by fabricated metal products with 26 firms (18.4 percent) and food and beverage with 25 firms (17.7 percent). The least represented sector in the final sample is wood products with 6 firms (4.2 percent).

Table 1. Distribution of Sample Firms by Sector

Industry	Number	Percentage
Chemicals, Petroleum Rubber and Plastic Products	28	19.8
Fabricated Metal Products	26	18.4
Food, Beverage and Tobacco	25	17.7
Non-Metallic Mineral Products	19	13.4
Textile, Wearing Apparel	16	11.3
Basic Metal	11	7.8

Paper and Paper Products	10	7.0
Wood Products	6	4.2
Total	141	100

4.2. Empirical Model

In this section of the paper, the empirical model is presented. The selection of appropriate variables enhances the performance of an empirical model. Following Hamdan et al. (2013), Chan and Li (2008), Zhang et al. (2007) and Aldamen et al. (2012), audit committee size, the presence of accounting and finance experts and the number of audit committee meetings are selected as independent variables.

The ultimate goal of the present study is to analyze whether the effectiveness of audit committee has an influence on the value of firms. Hence, the dependent value is firm value which is measured by Tobin's q ratio. Tobin's q ratio provides information whether the firm management can create value for its stakeholders by using assets. If Tobin's q ratio is less than one, replacement cost is greater than market value of equity and firm management should not inject new capital. Consistent with prior studies (Ali et al. 2018; Barua et al. 2010), profitability, firm size and leverage are incorporated into the empirical model as control variables. The inclusion of control variables enables us to capture the effects of omitted variables. The data for predictor variables and control variables can be collected from annual reports and financial statements. To test research hypotheses, the following empirical model is estimated.

$$Q_{it} = \beta_0 + \beta_1 ACSIZE_{it} + \beta_2 ACEXP_{it} + \beta_3 ACMEET_{it} + \beta_4 PROFIT_{it} + \beta_5 SIZE_{it} + \beta_6 LEV_{it} + \varepsilon$$

in which;

Q_{it}: Tobin's q ratio is the proxy for the value of firm *i* in year *t*

$ACSIZE_{it}$: The number of members on audit committee of firm *i* in year *t*

$ACEXP_{it}$: A dummy variable that is equal to 1 if an audit committee has a member having expertise in accounting and finance, 0 otherwise.

$ACMEET_{it}$: The number of audit committee meetings reported by the firm *i* in year *t*

$PROFIT_{it}$: The profitability, measured by the return on assets of the firm *i* in year *t*

$SIZE_{it}$: Size, measured by the natural logarithm of total assets of the firm *i* in year *t*

LEV_{it}: Leverage, measured by the ratio of total liabilities to total assets of the firm *i* in year *t*

ε: error term

5. RESULTS AND DISCUSSION

5.1. Descriptive Statistics and Correlation Coefficients

Table 2 shows descriptive statistics for all variables employed in the empirical model. The results reveal that average Tobin's q ratio stood at 6.889, ranging from -13.28 and 49.4. In terms of accounting and financial expertise, the mean is 0.322 percent, implying that there is little awareness regarding the experience of audit committee members with strong accounting and finance background. In the developed economies, the ratio of accounting and financial experts in the audit committee mounts above 60 percent (Ali et al. 2018; Davidson et al. 2004; Song and Windram 2004).

The mean of profitability measured by return on assets is 0.091, with a standard deviation of 0.076. The mean of leverage measured by the ratio of total liabilities to total assets is 1.158, with a standard deviation of 1.602. The mean of size measured by the natural logarithm of total assets is 8.297, ranging from 3.098 to13.176.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Q	8883	6.889	11.479	-13.28	49.4
ACSIZE	8883	2.111	0.315	2	3
ACEXP	8883	0.322	0.467	0	1
ACMEET	8883	5.094	1.157	4	7
PROFIT	8883	0.091	0.076	-0.204	0.213
LEV	8883	1.158	1.602	0.07	4.250
SIZE	8883	8.297	2.890	3.098	13.176

Table 3 signifies Pearson correlation coefficients of for the predictor variables and dependent variable. Firm value measured by Tobin's q ratio has positive correlations with all independent and control variables except firm size and leverage. Tobin's q ratio is negatively correlated with leverage ($r = -0.005$, $p < 0.10$), revealing that firms with high financial leverage have difficulty soaring their value. The number of meetings of audit committee reported by the firm (ACMEET) is not statistically associated with audit committee size (ACSIZE). According to Table 3, no correlation coefficients are greater than 0.80, hence, there is no multicollinearity problem (Fields et al. 2001; Greene 2003).

Table 3. Pearson Correlation Coefficient

Variable	Q	ACSIZE	ACEXP	ACMEET	PROFIT	LEV	SIZE
Q	1						
ACSIZE	0.046	1					
ACEXP	0.303***	0.054**	1				
ACMEET	0.479***	0.068	0.714***	1			
PROFIT	0.560***	0.049***	0.276***	0.402*	1		
LEV	-0.452*	-0.044***	-0.201***	-0.323***	-0.464	1	
SIZE	-0.005***	0.051***	0.135***	0.202***	0.228***	-0.373*	1

Notes: ***, ** and * denote the two-tailed significance at the one, five and ten-percent levels, respectively.

The present study also computed the variance inflation factors (VIFs) and reported that all independent and control variables have VIFs less than 3 (i.e., between 1.01 and 2.31). The values of variance inflation factors that exceed 10 indicate multicollinearity problem (Freund and Wilson, 1998), thus the overall results imply that multicollinearity is not a problem that distorts the results of regression analysis.

Table 4. Variance Inflation Factors

Variable	VIF	1/VIF
ACSIZE	1.01	0.99348
ACEXP	2.05	0.48836
ACMEET	2.31	0.43204
PROFIT	1.41	0.71169
LEV	1.44	0.69469
SIZE	1.18	0.85076
Mean VIF	1.56	

5.2. Panel Unit Root Tests

Levin-Lin-Chu Test and Im–Pesaran–Shin Test are implemented for the unit root test. It is vital to investigate the existence of unit roots in series, since unit roots can considerably distort hypotheses testing (Chen 2002). The existence of unit roots in panel data can also cause spurious regression. The null hypothesis is that the data series have unit roots and the alternative hypothesis is that data series is stationary. Table 5 reports the results of Levin-Lin-Chu Test and Im–Pesaran–Shin Test. According to both Levin-Lin-Chu Test and Im–Pesaran–Shin Test, the null hypothesis is rejected, namely all data series are stationary.

Table 5. Panel Unit Root Test

Variables	Levin-Lin-Chu Test	Im–Pesaran–Shin Test
Q	-14.099***	-7.062***
ACSIZE	-26.613***	-12.415***
ACEXP	-32.653***	-16.092***
ACMEET	-11.530***	-6.481***
PROFIT	-57.064***	-29.168***
LEV	-70.731***	-40.591***
SIZE	-82.192***	-43.445***

Notes: ***, ** and * denote the two-tailed significance at the one, five and ten-percent levels, respectively.

5.3. Regression Results

This paper used panel data regression analysis to assess the parameters of the empirical model as an effort to get more reliable and accurate results. The cross-sectional observations are combined in panel data analysis (Baltagi and Hashem Pesaran, 2007). Panel data models yield such a rich environment for the establishing of empirical models. The effects of cross sectional and time series dimension could be observed in panel data models. Panel data regression models are increasingly used in the field of accounting and auditing. There are three competing models in panel data models; fixed effects, random effects and pooled regression. In pooled regression models, firm-specific effects are ignored. Before selecting the appropriate estimation methods, some diagnostic tests should be performed. The results of F-test, Breusch-Pagan LM test and Hausman test are presented in Table 5. The calculated F-statistic (F=31.01) is greater than critical value, hence it is not statistically appropriate to pool the sample data.

In Breusch and Pagan LM test, OLS model is used as null hypothesis and random effects model is used as alternative hypothesis. Breusch and Pagan LM test result indicates that null hypothesis is rejected, namely random effects could be observed in the sample data. Hausman test enables us to make a choice between random effects and fixed effects model. The result of Hausman test is statistically significant ($p<0.05$), implying that fixed effects model should be used to estimate the model coefficients.

Table 6. Model Specification Tests

Tests	Test Value	p-value
F test	31.01***	0.000
Breusch and Pagan LM	2249.93***	0.000
Hausman test	141.52***	0.000

Notes: ***, ** and * denote the two-tailed significance at the one, five and ten-percent levels, respectively.

Table 7 presents the results of panel data regression analysis. F-value of fixed effects model is statistically significant at the level of 0.01. The value of R-squared value is equal to 0.439, implying that 43.9 percent of changes in dependent variable is clarified by predictor variables. Additionally, the empirical model is tested for autocorrelation employing Durbin-Watson test. The value of Durbin- Watson test is 2.105, indicating that autocorrelation does not exist in the model.

The results of panel data regression analysis show that coefficient on audit committee size (ACSIZE) is positive, but insignificant. The evidence summarized in Table 7 indicates that firm value measured by Tobin's q increases when firms increase the size of audit committee, supporting the findings of Swamy (2011) and Bauer et al. (2010). A possible explanation for this finding is that larger audit committees are likely to be much more proactive in monitoring and controlling business operations, thereby creating value. A large audit committee successfully provides a wide set of experience, skills and knowledge. The inclusion of audit committee members having different managerial experience and knowledge considerably leads to higher firm valuation. Based on this empirical finding, the hypothesis that there is a positive association between audit committee size and firm value is accepted.

Panel data regression analysis provides evidence that there is a positive and statistically significant relationship between firm value and the presence of audit committee members who have accounting and financial expertise ($t=1.85$, $p=0.064$). This result confirms the findings of Chan and Li (2008) and Hsu (2008). For increasing firm value, the members of firms’ audit committee should be adequately qualified in accounting and finance. Generally, it is purported that the expertise in accounting and finance enables a deep understanding of audit and financial reporting process and alleviates agency conflicts. Moreover, accounting and finance experts that serve on firms’ audit committee can contribute to the detection of financial reporting frauds that mitigate firm value. Accordingly, the hypothesis that there is a positive association between the presence of accounting and finance experts on the audit committee and firm value is accepted.

The variable of the number of audit committee meetings (ACMEET) has a positive coefficient (1.491) and is statistically significant at 0.01 level. This result implies that there is a strong and positive link between firm value and the number of audit committee meetings. High frequency of audit committee meetings is one of important keys for the better communication among audit committee members. This finding ties well with prior studies (Abbott et al. 2004; Ika and Ghazali 2012) that stated audit committees meeting more frequently are remarkably effective in reducing uncertainty, internal control problems and agency conflicts between management and shareholders. Audit committees are asked to meet regularly and take action immediately if needed. Thus, the hypothesis that there is a positive association between the audit committee diligence and the audit committee and firm value is accepted.

The results of panel data regression analysis put forward that profit has a significant positive impacts on the firm value (t= 8.67, p= 0.000). Not surprisingly, a high level of profitability considerably boosts firm value. Leverage is significantly negatively associated with firm value (t= -8.24, p= 0.000). This result implies that firms should find ways to reduce debts so as to maximize their value. In respect of size, the relationship between firm value and firm size is not statistically significant (t=0.47, p=0.635). Firm size has no influence on enhancing firm value.

Table 7. Panel Data Regression Results

Variable	Coefficient	Std. Err.	t	P>t
ACSIZE	0.698	0.452	1.55	0.123
ACEXP	0.820*	0.443	1.85	0.064
ACMEET	1.491***	0.197	7.56	0.000
PROFIT	21.045***	2.427	8.67	0.000
LEV	-1.211***	0.147	-8.24	0.000
SIZE	0.041	0.089	0.47	0.635
Constant	-3.303	1.454	-2.27	0.023
R-squared	0.439			
N	8883			
Prob > F	0.000			
Durbin-Watson	2.105			

Notes: ***, ** and * denote the two-tailed significance at the one, five and ten-percent levels, respectively.

5.4. Robustness Analysis

In this part of the paper, further analysis is conducted in order to check the robustness of the empirical results. The results of additional analysis are reported in Table 8. Year and industry dummies are included in order to control the effects of years and industries. Family ownership (FAMOWN) is employed as a dummy variable in the empirical model that takes the value of one if the percentage of stocks owned by the controlling family is greater than 50% of the total shareholders' equity and zero otherwise.

A high level of ownership concentration by families is common in Turkish business environment (Oba et al. 2010). Approximately 95% of firms in Turkey is family-owned firms (Fındıkçı 2008). Family ownership influences firms' corporate governance policies in many ways. The results reported in Table 8 enable us to comprehensively analyze the effects of family ownership, year dummies and industry dummies on the firm value.

Table 8 indicates that the inclusion of family ownership, year and industry dummies in the empirical model does not change the results reported in Table 7. As shown in Table 8, the coefficient on the variable of ACEXP, ACMEET and PROFIT remains positive and significantly related to firm value, while the variable of LEV remains negative and significantly related to firm value. Additionally, family ownership appears to have no significant effects on sample firms' value.

Table 8. Additional Analysis

Variable	Coefficient	Std. Err.	t	P>t
ACSIZE	0.646	0.458	1.41	0.159
ACEXP	0.785*	0.446	1.76	0.079
ACMEET	1.485***	0.198	7.48	0.000
PROFIT	21.168***	2.470	8.57	0.000
LEV	-1.229***	0.149	-8.24	0.000
SIZE	0.069	0.089	0.78	0.437
FAMOWN	0.029	0.255	0.11	0.909
Constant	-4.033	1.868	-2.16	0.031
Year Dummies	Included			
Industry Dummies	Included			
R-squared	0.366			
N	10152			
Prob > F	0.000			

Notes: ***, ** and * denote the two-tailed significance at the one, five and ten-percent levels, respectively.

6. CONCLUDING REMARKS

Measuring firms' value is a vital empirical question. Numerous research studies have aimed to analyze the firm and industry level factors affecting firm value. There is a growing interest toward audit committee characteristics in the global business environment. Audit committees are inevitable part of global business environment and tasked with monitoring risks related with operational, technology and regulatory. Additionally, audit committees in firms are responsible for overseeing financial reporting process, the effectiveness of internal controls, external auditing and regulatory compliance activities.

There has been no prior research paper in Turkey that investigated whether audit committee characteristics are related with firm value. This study aims to explore the audit committee characteristics that can enhance firm value. Using a dataset that includes 8883 firm-year observations for the years 2011-2019, the present paper stated that the effectiveness of audit committee has considerable impacts on the value of manufacturing firms listed on Borsa Istanbul. Surely, the audit committee solely cannot soar the firm value, yet the well-established audit committee can contribute to the increasing firm value.

Taken together, the results of empirical analysis imply that effective audit committees play a supportive role in enhancing firm value. Although no statistically relationship between audit committee size and firm value is observed, a positive coefficient is found. The inclusion of audit committee members with accounting and finance expertise contributes to the increasing firm value. The findings that firm value is positively influenced by the inclusion of accounting and finance experts on the audit committee could encourage firms to have more audit committee members who have expertise on accounting and finance. In addition, a positive and significant association is found between the number of audit committee meetings and firm value. The empirical evidence provided by the present paper strongly supports the notion that a large number of audit committee meetings enhances firm value.

Audit committee has become an effective corporate governance mechanism that can prevent agency cost arising from managers and shareholders in the global economic environment. Enhanced audit committee remarkably mitigates agency conflicts by effectively monitoring of operational and financial reporting process. Internal and external stakeholders are aware that the benefits of having audit committee outweighs the costs. In line with prior studies, a well-established audit committee appears to contribute to the increase in firm value. It is also worth stating that the audit committee members' lack of familiarity of firm operations weakens the effectiveness of audit committee and firms should eliminate underperforming business operations to maximize firm value.

The results of this study yield prominent information that can be used by regulatory authorities, firm management and investors. Particularly, the validity of the results of the present study could also be investigated in other emerging markets. Future research can consider the impacts of audit committee on firms' financial performance. Also, the use of cross-country data may provide useful results.

YAZARIN BEYANI

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