

## The Association Between Board of Directors' Characteristics and the Level of Voluntary Disclosure: Evidence from Listed Banks in Borsa Istanbul

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### Abstract:

The main aim of this study is to investigate the association between some board of directors' characteristics (board independence, board size, board meetings and role duality) and the level of voluntary disclosure in annual reports of listed banks in Borsa Istanbul. The deductive approach was adopted by developing hypotheses based on previous studies' relevant theories and findings. Also, the panel data strategy was applied to analyze the collected data from annual reports across five years (2013-2017). The univariate statistical analysis and the multivariate Feasible Generalized Least Squares regression model are used in this study. The results showed that board independence, board size and board meetings were positively and significantly associated with the level of voluntary disclosure, whilst role duality was negatively but not significantly associated with voluntary disclosure. The results also indicated that all bank characteristics were positively and significantly associated with the level of voluntary disclosure. Most prior studies on voluntary disclosure practices have been undertaken in developed countries, and a few of them have focused on voluntary disclosure practices in the banking sector for a number of years (longitudinally). There

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is a requirement for more empirical studies in this area to confirm or disprove the previous results. This study will add value to the knowledge in the disclosure literature by clarifying the relationship between the board of directors' characteristics and voluntary disclosure in the banking sector of developing countries.

**Keywords:** Board of Directors Characteristics, Borsa Istanbul, Voluntary Disclosure.

**JEL Classification:** M4, M41.

## 1. Introduction

With the increase of globalization in the world's financial markets in recent years, voluntary disclosure has gotten much attention in the accounting literature. Voluntary disclosure is required to decrease the conflict of interests between management and shareholders because it increases transparency, which means managers cannot hold important information for their interests. Therefore, the asymmetry problem and managers' opportunistic behaviours will decrease.

Agency theory assumes that the conflict of interests between managers and shareholders denotes the absence of full disclosure (Lev & Penman, 1990). Barako, Hancock, & Izan (2006) indicate that publishing more voluntary information reduces agency costs. Also, signalling theory suggests that for managers who have more information signals to stakeholders, the information asymmetry problem can be diminished (Spence, 1973). Therefore, managers reveal more information to attempt to diminish users' uncertainty which decreases the capital cost and convinces the external users that they are working perfectly (Watson, Shrives, & Marston, 2002).

Mandatory disclosure is not enough to get capital as cheaply as possible. The capital need theory infers that managers have the motive to disclose further information for raising capital on the best possible terms and lower cost (Meek, Roberts, & Gray, 1995). Consequently, voluntary disclosure leads to higher demand for securities and a low cost per capita (Dye, 1985; Verrecchia, 1983).

The voluntary disclosure level varies from firm to firm because of some factors (Abeywardana & Panditharathna, 2016). One of these factors is the board of directors, which is an effective and important corporate governance mechanism. The board of directors is responsible for disclosing financial and non-financial information by preparing and publishing the annual reports to the related parties. Agency theory suggests that the board must effectively protect shareholders' interests (Ramadhan, 2014). The

board's effectiveness is influenced by some board characteristics such as composition, size, the duality of the CEO and board diversity (Brennan, 2006). Therefore, the characteristics of the board are expected to impact voluntary disclosure decisions.

This study aims to examine the relationship between some board of directors' characteristics (board independence, board size, board meetings and role duality) and the level of voluntary disclosure in the annual reports of listed banks in Borsa Istanbul.

## **2. Literature review and hypothesis**

Board of directors' characteristics is crucial determinants of voluntary disclosure. The common characteristics of the board of directors tested in the relevant literature are board independence, board size, board meetings and role duality).

### **2.1. Board independence and voluntary disclosure**

Independent directors' system can play many positive roles, such as developing the scientific efficiency and safety of the decision-making process, strengthening the competitiveness of the company, and preventing the president and other internal directors in the company from doing whatever they want (Zhang, Li, & Zhang, 2011). Resource dependence theory indicates that independent directors have the expertise, prestige, and communications to link companies to the external environment (Carpenter & Westphal, 2001; Hillman, Cannella, & Paetzold, 2000). Agency theory infers that independent directors play a vital role in overseeing the managers' performance and limiting their opportunism (Fama & Jensen, 1983). Therefore, it is expected that independent directors are to be more effective in satisfying shareholders' interests through accountability and transparency, and hence more relevant disclosure is expected (Moumen, Ben Othman, & Hussainey, 2016).

The results of previous studies were not consistent in relation to the association between the percentage of independent directors and the voluntary disclosure level. Several studies found a significant positive relationship between these two variables (Akhtaruddin, Hossain, Hossain, & Yao, 2009; Babío Arcay & Muiño Vázquez, 2005; Cerbioni & Parbonetti, 2007; Cheng & Courtenay, 2006; Donnelly & Mulcahy, 2008; Gisbert & Navallas, 2013; Grassa & Chakroun, 2016; Huafang & Jianguo, 2007; Uyar, Kilic, & Bayyurt, 2013) and some studies found a negative relationship (Abeywardana & Panditharathna, 2016; Eng & Mak, 2003; Habbash, Hussainey, & Awad, 2016; Matoussi & Chakroun, 2009; Rouf, 2011), and others found no significant relationship (Al-Najjar & Abed, 2014; Allegrini & Greco, 2013; Hieu & Lan, 2015; Khodadadi, Khazami, & Aflatooni, 2010;

Zhang et al., 2011). Accordingly, board independence is expected to improve voluntary disclosure as predicted by agency theory. Hence, the hypothesis is developed as follows:

**H<sub>1</sub>:** The level of voluntary disclosure is positively associated with the proportion of independent directors on the board.

## **2.2. Board size and voluntary disclosure**

The optimum size of the board of directors is a critical matter for any firm. A board of considerable size is difficult to coordinate; a small one is a favourable field of coordination, but the members may suffer from a shortage of experience and competence (Matoussi & Chakroun, 2009). There is no superiority of theory or empirical evidence to suggest a relationship between board size and the level of voluntary disclosure, and it is still an empirical issue (Cheng & Courtenay, 2006). However, Yermack (1996) discusses that many directors assist in improving the company's expertise, which may lead to increasing the disclosure quality. Some previous empirical studies found that firms with large board sizes were more likely to disclose more information voluntarily than companies with small boards (Akhtaruddin et al., 2009; Allegrini & Greco, 2013; Htay, 2012; Rouf, 2011). Based on the results of these studies, the following hypothesis is developed:

**H<sub>2</sub>:** The level of voluntary disclosure is positively associated with the number of the board of directors.

## **2.3. Board meetings and voluntary disclosure**

Recurrence of the board of directors' meetings represents the board activity which influences the ability of the board to work as an effective overseeing mechanism in decreasing agency conflicts (Xie, Davidson III, & Dadalt, 2003). Agency theory suggests that the frequency of board meetings influences the strength of corporate governance (Khanchel, 2007). Man et al. (2013) point out that board meeting numbers are considered an excellent proxy to evaluate the effectiveness of board performance and internal corporate governance. It is expected that increasing oversight leads to decreasing information asymmetry and lower agency costs, thereby increasing disclosures (Nelson, Gallery, & Percy, 2010).

Empirically, there is not enough evidence on the nature of the association between voluntary disclosure and board meetings. For example, Allegrini & Greco (2013) found a significant positive relationship between the meeting frequency and the voluntary disclosure level. The study by Albawwat & Basah (2015) showed that the frequency of board meetings has an insignificant influence on the voluntary disclosure of interim financial

reporting in Jordan. Hence, based on the above discussion, it is expected that voluntary disclosure is to be related positively to the number of board meetings. Consequently, the study hypothesized that:

**H<sub>3</sub>:** The level of voluntary disclosure is positively associated with the number of board meetings.

## **2.4. Role duality and voluntary disclosure**

According to agency theory, role duality limits the directors' ability to oversee the CEO, which may affect board independence and increase agency problems (Haniffa & Cooke, 2002). Therefore, it is necessary to separate between CEO and chairman to allow the board to put the CEO and management under pressure to disclose more information (Ramadhan, 2014).

Most empirical studies found that role duality is negatively associated with voluntary disclosure (Allegrini & Greco, 2013; Forker, 1992; Gisbert & Navallas, 2013; Gul & Leung, 2004; Huafang & Jianguo, 2007; Samaha, Khlif, & Hussainey, 2015). On the other hand, results of some studies showed that there is no significant association between role duality and voluntary disclosure (Al-Shammari & Al-Sultan, 2010; Cheng & Courtenay, 2006; Haniffa & Cooke, 2002; Hieu & Lan, 2015; Khodadadi et al., 2010; Ramadhan, 2014; Yuen, Liu, Zhang, & Lu, 2009). Accordingly, the hypothesis is formulated as follows:

**H<sub>4</sub>:** The level of voluntary disclosure is negatively associated with role duality.

## **3. Methodology**

The deductive approach was adopted by developing hypotheses based on previous empirical studies' relevant theories and findings. The data was collected from annual reports of listed banks in Borsa Istanbul across five years (2013-2017). Also, quantitative research design and longitudinal research (panel data) strategy were applied. The study used the content analysis technique to gather data. The study sample is represented by all listed banks (13 banks) in Borsa Istanbul (BIST BANKS) until the end of 2017.

### **3.1. Measuring the dependent variable**

To measure the level of voluntary disclosure, an unweighted voluntary disclosure index is used by developing a checklist containing 64 voluntary disclosure items split into six categories according to their nature (Appendix No. (1)). Then, giving a score of (1) if an item is disclosed and (0) if not. The voluntary disclosure index score (VDI) for all annual reports of banks was calculated as a proportion of the actual voluntary disclosure score (AVD) to

the maximum voluntary disclosure score (MVD), as noted below in equation (1).

$$DI = \frac{\sum_{i=1}^n AVD}{MVD} \quad (1)$$

Where:

VDI = Voluntary Disclosure Index.

AVD = Actual Voluntary Disclosure score ( $i = 1$  if the item is disclosed;  $i = 0$  if the item is not disclosed).,

MVD = Maximum applicable Voluntary Disclosure score.

$n$  = the number of items disclosed.

### 3.2. Measurements of independent and control variables

The definitions and measurements of the independent and control variables are displayed in Table (1).

Table 1. Measurements of the independent and control variables

Variables	Acronym	Measurement
Board Independence	BOIND	The proportion of independent (non-executive) directors on the board
Board Size	BOSIZE	The number of board members.
Board Meetings	BOMEET	Total number of board meetings per year
Role Duality	ROLDU	Dummy variable; (1) if the bank's CEO serves as a board chairman, (0) otherwise.
Bank Age	BAGE	Natural logarithm of the number of years from inception until 2017. $\ln(\text{bank age} + 1)$
Bank Size	BSIZE	Natural logarithm of total assets
Bank Profitability	BPROF	ROA = Net income / average of total assets
Bank Leverage	BLEVE	The ratio of total debt to total assets.

Source: Prepared by the authors based on prior studies.

The research framework and the relationship among research variables are shown in figure 1.

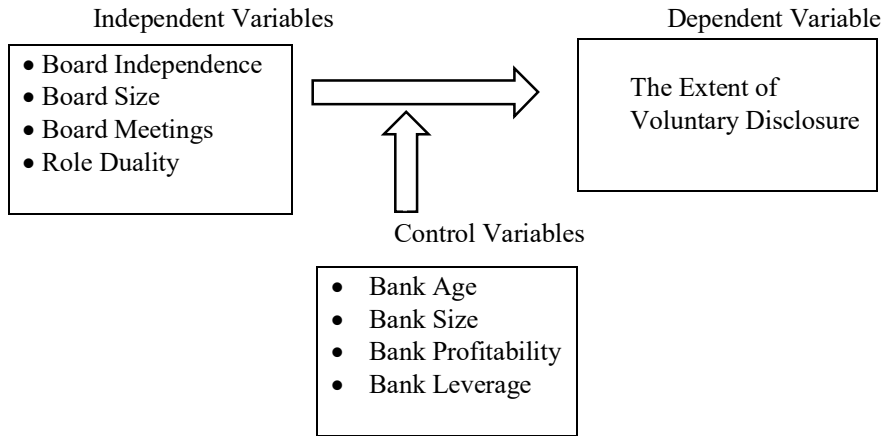


Figure 1. The research framework  
Source: Prepared by the authors.

### 3.3. Model development

The following model is formed in equation (2) to investigate the relationship between the board of directors' characteristics and the level of voluntary disclosure in the annual reports of listed banks in Borsa Istanbul.

$$VDI_{it} = \beta_0 + \beta_1 BOIND_{it} + \beta_2 BOSIZE_{it} + \beta_3 BOMEET_{it} + \beta_4 ROLDU_{it} + \beta_5 BAGE_{it} + \beta_6 BSIZE_{it} + \beta_7 BPROF_{it} + \beta_8 BLEVE_{it} + \epsilon_{it} \quad (2)$$

Where:

VDI = Voluntary Disclosure Index.

i = 13 Banks.

t = 5 Time Periods (2013-2017).

$\beta_0$  = Intercept.

$\beta_1$  to  $\beta_8$  = Coefficient of slope parameters.

BOIND = Board Independence.

BOSIZE = Board Size.

BOMEET = Board Meetings.

ROLDU = Role Duality.

BAGE = Bank Age.

BSIZE = Bank Size.

BPROF = Bank Profitability.

BLEVE = Bank Leverage.

$\epsilon$  = Error term.

## 4. Analysis and Results

Univariate and multivariate statistical analyses were applied to analyze the data and test the research hypotheses.

### 4.1. Univariate analysis

Two kinds of univariate analysis were adopted; descriptive statistics and correlation analysis.

#### 4.1.1. Descriptive statistics

The average voluntary disclosure index (VDI) level of all banks over the study period was about 77%. The proportion of (BOIND) ranges between 14% and 43%, with an average of about 28%. This percentage is less than the recommended proportion from Turkish corporate governance principles (33%) (CMB, 2003), which implies that the proportion of independent directors in some banks is less than one-third. The average of (BOSIZE) was 10, which means that most board sizes are large. The average of (BOMEET) was about 20 meetings per year. The average of (ROLDU) was 0.06, indicating that most banks separated between the roles of CEO and chairman. The descriptive statistics for the research variables are displayed in Table 2.

Table 2. Descriptive statistics

Variable	Mean	Std. Deviation	Minimum	Maximum
VDI	0.77	0.091	0.40	0.86
BOIND	0.28	0.072	0.14	0.43
BOSIZE	10.31	2.243	6	14
BOMEET	20.48	13.69	4	89
ROLDU	0.06	0.242	0	1
BAGE*	4.01	0.395	3.26	4.53
BSIZE**	24.90	1.408	21.99	26.62
BPROF	0.01	0.006	-0.00	0.03
BLEVE	0.89	0.023	0.83	0.93

\* Natural logarithm of bank age.

\*\* Natural logarithm of total assets.

Source: by the authors based on the study data and STATA software output.

It can be seen that from Table 3, there is a slight growth in the average VDI during the study period. Table (3) displays the trends of the averages of the research variables for all banks during the five years from 2013 to 2017.



Table 3. Trends of the averages of the research variables during the five years

Variable	2013	2014	2015	2016	2017
VDI	0.75	0.75	0.77	0.78	0.78
BOIND	0.28	0.28	0.28	0.28	0.27
BOSIZE	10.38	10.38	10.23	10.31	10.23
BOMEET	19.55	19.69	20.85	20.97	21.35
ROLDU	0.00	0.08	0.08	0.08	0.08
BAGE*	3.97	3.99	4.01	4.03	4.05
BSIZE**	24.56	24.70	24.91	25.06	25.28
BPROF	0.02	0.01	0.01	0.01	0.01
BLEVE	0.88	0.88	0.89	0.90	0.90

\* Natural logarithm of bank age.

\*\* Natural logarithm of total assets

Source: Prepared by the authors based on the study data and STATA software output

#### 4.1.2. Correlation analysis

Dancey & Reidy (2017) recommended that before performing the multiple regression analysis, it is important to apply a correlation matrix to discover any relationship between voluntary disclosure and each board of directors and bank characteristics. The results of the Pearson correlation displayed in Table (4) show that voluntary disclosure (VDI) is significantly and negatively associated with BOIND and has a positive relationship with BOSIZE at a confidence level of 95%. Concerning the other two independent variables, the results indicated no significant relationships between them and voluntary disclosure. The results also reveal that all bank characteristics positively correlate with voluntary disclosure (VDI).

Table 4. Pearson correlation analysis

	VDI	BOIND	BOSIZE	BOMEET	ROLDU	BAGE	BSIZE	BPROF
VDI	1							
BOIND	-0.262*	1						
BOSIZE	0.457*	-0.791*	1					
BOMEET	0.163	0.542*	-0.362*	1				
ROLDU	-0.153	0.420*	-0.380*	0.088	1			
BAGE	0.687*	-0.230	0.272*	0.270*	-0.202	1		
BSIZE	0.784*	-0.331*	0.383*	0.036	-0.441*	0.637*	1	
BPROF	0.495*	-0.059	0.132	0.325*	-0.037	0.414*	0.306*	1
BLEVE	0.266*	-0.242	0.309*	-0.092	-0.330*	-0.028	0.298*	-0.377*

\* Correlation is significant at the 0.05 level.

Source: Prepared by the authors based on the study data and STATA software output.

## 4.2. Multivariate analysis

The multivariate analysis is applied to investigate the impacts of a number of independent variables on one dependent variable. In this paper, multiple regression analysis was used to examine the influences of the board of directors' characteristics on the level of voluntary disclosure. It is necessary to test the regression assumptions before running the multiple regression analysis in panel data analysis. Aljandali & Tatahi (2018) recommended four assumptions that must be checked before applying the regression model; the Normality of the Residuals, Multicollinearity, Homoskedasticity, and Autocorrelation. These assumptions were checked using STATA 15.1 software.

### 4.2.1. Testing the normality of residuals

The result of the Shapiro-Wilk test illustrated in Table (5) shows that the P-values are greater than 0.05. It can be observed that from the histogram in Figure 2, the model residuals seem to be normally distributed.

Table 5. The Shapiro-Wilk test for normality

Variable	Obs	W	V	z	Prob > z
Residuals	65	0.96672	1.929	1.423	0.07739

Source: Prepared by the authors based on the study data and STATA software output.

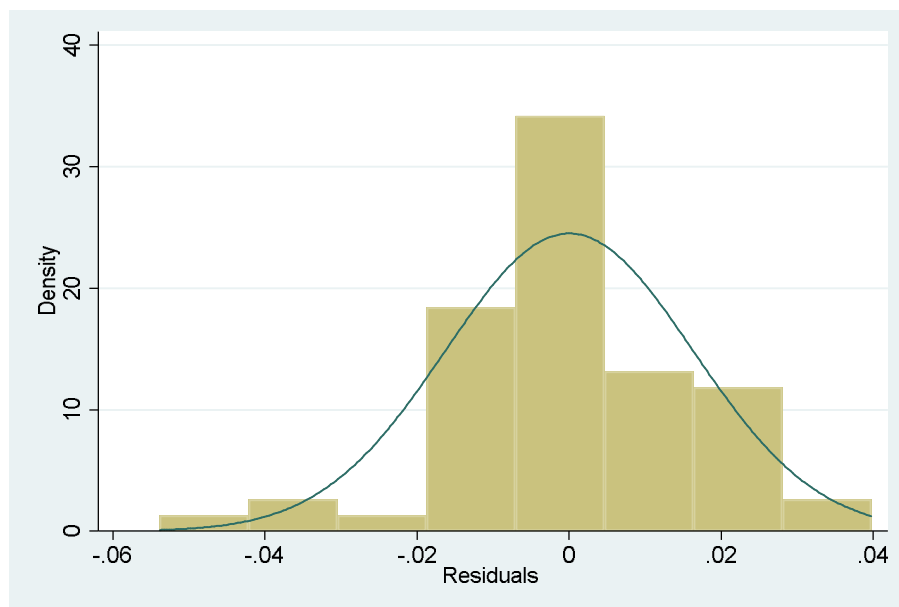


Figure 2. Histogram of the residuals

Source: Prepared by the authors based on the study data and STATA software output

#### 4.2.2. Checking for multicollinearity

The rule is that if a variable's Variance Inflation Factor (VIF) is more than 10, the variable is considered to be highly collinear (Gujarati & Porter, 2009; Sekaran & Bougie, 2016). Table 6 shows that all the VIF numbers are smaller than ten, including the mean of VIF. Hence, the multicollinearity problem does not exist in the data.

Table 6. The (VIF) results of the independent variables

Variable	VIF	1/VIF
BOIND	3.9	0.256135
BOSIZE	2.99	0.333968
BSIZE	2.55	0.39189
BAGE	2.33	0.428628
BOMEET	2.28	0.437814
BPROF	1.9	0.525133
BLEVE	1.87	0.534932
ROLDU	1.49	0.672518
Mean VIF	2.42	-

Source: Prepared by the authors based on the study data and STATA software output

#### 4.2.3. Homoskedasticity assumption

The Breusch-Pagan test is used to test heteroskedasticity. This test is reliable, especially if the assumption of normality is met (Gujarati & Porter, 2009). The null hypothesis is that the variance of the residuals is homogenous. The results of the Breusch-Pagan test shown in Table 7 indicated that the P-value was (0.0000), meaning that the null hypothesis is rejected.

Table 7. Breusch-Pagan test for heteroskedasticity

H <sub>0</sub> : Constant variance	
chi2(8)	109.16
Prob > chi2	0.0000

Source: Prepared by the authors based on the study data and STATA software output

Also, the results of White's test show the same results as the Breusch-Pagan test, as displayed in Table 8, which means that the heteroskedasticity problem exists.

Table 8. White's test for heteroskedasticity

Cameron & Trivedi's decomposition of the IM-test			
Source	chi2	df	p
Heteroskedasticity	63.70	39	0.0075
Skewness	9.15	8	0.3296
Kurtosis	2.39	1	0.1225
Total	75.23	48	0.0072

Source: Prepared by the authors based on the study data and STATA software output.

#### 4.2.4. Checking for autocorrelation

Wooldridge test for autocorrelation in panel data (first-order autocorrelation) was applied. In Table 9, the P-value = (0.1130) means that the null hypothesis is rejected, and there is no autocorrelation among the observations.

Table 9. Wooldridge test for autocorrelation in panel data

H <sub>0</sub> : no first-order autocorrelation	
F(1, 12)	2.924
Prob > F	0.1130

Source: Prepared by the authors based on the study data and STATA software output.

#### 4.2.5. Multiple regression analysis

As mentioned above, the residuals are normally distributed and there is no multicollinearity and serial correlation. However, the heteroskedasticity problem exists. The OLS regression model will be biased and will fail to be the Best Linear Unbiased Estimator (BLUE) when heteroskedasticity exists. Hence, the results would be unreliable and misleading (Bentes & Menezes, 2013; Ghasempour & MdYusof, 2014; Gourieroux & Monfort, 1997; Gujarati & Porter, 2009; O'Hara & Parmeter, 2013). Therefore, the Generalized Least Squares (GLS) can be applied instead of OLS as an alternative regression model (Aljandali & Tatahi, 2018; Boslaugh & Watters, 2008; Gourieroux & Monfort, 1997) because it can be the BLUE (Gujarati & Porter, 2009; O'Hara & Parmeter, 2013). When the heteroskedasticity problem exists, Cameron & Trivedi (2009) and Westerlund & Narayan (2012) suggested using the Feasible Generalized Least Squares model (FGLS) because it works better than OLS (Bentes & Menezes, 2013) and gives efficient estimators (Cameron & Trivedi, 2009; Miller & Startz, 2018). Consequently, the FGLS longitudinal panel regression was applied by using STATA software 15.1 as displayed in Table (10).

Table 10. The results of FGLS regression for panel data.

VDI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
BOIND	0.266038	0.118341	2.25	0.025	0.034094	0.497983
BOSIZE	0.012893	0.003306	3.90	0.000	0.006414	0.019372
BOMEET	0.097684	0.021570	4.53	0.000	0.055407	0.139960
ROLDU	-0.000190	0.000473	-0.41	0.680	-0.001120	0.000732
BAGE	0.061744	0.016560	3.73	0.000	0.029287	0.094202
BSIZE	0.031505	0.004860	6.48	0.000	0.021978	0.041031
BPROF	5.463571	1.062919	5.14	0.000	3.380287	7.546854
BLEVE	1.126080	0.249758	4.51	0.000	0.636563	1.615598
cons	-1.548300	0.217244	-7.13	0.000	-1.974090	-1.122510

Source: Prepared by the authors based on the study data and STATA software output

The results of the FGLS regression model in table 10 show that the Wald chi2 (8) = (385.76) and the log-likelihood = (127.0415), as well as the P-value of the whole model, is highly significant with the value of (0.0000). The FGLS results in Table 10 show that board independence, board size and board meetings are positively and significantly associated with the level of voluntary disclosure, whilst role duality has a negative and nonsignificant relationship with the level of voluntary disclosure. The findings also indicate that the p-value of all control variables (bank characteristics: age, size, profitability, and leverage) is highly significant with a minimal value of (0.000) which means that they are positively and significantly related to the level of voluntary disclosure.

## 5. Conclusion

Voluntary disclosures have been the focus of accounting literature in recent years. Voluntary disclosure improves transparency and helps minimize the conflict of interests between managers and shareholders, which decreases asymmetry problems and managers' opportunistic behaviours. The Board of directors is viewed as an effective corporate governance mechanism and one of the critical factors impacting voluntary disclosure. Thus, this study aims to examine the relationship between board characteristics (board independence, board size, board meetings and role duality) and the level of voluntary disclosure in annual reports of listed banks in Borsa Istanbul from 2013 to 2017.

The results of the Pearson correlation indicate that voluntary disclosure is negatively and significantly related to board independence and positively associated with board size, whilst board meetings and role duality have a non-significant relationship with the level of voluntary disclosure. The results of the Pearson correlation also reveal that control variables have significant and positive relationships with voluntary disclosure.

The FGLS regression was applied for panel data to avoid the effect of the heteroskedasticity problem. The FGLS results indicate that board independence, board size and board meetings have a positive and significant association with the level of voluntary disclosure, whilst role duality is negatively and not significantly associated with the level of voluntary disclosure. FGLS regression results also show that all bank characteristics are positively and significantly associated with the level of voluntary disclosure.

## References

- Abeywardana, N. L. E., & Panditharathna, K. M. (2016). The Extent and Determinants of Voluntary Disclosures in Annual Reports: Evidence from Banking and Finance Companies in Sri Lanka. *Accounting and Finance Research*, 5(4), 147–162. <https://doi.org/10.5430/afr.v5n4p147>
- Akhtaruddin, M., Hossain, M. A., Hossain, M., & Yao, L. (2009). Corporate Governance and Voluntary Disclosure in Corporate Annual Reports of Malaysian Listed Firms. *JAMAR*, 7(1), 1–20.
- Al-Najjar, B., & Abed, S. (2014). The association between disclosure of forward-looking information and corporate governance mechanisms. *Managerial Auditing Journal*, 29(7), 578–595. <https://doi.org/10.1108/MAJ-01-2014-0986>
- Al-Shammari, B., & Al-Sultan, W. (2010). Corporate governance and voluntary disclosure in Kuwait. *International Journal of Disclosure and Governance*, 7(3), 262–280. <https://doi.org/10.1057/jdg.2010.3>
- Albawwat, A. H. A. H., & Basah, M. Y. A. (2015). Corporate Governance and Voluntary Disclosure of Interim Financial Reporting in Jordan. *Journal of Public Administration and Governance*, 5(2), 100–127. <https://doi.org/10.6007/IJARAFMS/v5-i2/1612>
- Aljandali, A., & Tatahi, M. (2018). *Economic and Financial Modelling with EViews: A Guide for Students and Professionals*. Retrieved from <http://www.springer.com/series/10377>
- Allegrini, M., & Greco, G. (2013). Corporate boards, audit committees and voluntary disclosure: Evidence from Italian Listed Companies. *Journal of Management & Governance*, 17(1), 187–216. <https://doi.org/10.1007/s10997-011-9168-3>
- Babío Arcay, M. R., & Muiño Vázquez, M. F. (2005). Corporate Characteristics, Governance Rules and the Extent of Voluntary Disclosure in Spain. *Advances in Accounting*, 21(05), 299–331. [https://doi.org/10.1016/S0882-6110\(05\)21013-1](https://doi.org/10.1016/S0882-6110(05)21013-1)
- Barako, D. G., Hancock, P., & Izan, H. Y. (2006). Factors influencing voluntary corporate disclosure by Kenyan companies. *Corporate*

- Governance*, 14(2), 107–125. <https://doi.org/10.1111/j.1467-8683.2006.00491.x>
- Bentes, S. R., & Menezes, R. (2013). On the predictability of realized volatility using feasible GLS. *Journal of Asian Economics*, 28, 58–66. <https://doi.org/10.1016/j.asieco.2013.08.002>
- Boslaugh, S., & Watters, P. A. (2008). *Statistics in a Nutshell* (1st ed.). Sebastopol, USA: O'Reilly Media, Inc.
- Brennan, N. (2006). Boards of Directors and Firm Performance: Is There an Expectations Gap? *Corporate Governance*, 14(6), 577–593. <https://doi.org/10.1111/j.1467-8683.2006.00534.x>
- Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using Stata*. Texas: StataCorp LP.
- Carpenter, M. A., & Westphal, J. D. (2001). The Strategic Context of External Network Ties: Examining the Impact of Director Appointments on Board Involvement in Strategic Decision Making. *Academy of Management Journal*, 44(4), 639–660. <https://doi.org/10.2307/3069408>
- Cerbioni, F., & Parbonetti, A. (2007). Exploring the Effects of Corporate Governance on Intellectual Capital Disclosure: An Analysis of European Biotechnology Companies. In *European Accounting Review* (Vol. 16). <https://doi.org/10.1080/09638180701707011>
- Cheng, E. C. M., & Courtenay, S. M. (2006). Board composition, regulatory regime and voluntary disclosure. *International Journal of Accounting*, 41(3), 262–289. <https://doi.org/10.1016/j.intacc.2006.07.001>
- Dancey, C., & Reidy, J. (2017). *Statistics without Maths for Psychology* (7th ed.). [https://doi.org/10.1111/jgh.12363\\_2](https://doi.org/10.1111/jgh.12363_2)
- Donnelly, R., & Mulcahy, M. (2008). Board structure, ownership, and voluntary disclosure in Ireland. *Corporate Governance*, Vol. 16, pp. 416–429. <https://doi.org/10.1111/j.1467-8683.2008.00692.x>
- Dye, R. A. (1985). Disclosure of Nonproprietary Information. *Journal of Accounting Research*, 23(1), 123–145. <https://doi.org/10.2307/2490910>
- Eng, L. ., & Mak, Y. T. (2003). Corporate governance and voluntary disclosure. *Journal of Accounting and Public Policy*, 22(4), 325–345. [https://doi.org/10.1016/S0278-4254\(03\)00037-1](https://doi.org/10.1016/S0278-4254(03)00037-1)
- Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *Journal of Law and Economics*, 26(2), 301–325.
- Forker, J. J. (1992). Corporate Governance and Disclosure Quality. *Accounting and Business Research*, 22(86), 111–124.
- Ghasempour, A., & MdYusof, M. A. bin. (2014). The Effect of Fundamental Determinants on Voluntary Disclosure of Financial and Nonfinancial Information: The Case of Tehran Stock Exchange. *Journal of*

- Accounting & Marketing*, 03(01), 3–8. <https://doi.org/10.4172/2168-9601.1000108>
- Gisbert, A., & Navallas, B. (2013). The association between voluntary disclosure and corporate governance in the presence of severe agency conflicts. *Advances in Accounting*, 29(2), 286–298. <https://doi.org/10.1016/j.adiaac.2013.07.001>
- Gourieroux, C., & Monfort, A. (1997). *Time Series and Dynamic Models*. Retrieved from [http://books.google.com/books?hl=en&lr=&id=Y88dvEXw0R4C&oi=fnd&pg=PP1&dq=Time+Series+and+Dynamic+Models&ots=74h5ZI\\_u-C&sig=rf5A0ytshGqdOUUp86igEG4hgBaE](http://books.google.com/books?hl=en&lr=&id=Y88dvEXw0R4C&oi=fnd&pg=PP1&dq=Time+Series+and+Dynamic+Models&ots=74h5ZI_u-C&sig=rf5A0ytshGqdOUUp86igEG4hgBaE)
- Grassa, R., & Chakroun, R. (2016). Ownership structure, board's characteristics and corporate governance disclosure in GCC banks : what about Islamic banks? *Int. J . Accounting, Auditing and Performance Evaluation*, 12(4), 360–395. <https://doi.org/10.1504/IJAAPE.2016.079862>
- Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics* (5th ed.). New York, NY: McGraw-Hill/Irwin.
- Gul, F. A., & Leung, S. (2004). Board leadership, outside directors' expertise and voluntary corporate disclosures. *Journal of Accounting and Public Policy*, 23(5), 351–379. <https://doi.org/10.1016/j.jaccpubpol.2004.07.001>
- Habbash, M., Hussainey, K., & Awad, A. E. (2016). The determinants of voluntary disclosure in Saudi Arabia: an empirical study. *International Journal of Accounting, Auditing and Performance Evaluation*, 12(3), 213–236. <https://doi.org/10.1504/IJAAPE.2016.077890>
- Haniffa, R. M., & Cooke, T. E. (2002). Culture, Corporate Governance and Disclosure in Malaysian Corporations. *Abacus*, 38(3), 317–349. <https://doi.org/10.1111/1467-6281.00112>
- Hieu, P. D., & Lan, D. T. H. (2015). Factors Influencing Voluntary Disclosure of Vietnamese Listed Companies. *Journal of Modern Accounting and Auditing*, 11(12), 656–676. <https://doi.org/10.17265/1548-6583/2015.12.004>
- Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies*, 37(2), 235–256. <https://doi.org/DOI:10.1111/1467-6486.00179>
- Htay, S. N. N. (2012). The Impact of Corporate Governance on the Voluntary Accounting Information Disclosure in Malaysian Listed Banks. *Global*



- Review of Accounting and Finance*, 3(2), 128–142.
- Huafang, X., & Jianguo, Y. (2007). Ownership structure, board composition and corporate voluntary disclosure: Evidence from listed companies in China. *Managerial Auditing Journal*, 22(6), 604–619. <https://doi.org/10.1108/02686900710759406>
- Khanchel, I. (2007). Corporate governance: measurement and determinant analysis. *Managerial Auditing Journal*, 22(8), 740–760. <https://doi.org/10.1108/02686900710819625>
- Khodadadi, V., Khazami, S., & Aflatooni, A. (2010). The Effect of Corporate Governance Structure on the Extent of Voluntary Disclosure in Iran. *Business Intelligence Journal*, 3(2), 151–164.
- Lev, B., & Penman, S. H. (1990). Voluntary Forecast Disclosure, Nondisclosure, and Stock Prices. *Journal of Accounting Research*, 28(1), 49–76. <https://doi.org/10.2307/2491217>
- Man, C., Hong, K., & Wong, B. (2013). Corporate Governance And Earnings Management: A survey of Literature. *The Journal of Applied Business Research*, 29(2), 391–418.
- Matoussi, H., & Chakroun, R. (2009). Board Composition, Ownership Structure and Voluntary Disclosure In Annual Reports Evidence From Tunisia. *International Journal of Business and Behavioural Sciences*, (January), 1–28.
- Meek, G. K., Roberts, C. B., & Gray, S. J. (1995). Factors Influencing Voluntary Annual Report Disclosures By U.S., U.K. and Continental European Multinational Corporations. *Journal of International Business Studies*, 26(3), 555–572. <https://doi.org/10.1057/palgrave.jibs.8490186>
- Miller, S., & Startz, R. (2018). Feasible generalized least squares using support vector regression. *Economics Letters*, 175, 28–31. <https://doi.org/10.1016/j.econlet.2018.12.001>
- Moumen, N., Ben Othman, H., & Hussainey, K. (2016). Board structure and the informativeness of risk disclosure: Evidence from MENA emerging markets. *Advances in Accounting, Incorporating Advances in International Accounting*, 35, 82–97. <https://doi.org/10.1016/j.adiaac.2016.09.001>
- Nelson, J., Gallery, G., & Percy, M. (2010). Role of corporate governance in mitigating the selective disclosure of executive stock option information. *Accounting and Finance*, 50(3), 685–717. <https://doi.org/10.1111/j.1467-629X.2009.00339.x>
- O'Hara, M., & Parmeter, C. F. (2013). Nonparametric generalized least squares in applied regression analysis. *Pacific Economic Review*, 18(4), 456–474. <https://doi.org/10.1111/1468-0106.12038>

- Ramadhan, S. (2014). Board Composition, Audit Committees, Ownership Structure and Voluntary Disclosure: Evidence from Bahrain. *Research Journal of Finance and Accounting*, 5(7), 124–139.
- Rouf, A. (2011). Corporate characteristics, governance attributes and the extent of voluntary disclosure in Bangladesh. *African Journal of Business Management*, 5(19), 7836–7845. <https://doi.org/10.5897/AJBM10.1180>
- Samaha, K., Khlif, H., & Hussainey, K. (2015). The impact of board and audit committee characteristics on voluntary disclosure: A meta-analysis. *Journal of International Accounting, Auditing and Taxation*, 24, 13–28. <https://doi.org/10.1016/j.intaccudtax.2014.11.001>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A Skill-Building Approach* (7th ed.). <https://doi.org/10.13140/RG.2.1.1419.3126>
- Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, 87(3), 355–274. <https://doi.org/10.2307/1882010>
- Uyar, A., Kilic, M., & Bayyurt, N. (2013). Association between firm characteristics and corporate voluntary disclosure: Evidence from Turkish listed companies. *Intangible Capital*, 9(4), 1080–1112. <https://doi.org/10.3926/ic.439>
- Verrecchia, R. E. (1983). Discretionary Disclosure. *Journal of Accounting and Economics*, 5, 179–194. Retrieved from [https://www.unibas.ch/fileadmin/www/redaktion/accountingcontrolling/Lehre/Economics\\_of\\_Financial\\_Accounting/FS\\_2013/2013-02-28-Verrecchia1983.pdf](https://www.unibas.ch/fileadmin/www/redaktion/accountingcontrolling/Lehre/Economics_of_Financial_Accounting/FS_2013/2013-02-28-Verrecchia1983.pdf)
- Watson, A., Shrivies, P., & Marston, C. (2002). Voluntary Disclosure of Accounting Ratios in the UK. *The British Accounting Review*, 34(4), 289–313. [https://doi.org/10.1006/S0890-8389\(02\)00077-X](https://doi.org/10.1006/S0890-8389(02)00077-X)
- Westerlund, J., & Narayan, P. K. (2012). Does the choice of estimator matter when forecasting returns? *Journal of Banking and Finance*, 36(9), 2632–2640. <https://doi.org/10.1016/j.jbankfin.2012.06.005>
- Xie, B., Davidson III, W. N., & Dadalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance*, Vol. 9, pp. 295–316. [https://doi.org/10.1016/S0929-1199\(02\)00006-8](https://doi.org/10.1016/S0929-1199(02)00006-8)
- Yermack, D. (1996). Higher market valuation for firms with a small board of directors. *Journal of Financial Economics*, 40(1994), 185–211.
- Yuen, D. C. Y., Liu, M., Zhang, X., & Lu, C. (2009). A Case Study of Voluntary Disclosure by Chinese Enterprises. *Asian Journal of Finance & Accounting*, 1(2), 118–145.

Zhang, B., Li, Y., & Zhang, L. (2011). An empirical research on the voluntary disclosure of Chinese electronic listed companies' information. *2011 2nd International Conference on Artificial Intelligence, Management Science and Electronic Commerce, AIMSEC 2011 - Proceedings*, 4935–4938. <https://doi.org/10.1109/AIMSEC.2011.6011186>

## Appendix No. (1): Items of voluntary disclosure index

### A. General and Strategic Information (17):

- A brief narrative history of the bank
- General information about the economic environment
- Information about the banking sector
- Year of listing at Borsa Istanbul
- Description of major services
- Address of bank/telephone/fax
- Bank website address
- Email address
- Date and details of the establishment
- General outlook of business activities
- Number of branches
- List of branches location
- Dividend policy
- Information on ATM
- Statement of overall strategies and objectives
- Future strategy
- Information about market share

### B. Directors and Managers Information (15):

- Chairman of the board identified
- List of board members
- Disclosure information on board members' qualifications and experience
- Duties of the board of members
- List of senior managers (not on the board of members) / senior management structure
- Disclosure information on senior managers' qualifications and experience
- Managers' engagement/directorship of other companies
- Picture of all senior managers
- Picture of chairperson
- Information about changes in board members
- Classification of managers as executive or outsider
- Details of senior managers and board of members' remuneration
- Shares held by directors
- Chairman's statement
- Number of board meetings held and date

### C. Social Responsibility Information (6):

- Environmental and social policies

- Sponsoring public health
- Sponsoring sports activities
- Sponsoring cultural recreation
- Sponsoring education
- Charitable donations and aid

### D. Financial Performance (15):

- Brief discussion of the bank's operating results
- Analysis of the bank's liquidity position
- Return on assets
- Share price at the year-end
- Return on equity
- Liquidity coverage ratio
- Earnings per share
- Capital adequacy ratio
- Loan-to-deposit ratio
- Total dividends
- Dividend per share for the period
- Comparative Income statement for 2 years
- Comparative balance sheet for 2 years
- Comparative current year and previous year figures
- Inflation effects

### E. Accounting Policies (7):

- Accounting Valuation of fixed assets (e.g., fair value or historical cost)
- The depreciation methods used
- Foreign currency transactions, translation and differences treatment
- Disclosure of accounting standards uses for its accounts
- Statements of compliance with approved IFRS/IASs
- Treatment of Tax
- Treatment of contingent liabilities.

### F. Other Information (4):

- Statement of the percentage of the total shareholder of the 20 largest shareholders
- A review of shareholders by type (for example, institutions, individuals, ..., etc)
- Number of shareholders
- Dividend declared

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