

Board Characteristics and Company Performance: A Case Study for the U.S.



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ABSTRACT: This research aims to investigate corporate board structures and compositions, as well as their interrelationships. An empirical analysis on a sample consisting of 6,962 public traded U.S. corporations was conducted and the "isolation" consequences of board characteristics such as independence, financial expertise, and tenure on a company's earnings quality were examined. Furthermore, it was investigated whether and to what extent the tenure of outside directors influences the "isolation" effects of financial expertise and independence on earnings quality. The Modified Jones model was used to generate discretionary accruals, which were subsequently used to generate accrual-based earnings management. Firms with a more independent board and a higher proportion of outside directors with financial experience are found to have no effect on the degree of accrual-based earnings management. Outside directors' average tenure, on the other hand, has a negative and significant impact on earnings management. The study demonstrates that the average tenure of outside directors affects their independence as well as their financial expertise. Both have a statistically significant positive influence on accrual-based earnings management. This indicates that, even if outside directors are independent and there is at least one outside member with financial expertise on the board, the effectiveness of their monitoring decreases over time. In this study, the quality of earnings is examined using accrual-based earnings management models. The influence of these board qualities on real earnings management, however, has not been studied. As the usage of real earnings management has expanded in the post-SOX era, the utilization of these models is intriguing for future study pertaining to the effect of these characteristics. Furthermore, this study utilized and analyzed only a sample of large public U.S. enterprises, which are larger companies. Due to the SOX requirements to which these larger organizations are subject, this might contribute to a lack of diversity in the board makeup of these companies. This may have an effect on the regression findings by displaying low or non-significant effects. Future research may find it interesting to determine if there are differences between the effects of these governance qualities on earnings management for smaller and larger companies. Based on the findings, it is possible to conclude that when evaluating a firm's profits quality, it is critical to evaluate both the structure and makeup of the board, as well as the individual features of the outside members, such as their tenure. This study adds to the expanding corpus of research on the impact of board characteristics on corporate performance. It focuses on corporations situated in the United States, where corporate governance is a hotly debated topic, particularly after the enactment of SOX. It not only looks at the effect of these characteristics on earnings quality in "isolation", but it also responds to recent calls for researchers to look at the interaction of various board traits. It examines whether and to what extent outside directors' tenure influences the "isolation" consequences of financial expertise and independence on earnings management.

KEYWORDS: Board characteristics, company performance, corporate governance, financial expertise, independence on earnings management, outside directors' tenure

I. INTRODUCTION

Accounting researchers agree that corporate governance originated from the agency problem. In corporate governance, the Board of Directors (BoD) oversees top management [1]. The BoD's monitoring function reduces manager-shareholder friction.

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The relationship between various board characteristics and earnings management has been the subject of a great deal of research especially in the wake of these corporate crises and stricter governance regulations. According to [2] increased board independence will reduce accrual-based earnings management. In addition, [3] showed a negative relationship between the degree of financial expertise on the board and the extent of accrual-based earnings management. [4] proved that BoD's turnover is not an effective strategy to weaken the relationship between restatements and audit fees. These studies indicate that the compositional, independent, and demographical characteristics of board members, as well as the availability of financial expertise, can reduce the incidence of agency problems within corporations [5].

This study first investigates the association between accrual-based earnings management and the board characteristics of independence, financial acumen, and tenure "in isolation" and empirically examines whether the independence and financial expertise of directors interact with the average tenure of outside directors, thereby influencing the overall effectiveness of outside directors in constraining accrual-based earnings management. This interaction is significant SOX also asserts that these characteristics enhance monitoring and discourage earnings management [6]. An empirical study for years 2010-2019 is conducted, using a sample consisting of 6,962 publicly traded U.S. companies. The Modified Jones model [7] is used to compute discretionary accruals, which are then utilized to compute accrual-based earnings management.

This study's findings demonstrate that the independence of boards and the number of outside directors with financial expertise have little effect on the accrual-based earnings management of firms. Nonetheless, there is a considerable and unfavorable association between the average tenure of outside directors and accrual-based earnings management. This research indicates that as the tenure of outside directors increases, so does their ability to monitor profits management. The results of the interaction effect also provide valuable information. First, the average tenure of outside directors has a U-shape relation with earnings management. In other words, as the average tenure of outside directors improves, so does their ability to oversee the company's earnings. However, the ability of outside directors to restrict earnings management weakens over time. This is consistent with the Management Friendliness Hypothesis, which states that long-tenured directors are more likely to befriend managers, making it more difficult for them to supervise them and increasing the likelihood that they will accept the management's aggressive financial reporting decisions. Intriguing results are also produced by the interaction effect between the tenure of the outside directors and their financial expertise. This link has a positive and substantial impact on earnings management. This suggests that the average tenure of outside directors negatively moderates the presence of at least one outside member with financial expertise. In conclusion, these interaction effects suggest that even if outside directors are independent and the board has at least one outside member with financial expertise, their ability to restrain management's aggressive financial reporting judgments diminishes over time.

The rest of the paper is organized as follows: First, a literature review of the key relevant studies is presented. Then, the methodology used in carrying out the study follows, along with comparative assessment of the results obtained against those of previous studies. Finally, the main conclusions and their potential implications are discussed, along with thoughts for further study and research

II. LITERATURE REVIEW

According to [8] a conflict of interests emerges between shareholders and management as a result of the company's ownership and control being separated, known as the agency problem. The agency theory [1] states that it is the duty of the BoD to monitor and regulate the behavior of managers in a way that safeguards the interests of shareholders. The BoD is essential to the internal corporate governance structure, and its effectiveness is fundamental to corporate decision-making, e.g., [9]. A BoD is in charge of giving managers guidance on operational and financial issues and overseeing their actions to prevent bad or incorrect executive decisions [5]. In financial reporting, managers make the decisions, but the BoD has the authority to oversee and approve these decisions.

According to [10] the members of the BoD are categorized into two groups: "inside directors" and "outside directors". "Inside directors" of the board are involved in the firm's day-to-day operations, giving the board an insight of the company's activities. "Outside directors" (also known as independent directors,) are not involved in day-to-day operations. Because inside directors' careers are inextricably linked to the CEO's, the task of overseeing management falls primarily on outside directors. As a result, their role is critical in resolving agency issues between managers and shareholders [11]. Given that outside directors do the majority of the monitoring on the BoD, the focus of this research will be exclusively on outside directors rather than on both. This strategy is similar to that used in prior studies by [12] and [13].

In recent years, investors, regulators, and academics have paid special attention to board characteristics. Due to corporate fraud and significant loss of shareholder money in some multinational businesses, interest in these board characteristics has grown in recent years [14]. Creating a BoD while keeping certain board characteristics in mind is an important corporate

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governance method that can control managers' opportunistic conduct [15]. Studies on the association between board characteristics and financial reporting quality ([13], [16]) discovered that board composition did correspond with financial reporting quality. As a result of these findings, several board characteristics have been proposed to alleviate the agency problem generated by the separation of ownership and control.

An overview of the relevant literature on the relationship is provided in Table 1 below.

Table 1. Literature Survey

Author (year)	Focus	Setting & Year	Key Variables
Huang and Hilary (2018)	Testing the relationships between board tenure and firm value, and corporate decisions	2222 US firms with 12846 firm-year observations from 1998 to 2010	Average tenure of all outside directors and financial reporting quality (accrual quality, abnormal accrual, C-score and restatement)
Li and Wahid (2017)	Examining the impact of director tenure diversity on board effectiveness	US: 11170 firm-years from 2002 to 2012	Tenure diversity and the likelihood of accounting restatement
Bravo & Reguera-Alvarado (2017)	Testing the effect of board tenure on financial reporting quality	US: 594 firm-years from 2008 to 2012	Standard board tenure and abnormal accruals
Chen et al. (2015)	Testing if a majority of board independence is effective in reducing earnings management	1205 firms U.S. firms from the S&P 1500 index	The absolute value of discretionary accruals; Independence is measured by splitting firms into two groups: those with majority board independence in 2000 and those without a majority of board independence (<50%)
Kim & Yang (2014)	Testing the relationship between director tenure and financial reporting quality	Korea: 5502 firm-year observations over the period 2002 to 2011	Absolute value of discretionary accruals; the average tenure of board of directors
Marra and Mazzola (2014)	Testing the relationship between director tenure and earnings quality	IT: 1205 observations from 2005 to 2010	Abnormal working capital accruals; total number of years of independent tenure over the number of independent directors
Sun et al. (2014)	Investigating the effectiveness of independent audit committees in constraining real earnings management	US: 3436 firm-year observations from 2007 to 2010	Real earnings management, % of audit committee members with accounting financial expertise; average board tenure of audit committee members
Kim et al. (2014)	Testing the relationships between financial reporting quality and outside director tenure and financial expertise	US: 14186 firm-years from 2003 to 2008	Average board tenure and total accruals, discretionary accruals
Chan et al. (2012)	Examining whether audit committee members' board tenure affects audit fees	US: 1524 firm-years from 2005 and 2006	Long tenured (10 years or more) audit committee member proportion and audit fees
Sharma and Iselin (2012)	Testing the relationships between the tenure of independent audit committee members and financial misstatements	US: 382 matched firm-years from 1999 to 2006	Average tenure on audit committee and the likelihood of financial misstatements
Ghosh et al. (2010)	Examining whether board characteristics and audit committee characteristics are	US: 9290 firm-year observations from 1998 to 2005	Absolute performance adjusted discretionary accruals; % of independent directors on the board; dummy variable

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	associated with earnings management		one when the audit committee has at least one director with financial expertise; the average tenure of audit committee directors on the board
Beasley et al. (2009)	To enhance the understanding of the audit committee process	42 in-depth interviews with individuals serving on U.S. company audit committees	The audit committee processes are divided in six processes areas and questions were answered based on these six processes
Krishnan and Visvanathan (2007)	Examining if audit pricing differentiates between accounting and nonaccounting financial expertise	500 US firms (S&P) with 801 firm-year observations from 2000 to 2002	Audit fees; % of audit committee directors who qualify as either nonaccounting or accounting financial experts on the audit committee; % of audit committee directors who qualify as accounting financial experts on the audit committee
Donoher et al. (2007)	Examining whether board tenure could effectively prevent the incidence of accounting irregularities	US: 342 matched firm-years from 1994 to 2003	Average board tenure and the incidence of restatement
Carcello et al. (2006)	Examining the associations between audit committee financial expertise and earnings management	US: 283 non-financial domestic firms from fiscal year ends between July 15, 2003 and December 31, 2003	Absolute value of the discretionary accruals; dummy variable one if firm has at least one audit committee financial expert, dummy variable one if the firm has strong overall corporate governance
Yang and Krishnan (2005)	Testing the association between audit committee characteristics and measures of quarterly earnings management	US: 896 firm-year observations from 1996 to 2000	Total discretionary accruals; dummy variable one if audit committee has at least one director with financial expertise; average tenure of the audit committee directors on the board
Xie et al. (2003)	Examining the role of the board of directors, the audit committee and the executive committee in preventing earnings management	US: 282 firm-year observations	Current discretionary accruals; number of audit committee meetings; the proportion of outside directors with a corporate background (financial expertise)

III. METHOD

SOX emphasized the effectiveness of corporate governance institutions such as the BoD [14]. Therefore, this study employs a sample of U.S.-based companies, aiming to contribute to the discussion concerning the qualities of outside directors and their influence on earnings quality. This sample period is selected because there have been no noteworthy developments in regulations during the past few years pertaining these BoD characteristics. In addition, no data from before 2010 was utilized, as it is anticipated that the financial crisis years (2008-2009) had an impact on the amount of accrual-based earnings management. According to [17], economic downturns are anticipated to result in increased levels of monitoring by auditors and other stakeholders due to the increased level of uncertainty and deteriorated firm performance. Real earnings management is more difficult to detect than accrual-based earnings management, leading to less attempts at accrual-based earnings management during economic downturns. Therefore, the sample period of 2010 to 2019 is selected, since it provides the most recent data and is anticipated to provide sufficient observations to answer the study's research issue.

Researchers have studied the impact of board tenure on the financial reporting process and found conflicting results. As there are divergent opinions regarding the impact of board tenure on the monitoring ability of outside directors, particularly its impact on earnings quality [13], this relationship is studied further in this work. In addition, [12] suggest that directors might learn firm-specific information as their tenure increases, but that, after a certain point, results in familiarity between boards and executives, which is damaging to directors' independence. This means that the typical tenure of the BoD is tied to both its characteristic independence and its characteristic financial expertise.

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[13] argue that the majority of previous studies have examined the effects of directors' characteristics in isolation, but in reality, these characteristics interact with one another, thereby influencing the overall effectiveness of a BoD in limiting earnings management. Consequently, this study is a response to recent calls from researchers to determine if the performance of outside directors is affected by their personal characteristics, such as tenure, by taking into account these interaction effects (6); [13]; [18]; [19]),

Data was acquired from Wharton Research Data Services databases (WRDS). All factors used to calculate the quality of earnings were adjusted for probable outliers [20]. Winsorize is utilized by the extreme 1% for these variables. In addition to these factors, the extreme 1% was applied to the control variables. The Compustat basics annual database and ISS databases were utilized and integrated. Compustat was used to derive data from financial statements in order to measure the quality of earnings. The empirical constructions for each board attribute are derived from the database of ISS directors. The two datasets are integrated based on the CUSIP code and fiscal year of each company in order to undertake this research. This code identifies a corporation, and it is present in both databases.

In accordance to previous research, firms in the financial services sector were excluded since their firm features and regulations are distinct. Insufficient financial or governance data also disqualified companies from the sample. After data collection, processing, and consolidation, we are left with a sample of 6,962 firm-year observations from U.S. businesses. The data collection procedure is summarized in Table 2, and the final sample was utilized to evaluate the hypotheses.

Table 2. Sample Selection

Compustat "raw" observation count		125,527
Less (Compustat)		
Observations with missing accrual model variables	54,204	
Observations with incomplete control variables data	17,758	7,962
Sub total		53,565
Less (Industry)		
Financial industry firms (sic 6000-6999)		17,490
Sub total		36,075
Less (ISS merge)		
Firms with missing directors variable data		29,113
Sample for hypotheses		6,962

IV. METHOD

McNichols Model

McNichols' Model [21] modified the Dechow and Dichev Model [22], that focuses solely on the cash flows prior to and after t and does not account for a company's economic changes. [21] attempted to solve this issue by including the economic variables from the Jones Model into the Dechow & Dichev Model. [21] attempts to capture the change in working capital by include not just the cash flows from t-1, t, and t+1, but also the change in sales and PPE. Equation (1) represents the McNichols Model, which is a hybrid of the Dechow & Dichev and Modified Jones Models. Note that the model's dependent and independent variables are scaled to the average total assets each period t.

$$\Delta WC_t = \beta_0 + \beta_1 CF_{Ot-1} + \beta_2 CF_{Ot} + \beta_3 CF_{Ot+1} + \beta_4 \Delta Rev_t + \beta_5 PPE_t + et \quad (1)$$

where

ΔWC_t = Change in working capital in period t, calculated as the income before extraordinary items, minus the cash flow of operations plus the total depreciation

CF_{Ot-1} = Cash flow from operations for period t-1

CF_{Ot} = Cash flow from operations for period t

CF_{Ot+1} = Cash flow from operations for period t+1

ΔRev_t = Change in revenue in t with respect to t-1

PPE_t = Gross PPE in period t

et = Error term, proxy for the level of unsigned discretionary accruals of firm i in year t.

Modified Jones Model

[22] have formulated the Modified Jones Model. This model differs from the Modified Jones Model in that the Modified Jones Model implies that discretion is not applied to revenues, hence the change in revenues is based exclusively on non-discretionary accruals [22]. Nonetheless, it is possible to exercise discretion over revenues by recognizing revenue for which cash has not been received and its receipt is highly improbable. To solve this issue, [22] adjust the change in revenue over a period with the change in account receivables, such that only the non-discretionary portion of revenue is captured. The Modified Jones Model is denoted by the expression (2) and (3). The discretionary accruals are computed by subtracting (4) from (3), which produces the overall accruals.

$$TA_t = \beta_1 (1A_{t-1}) + \beta_2 (\Delta REV - \Delta REC)_t + \beta_3 (PPE_t) + et \quad (2)$$

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$$NDA = \beta_1 (1A_{t-1}) + \beta_2(\Delta REV - \Delta REC)_t + \beta_3(PPE_t) \quad (3)$$

where

A_{t-1} = Total assets of t-1

ΔREV_t = Change in revenue in t with respect to t-1

PPE_t = Gross PPE in period t

ΔREC_t = Change in net receivables in t with respect to t-1

ϵ_t = Error term, proxy for the level of unsigned discretionary accruals of firm i in year t.

The coefficients β_1 , β_2 , and β_3 are estimated after computing total accruals and doing OLS regression for each firm year. The estimation error (ϵ_t) is used as a proxy for the proportion of firm-specific discretionary accruals to total accruals. These errors represent the unexplained or discretionary portion of total accruals as they are the difference between total accruals and non-discretionary accruals.

This accrual estimation error is a measure of the quality of accruals and, by extension, earnings. The standard deviation of the estimation error indicates the quality of a company's earnings. A greater standard deviation indicates greater volatility in the estimating inaccuracy, indicating that earnings quality is weaker. Therefore, the bigger the estimating error standard deviation, the poorer the quality of earnings. In this study, the unsigned (absolute) value of estimating mistakes was utilized because both positive and negative values imply opportunistic earnings management by the management [23]. The Modified Jones Model has a high detection rate for earnings management. In addition, this proxy may indicate more extreme undiscovered misstatements and reflects quality variation for a broad number of companies [24]. To maintain consistency and comparability with earlier research, the Modified Jones Model was utilized to evaluate earnings quality in this study.

The model used for hypothesis testing is as follows:

$$EQ = \beta_0 + \beta_1 BIND + \beta_2 FINEXP + \beta_3 TENURE + \beta_4 TENURESQ + \beta_5 DUMEXP * TENURE + \beta_6 Size + \beta_7 ROA + \beta_8 Pastloss + \beta_9 MTB + \beta_{10} LEV + \beta_{11} Year dummies + \beta_{12} Industry dummies + \epsilon_t$$

The variables utilized in this study are proxies from previous research (e.g. [25], [26], [27]). This study's independent and dependent variables are summarized in Table III. EQ equals the practices of accrual-based earnings management. The dependent variable in this study is accruals quality. Numerous recent studies ([12], [27]) employed accruals quality as a proxy for financial reporting quality. This proxy is also consistent with SOX, which suggests that a company's accrual processes must be monitored by outside directors with the requisite expertise. There are numerous accrual-based methods that attempt to quantify earnings quality. They all attempt to estimate the number of accruals expected. It is considered that the residual from these models, the difference between the expected and actual accruals, is a measure of earnings quality. To answer the research questions of this study, we first analyzed the "isolation" effects of the board characteristics on earnings quality using three independent variables:

- Board independence (BIND). Board independence is measured as the proportion of outside directors on the board, i.e., directors who are not employed by the firm and have no other meaningful relationship to the company besides a board seat [25].
- Financial expertise of outside directors (FINEXP). The financial expertise of independent directors is assessed by the proportion of independent directors having financial expertise [27].
- Tenure of external directors (TENURE). The tenure of an external director is determined by subtracting the current data year from the year in which his or her service began. The tenure of outside directors is then experimentally measured as the average number of years served by all outside directors for each firm year [26].

To examine whether the "isolation" impacts of independence and financial knowledge on earnings quality are influenced by the tenure of the outside directors, two interaction variables were included to capture these effects. This study evaluated the following interaction effects.

- In this study, an average tenure squared variable (TENURESQ) was employed to measure the interaction between the independence and the tenure of the outside directors. This is consistent with past management studies ([12], [13]).
- To examine the interaction effect of outside director(s) average tenure on the relationship between financial expertise and profits quality, a dummy variable (DUMEXP) was established that equals one if at least one outside director has financial expertise in a given company-year and zero otherwise. This is consistent with earlier research ([28], [29]), but also with the SOX standards, which require at least one outside director to have financial competence. The dummy variable is then interacted with the variable tenure (TENURE) to calculate the (adjusted) effect on earnings quality.

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Because of their potential influence on earnings quality, a set of control variables was also considered. Several variables that affect accruals quality are identified by [20] and [22]. Firm size, ROA, Past year loss, MTB-ratio and Leverage are the control variables used in this study. In addition, year and industry dummies were utilized to adjust for time and industry impacts. All these variables have been linked to accrual-based earnings management [13]. Table 3 provides an overview of all variables used in the present study.

Table 3. Overview of Variables

Type	Variable	Description	Comment
DV	EQ Earnings Quality (Accruals Quality)	The earnings quality is measured by the measurement error's standard deviation. A greater standard deviation indicates greater variety in earnings quality, which is quantified by the standard deviation of measurement inaccuracy. A greater standard deviation indicates greater fluctuation in the estimating inaccuracy, indicating that earnings quality is diminished.	
IV1	BIND Board Independence	The proportion of outside directors on the board of directors.	
IV3	TENURE Tenure of outside directors	The average years of service by outside directors for each firm-year.	
IV2	FINEXP Financial Expertise of Outside Directors	The proportion of outside directors who have financial expertise. Dummy variable, which equals one if at least one outside director is in possession of financial expertise and zero otherwise.	
IV4	TENURESQ Independence* Tenure	Average tenure squared. This variable will be examined on outside directors only, who are assumed to be independent.	
IV5	DUMEXP Financial Expertise* Tenure	Dummy variable, which equals one if at least one outside director is in possession of financial expertise and the average years of service by outside directors for each firm-year.	
CV1	Size Firm Size	Natural logarithm of the consolidated market value of a company displayed in millions of units of local currency.	Since profits quality was measured using an accrual-quality model, it is expected that larger companies will have higher corporate governance processes and earnings quality. The larger the company, the more stable and predictable its operations, the greater the accrual quality, and the lower its discretionary accruals (Dechow, & Dichev, 2002) Firm size is the first control variable used. The logarithm of total assets was used to measure the firm size (Aishah Hashim & Devi, 2008).

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CV2	ROA	Net income / Total assets, natural logarithm of net income.	Return on assets (ROA) was utilized as a control variable to assess the performance of a company. It is claimed that managers of organizations with poor performance use earnings management to make their performance appear better. (Chen et al., 2015).
CV3	Pastloss Past Year Loss	Dummy variable, takes the value of 1 if firms made a loss last year and zero otherwise.	As stated previously, earnings management degrades the quality of earnings and is associated with the positive accounting theory. Similar to Klein's (2002b) study, we employed a dummy control variable with a value of 1 if a company reported a loss the previous year. Dechow and Dichev argue that the incidence of losses is negatively related to the quality of the accruals (2002). This would have a positive effect on the discretionary accrual
CV4	MTB MTB ratio	Natural logarithm of the market value of the ordinary (common) equity divided by the balance sheet value of the ordinary (common) equity in the company.	The Market-to-book ratio was used to capture the growth opportunities of a firm. AlNajjar & Raihi-Belkaoui (2001) found that firms with higher growth opportunities have a lower quality of accruals due a higher part of discretionary accruals.
CV5	LEV Leverage	Total debt / Total assets.	It was determined using the debt ratio. This is to determine the firm's risk profile and whether a bigger proportion of shareholders has an impact on profits quality. Balsam, Krishnan, and Yang (2003) discovered a negative correlation between a company's leverage and the absolute value of its discretionary accruals.

Table 4 provides the descriptive statistics for the variables used in this study, from which

1. The average value of the absolute discretionary accruals (EQ) is 0.163, which is higher than the 0.11 estimated by [30].
2. The average percentage of independent board members (BIND) is 80.2%, which is comparable with the relevant figures [2], [3] and [31].
3. On average 30.5% of the outside directors on a board are in possession of financial expertise (FINEXP), which is slightly lower than the average of 24,4%. found by [27].
4. In addition, the average tenure of independent directors (TENURE) is roughly nine years, which is comparable to the findings of [31] and [32], with the longest tenure equaling 18.8 years.
5. 98.8% of the companies have at least one outside director with financial expertise (DumEXP). This high percentage is the consequence of the regulations of SOX who requires that at least one of the members of the audit committee is in possession of financial expertise.
6. Furthermore, there are companies in the sample with a market to book ratio (MTB) of 7.194, which means that these companies have high growth potential.

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7. Pastloss is a dummy variable that indicates whether or not there was a loss in the previous year. This statistic indicates that in 12.4% of the 6,962 company-year data, a company experienced a loss in the previous year.
8. Finally, as far as leverage (LEV) is concerned, it is obvious that there are firms in the sample with no leverage at all and firms that are fully leveraged (1.069). 25.5% of the sample's businesses are financed by debt on average.

Table 4. Descriptive Statistics

Variables	N	Mean	Median	Std. Dev.	Min	Max
EQ	6962	0.163	0.109	0.176	0.000	2.145
BIND	6962	0.802	0.833	0.105	0.100	1.000
FINEXP	6962	0.305	0.273	0.169	0.000	1.000
TENURE	6962	9.500	9.250	3.271	2.714	18.875
DumEXP	6962	0.988	1.000	0.110	0.000	1.000
Size	6962	7.984	7.826	1.531	5.031	12.080
ROA	6962	0.052	0.055	0.083	-0.317	0.277
MTB	6962	1.553	1.187	1.281	0.132	7.194
Pastloss	6962	0.132	0.000	0.339	0.000	1.000
LEV	6962	0.255	0.228	0.218	0.000	1.069

To examine the correlation between the variables, Table 5 displays the Pearson correlation matrix along with the significance of the relationship. This table demonstrates that accrual-based earnings management is favourably connected with both board independence (BIND) and the average tenure of outside directors (TENURE). However, the association between tenure and EQ is not statistically significant. Negative correlation exists between the variables FINEXP and DumEXP and accrual-based earnings management. Furthermore, four of the five control variables have a substantial association with the dependent variable, earnings management. The only control variable that does not exhibit a significant connection with EM is size. In most cases the correlation coefficients are below 0.50 and above -0.50, which indicates that there are no strong correlations between the variables and thus no severe multicollinearity in the data.

Table 5. Pearson Correlation Matrix

Variables	(EQ)	(BIND)	(FINEXP)	(TEN)	(dumEXP)	(Size)	(ROA)	(MTB)	(pastlos)	(Lev)
EQ	1									
BIND	0.036** *	1								
FINEXP	- 0.025**	- 0.108** *	1							
TEN	0.008	- 0.154** *	0.016	1						
dumEXP	-0.024**	0.101** *	0.202** *	- 0.047** *	1					
Size	0.001	0.205** *	- 0.039** *	- 0.118** *	0.053***	1				
ROA	0.171** *	-0.020*	-0.014	0.092** *	0.001	0.068** *	1			
MTB	0.131** *	- 0.100** *	-0.023*	0.106** *	-0.002	- 0.275** *	0.474** *	1		

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pastloss	- 0.039** *	0.006	0.013	- 0.093** *	0.017	- 0.105** *	- 0.410** *	- 0.160** *	1	
LEV	0.037** *	0.082** *	0.052** *	- 0.111** *	0.030**	0.259** *	- 0.101** *	- 0.207** *	0.046** *	1

*** p<0.01, ** p<0.05, * p<0.1

Before performing the panel data regression, several hypotheses were examined. The assumption that the data are regularly distributed is one of them. Using the Jarque-Bera normality test, the normality of the residual in the utilized model was examined. This test determines if the residual (error term) of the estimated model is regularly distributed and, consequently, examines the sample for normality [33]. This test's null hypothesis is that residuals have a normal distribution. This normality null hypothesis is rejected if the p-value is less than 0.05. The null hypothesis that the distribution is normal is rejected since the p-value equals 0 based on the Jarque-Bera test results. This indicates that the model residual is not regularly distributed. This departure from the norm is common in financial data. Even though the normality of the present model is rejected, t-ratio statistics based on the usual normal distribution might be utilized to draw conclusions. In accordance with the asymptotic theory, for many cross-section units (as in this study, N=1349), these statistics adhere to the normal distribution due to the central limit theorem and the law of large numbers [34]. The Jarque-Bera test findings are displayed in Table 6 below.

Table 6. Jarque-Bera Normality Test

Model	Chi ²	p-value
1	0	0

For the OLS regression model to be effective, the model's error term must be uncorrelated and have a constant variance. If this condition is not met, then heteroscedasticity exists. To determine whether the variance of the residuals is homogeneous, the Breusch-Pagan test is conducted. The null hypothesis of the Breusch-Pagan test asserts that the residual variance is homogeneous. As shown in Table 7 below. This null hypothesis is rejected if the p-value of the test is statistically significant (i.e. less than 0.05) [35]. Upon completion of the test, the p-value is less than 0.05. Therefore, the homoscedasticity null hypothesis is rejected. This indicates that the model utilized in this study is heterogeneous.

Table 7. Breush-Pagan Test

Model	Chi ²	p-value
1	1119.28	0

The findings of the regression between absolute discretionary accruals as evaluated by the Modified Jones Model and the relevant governance features are presented in Table VIII.

The first hypothesis tested was: "Does Board independence have a relationship with earnings quality". The corresponding variable in Table VIII below is BIND, which is negligible in relation to the total discretionary expenditures (-0.011, t-stat: -0.66). This implies that the independence of board directors has no effect on accrual-based earnings management, notwithstanding the negative correlation between independence and earnings management. Contrary to the findings of [2], [3], and [25], these findings addressing the independence of the BoD are inconsistent. [28] partially provide a plausible explanation for these results. In their study, they provide an explanation for the insignificance of the relationship between audit committee independence and earnings management by referencing SOX requirements. According to [28], these laws have led to a situation in which the variety in the makeup of company boards of directors has decreased to the point where its effect on earnings management "disappears." This results in a negligible relationship between Board independence and earnings management (BIND). Even though [28]'s research focuses on the independence of the audit committee, this effect equally applies to the BoD. This is because the independence standards targeted both the audit committee and the BoD. A detailed literature review on Board Independence is presented in Appendix I.

The second hypothesis examined was the possible effect of financial expertise on the quality of earnings. The proportion of outside directors with financial expertise has a negligible relationship with the total discretionary accruals (0.0028, t-stat: 0.29) as shown in Table VIII below This finding concurs with the findings of [28] and contradicts the findings of [36]. [28] do not

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provide an explanation for the contradictory results for this relationship when compared to previous research. [30] discovered that after the implementation of SOX laws, accruals and accrual-based earnings management decreased. They record a rise in real earnings management and a decline in accrual-based earnings management in the post-SOX period, which suggests that managers substituted accrual-based earnings management for real earnings management because of SOX legislation. The decline in accrual-based earnings management by managers may be a result of increased fines for enterprises that exaggerate or understate their results. If earnings are underestimated or overestimated, management will be held accountable and punished accordingly [37]. Therefore, the decline in accrual-based earnings management by managers may explain why there is no correlation between the level of financial expertise of outside directors and earnings quality. A detailed literature review on Financial Expertise is presented in Appendix II.

The third hypothesis examined the connection between the tenure of outside directors and the quality of earnings. In Table VIII below, the variable "TENURE" has a negative and statistically significant relationship with the amount of earnings management (-0.0140, t-stat: -5.14), indicating that as the tenure of independent directors on the board improves, so does their ability to monitor profits management. This is consistent with [38]'s "EH". According to [38], a long-term directorship is related with better experience since directors learn and cultivate crucial firm-specific information regarding its strategies, policy procedures, and business environment. In addition, external directors will be less sensitive to pressure from managers, hence limiting opportunistic managerial behavior. A detailed literature review on Board Tenure is presented in Appendix III.

The fourth hypothesis examined the interaction of Board tenure and Board Independence. However, if independent directors remain on the board for too long, they are more likely to become friends with managers and less inclined to supervise them, as they may have developed accommodating relationships with them. As a result, monitoring by outside directors will be less effective as they negotiate their independence. This U-shape relation between the average tenure of outside directors and earnings management was examined by adding the "TENURESQ" variable to the model (fourth hypothesis). Table VIII's comparable variable exhibits a significant and positive correlation. (0.000497, t-stat: 4.46), suggesting that the average tenure of outside directors follows an inverted U-shape relation, which is consistent with previous findings ([12], [13]). The cumulative effect of outside directors' tenure demonstrates that, as time passes, they acquire firm-specific knowledge, which improves their supervision. However, after a certain number of years, the friendship with the management compromises their independence and diminishes the effectiveness of the supervision. A detailed literature review on the interaction of Board Tenure and Board Independence is presented in Appendix IV.

Finally, the fifth hypothesis captured the interaction impact between the existence of a financial expert among outside directors and the tenure of outside directors within a company, as well as their relationship to the degree of earnings management. DumEXP*TEN, the variable of interest for this relationship in Table VIII, exhibits a positive and statistically significant relationship with the degree of earnings management (0.00340, t-stat: 2.61). This conclusion is intriguing since its effect on earnings quality is in the opposite direction to that of the variable "TENURE," which measures the average tenure of all outside members on a board in a given company-year, excluding the presence of financial expertise on the board. This indicates that the average tenure moderates negatively the presence of at least one outside director with accounting expertise to restrain earnings management. This conclusion contradicts the favorable direct relationship between "TENURE" and profits quality. This is consistent with the findings of [6]. In addition, they discovered that the effect of accounting-savvy outside directors on profits quality is more obvious when they have a shorter tenure as opposed to a longer tenure. They offer no potential explanation for this occurrence. A detailed literature review on the interaction between Board Tenure and Financial Expertise is presented in Appendix V.

In addition to examining the outcomes, the following were observed on the control variables. Four of the five variables serving as controls are significant. In this study, the control variable "Pastloss" is insignificant. There was a significant negative correlation between "Size" and "EQ" (-0.00603, t-statistic: -4.78), suggesting that larger companies are less likely to engage in earnings management based on accrual accounting. This is consistent with past studies [27]. Second, the control variables "ROA" and "LEV" have coefficients of 0.213 (t-stat: 8.43) and 0.0421, respectively (t-stat: 5.04), suggesting that organizations with a better return on assets and greater leverage are more prone to manipulate earnings. Both control variables are significant at the 1% level. The control variable MTB has a negative and statistically significant relationship with total discretionary accruals (-0.00761, t-stat: -4.64), implying that organizations with greater growth prospects have superior earnings quality.

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Table 8. Regression Results

Variable	Modified Jones Model	McNichols Model
Constant	0.221 *** (-11.07)	0.160*** (-0.0101)
BIND	-0.011 (-0.66)	-0.014* (-1.90)
FINEXP	0.003 -0.29	-0.012*** (-2.69)
TENURE	-0.014 *** (-5.14)	-0.006*** (-5.23)
TENURESQ	0.000 *** -4.46	0.000*** -3.22
DumEXP*TEN	0.003 *** -2.61	0.002*** -3.33
Size	-0.006 *** (-4.78)	-0.009*** (-16.35)
ROA	0.213 *** -8.43	-0.008 (-0.75)
Pastloss	0.004 -0.81	0.017*** -7.3
MTB	-0.008 *** (-4.64)	0.003*** -4.69
LEV	0.042 *** -5.04	0.006 -1.6
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Adjusted R2	0.416	0.2464
Observations (N)	6,962	5,564

Standard errors in parentheses

*** p<0.01, ** p<0.05,

* p<0.1

As a robustness test to examine the sensitivity of Table VIII's results, the McNichols Model was substituted for the Modified Jones Model as a proxy for earnings quality. The Modified Jones Model places greater emphasis on the management's purposeful earnings management (discretionary accruals), whereas the McNichols Model does not distinguish between deliberate and accidental earnings management. McNichols [21] believes that the quality of profits could be inadequate even if management has no intention of managing profits. With this additional proxy for the quality of profits, a test of robustness was conducted. Only the earnings quality proxy is distinguishable from the other variables, which include industry and year effects.

Table 8 also displays the robustness evaluation results. The McNichols Method seeks to correlate the change in working capital with the change in cash flows from the preceding (t-1) year, the current year (t), and the following year (t+1). In this model, the error term represents the accrual estimation error, which is the number of accruals that cannot be matched with the cashflows. This estimation error's standard deviation indicates the quality of a company's earnings. A larger standard deviation indicates that the accrual estimation error is more variable, indicating that the profitability of a business is of a lower quality. Consequently, the standard deviation increases with decreasing profit quality. When comparing the regression results of the McNichols and Modified Jones Models, there are three significant differences.

Furthermore, Table 8 above demonstrates that the variable "BIND" (-0.0140387, t-value: -1.90) has a negative and statistically significant effect on the accrual estimation error, but this variable has no effect on the main regression model. This

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indicates, at a significance level of 0.1, that a more independent board leads to more effective monitoring, which has a positive effect on the quality of profits. This result is consistent with [3] and [25]. The relationship between the variable "FINEXP" and earnings quality is negative and statistically significant (-0.0117071 , t -stat: -2.69), but this relationship is not statistically significant in the main regression model. This distinction may be due to the fact that this model's proxy identifies both intentional and unintentional accrual mismatches, whereas the Modified Jones Model focuses solely on instances of intentional earnings management. Consistent with prior research [27], there is a negative and substantial correlation between the proportion of outside directors with financial expertise and the accrual estimation error. This conclusion suggests that a greater number of outside directors with financial expertise leads to enhanced monitoring of the quality of accruals within corporations, thereby enhancing earnings quality. "PastLoss" has a statistically significant positive correlation with estimation error (0.0170966 , t -stat: 7.30). This suggests that if a company posted a loss the previous year, the quality of its earnings the following year will be lower.

V. RESULTS

The BoD is an essential governance body that oversees and controls the conduct of management in order to preserve shareholder interests.

This study examined the relationship between specific board membership and structural characteristics and accrual-based earnings management from. Specifically, the correlation between the following board characteristics and profitability were studied: independence, financial expertise, and tenure: using the Modified Jones Model. This study examined, in addition to the effect of these characteristics on earnings quality in "isolation," the interaction of certain board characteristics and the potential effect of this interaction on accrual-based earnings management. It investigated whether and to what extent the tenure of outside directors influences the "isolation" effects of financial expertise and independence on earnings quality. This interaction is an important extension to consider, given that financial expertise and independence are two of the most extensively researched characteristics in prior research and are also of regulatory interest to SOX, which asserts that these characteristics improve monitoring and discourage earnings management.

The findings indicate that the independence of the BoD has no substantial effect on accrual-based earnings management, showing that an increase in the number of independent board members does not significantly affect profits management. Moreover, the share of outside directors with financial expertise has little effect on accrual-based earnings management. A negative and statistically significant relationship was evidenced between average tenure and the extent of accrual-based earnings management, suggesting that as the tenure of outside directors increases, so does their ability to monitor profits management. This is consistent with [38]'s Expertise Hypothesis, which claims that a lengthy directorship relates to greater experience. The average tenure of external directors has a U-shape relation with earnings management, indicating that the average tenure demonstrates a learning curve that enhances the ability of outside directors to lower earnings management. Finally, the average tenure of outside directors within a company negatively moderates the presence of at least one outside director with financial expertise. The monitoring effectiveness of outside directors on a board where at least one outside member has financial expertise is greater when their tenure is shorter than when it is longer. This interaction effect demonstrates a negative association with earnings quality.

Overall, the findings of this study contradict regulators' claims that financial expertise and independence on the BoD improves profits quality. Based on the findings of this study, we may infer that independence and financial expertise alone are not sufficient for effective managerial oversight. Specifically, these two qualities interact with the tenure of the outside directors. Therefore, for outside directors to be truly effective in their monitoring position, these traits must be aligned, and the firm's stakeholders should also take this into account. The longer outside directors remain on the board, the less successful they become at constraining the management's aggressive financial reporting decisions, even if they are independent and there is at least one outside director with financial expertise.

There are obviously some drawbacks to this study. In this study, the quality of earnings is examined using accrual-based earnings management models. The influence of these board qualities on real earnings management, however, has not been studied. As the usage of real earnings management has expanded in the post-SOX era, the utilization of these models is intriguing for future study pertaining to the effect of these characteristics. In addition, this study utilized and analyzed only a sample of large public U.S. enterprises, which are larger companies. Due to the SOX requirements to which these larger organizations are subject, this might contribute to a lack of diversity in the board makeup of these companies. This may influence the regression findings by displaying low or non-significant effects. Future research may find it interesting to determine if there are differences between the effects of these governance qualities on earnings management for smaller and

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larger companies. Finally, the error term in the regression model is not regularly distributed, which is one of the prerequisites for OLS-regression.

This study has multiple contributions. It first investigates whether specific director traits enhance the efficacy of financial reporting process monitoring. Standard-setters interested in future laws to enable greater corporate governance within corporations may find these findings useful. An example of a standard-setter is the Security Exchange Commission (SEC), which implemented SOX in 2002. Second, this study responds to a recent need for empirical research on the effect of personal characteristics, in this case tenure, on the efficacy of outside directors ([6],[13], [18], [19]). It is demonstrated that the interaction between the independence and financial expertise of outside directors and their length of tenure may affect their ability to oversee the financial reporting process. These findings indicate that, when evaluating earnings quality, not only the board's structure and makeup, but also the directors' personal qualities, should be considered. Apart from shareholders, this is also useful for regulators who wish to evaluate the efficacy of legislation. Thirdly, this analysis contributes to the present academic discussion on outside directors' tenure by demonstrating that this link with accrual-based earnings management is nonlinear. This implies that over a particular period, management becomes more restrictive, resulting in diminished monitoring effectiveness.

REFERENCES

- 1) Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *SSRN Electronic Journal*, No. 1. <https://doi.org/10.2139/ssrn.94034>
- 2) Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, Vol 33 No. 3 pp. 375–400. [https://doi.org/10.1016/s0165-4101\(02\)00059-9](https://doi.org/10.1016/s0165-4101(02)00059-9)
- 3) Xie, B., Davidson, 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 No. 3 pp. 295–316. [https://doi.org/10.1016/s0929-1199\(02\)00006-8](https://doi.org/10.1016/s0929-1199(02)00006-8)
- 4) Kester, L., Georgakopoulos, G., Kalantonis, P., Boufounou, P. (2013). The Impact of Board of Directors' Turnover on the Association between Financial Restatements and Audit Fees. *Journal of Applied Finance & Banking*, Vol. 3, No. 2, pp. 53-75. ISSN: 1792-6580 (print version), 1792-6599 (online) http://www.scienpress.com/Upload/JAFB%2fVol%203_2_10.pdf
- 5) Sun, X. S., & Bhuiyan, M. B. U. (2020). Board tenure: A review. *Journal of Corporate Accounting & Finance*, Vol. 31 No. 4 pp. 178–196. <https://doi.org/10.1002/jcaf.22464>
- 6) Dhaliwal, D., Naiker, V., & Navissi, F. (2010). The Association Between Accruals Quality and the Characteristics of Accounting Experts and Mix of Expertise on Audit Committees*. *Contemporary Accounting Research*, Vol. 27 No. 3 pp. 787–827. <https://doi.org/10.1111/j.1911-3846.2010.01027.x>
- 7) Jones, J. (1991). Earnings Management during Import Relief Investigations, *Journal of Accounting Research*, 29,193-228. doi:10.2307/2491047, <http://www.jstor.org/pss/2491047>
- 8) Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, Vol. 3 No. 4 pp. 305–360. [https://doi.org/10.1016/0304-405x\(76\)90026-x](https://doi.org/10.1016/0304-405x(76)90026-x)
- 9) Brown, P., Beekes, W., & Verhoeven, P. (2010). Corporate governance, accounting and finance: A review. *Accounting & Finance*, Vol. 51 No. 1 pp. 96–172. <https://doi.org/10.1111/j.1467-629x.2010.00385.x>
- 10) Kesner, I.F. (1988). Directors' Characteristics and Committee Membership: An Investigation of Type, Occupation, Tenure, and Gender, *Academy of Management Journal*, Vol. 31, pp. 66-84 <https://doi.org/10.2307/256498>
- 11) An, Y. (2017). Effect of Outside Director's Quality on Firm Value and Earnings Quality. *Research Journal of Business Management*, Vol. 11 No. 1 pp. 139–45. <https://doi.org/10.3923/rjbm.2017.39.45>
- 12) Huang, S., & Hilary, G. (2018). Zombie Board: Board Tenure and Firm Performance. *Journal of Accounting Research*, Vol. 56 No. 4 pp. 1285–1329. <https://doi.org/10.1111/1475-679x.12209>
- 13) Marra, A., & Mazzola, P. (2014). Don't Judge a Book by Its Cover: The Influence of Independent Directors Busyness and Tenure on Earnings Quality. *SSRN Electronic Journal*, pp. 23–24. <https://doi.org/10.2139/ssrn.2374002>
- 14) Hsu, H.-H., & Wu, C. Y.-H. (2014). Board composition, grey directors and corporate failure in the UK. *The British Accounting Review*, Vol. 46 No. 3 pp. 215–227. <https://doi.org/10.1016/j.bar.2013.12.002>
- 15) Man, C. K., & Wong, B. (2013). Corporate Governance and Earnings Management: A Survey Of Literature. *Journal of Applied Business Research (JABR)*, Vol 29 No. 2 pp. 391. <https://doi.org/10.19030/jabr.v29i2.7646>
- 16) Farber, D. B. (2005). Restoring Trust after Fraud: Does Corporate Governance Matter? *The Accounting Review*, Vol. 80 No. 2 pp. 539–561. <https://doi.org/10.2308/accr.2005.80.2.539>

Board Characteristics and Company Performance: A Case Study for the U.S.

- 17) Chia, Y., Lapsley, I., & Lee, H. (2007). Choice of auditors and earnings management during the Asian financial crisis. *Managerial Auditing Journal*, Vol. 22 No. 2 pp. 177–196. <https://doi.org/10.1108/02686900710718672>
- 18) DeFond, M. L., & Francis, J. R. (2005). Audit Research after Sarbanes-Oxley. *AUDITING: A Journal of Practice & Theory*, Vol. 24 No.s-1 pp. 5–30. <https://doi.org/10.2308/aud.2005.24.s-1.5>
- 19) DeZoort, F. T., Hermanson, D. R., Archambeault, D. S., & Reed, S. A. (2002). Audit committee effectiveness: A synthesis of the empirical audit committee literature. *Audit Committee Effectiveness: A Synthesis of the Empirical Audit Committee Literature*, Vol 21 No 38.
- 20) Francis, J., LaFond, R., Olsson, P. M., & Schipper, K. (2004). Costs of Equity and Earnings Attributes. *The Accounting Review*, Vol. 79 No. 4 pp. 967–1010. <https://doi.org/10.2308/accr.2004.79.4.967>
- 21) McNichols, M. F. (2002). Discussion of the quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review*, Vol 77 No s-1 pp. 61-69. <https://doi.org/10.2308/accr.2002.77.s-1.61>
- 22) Dechow, P. M., & Dichev, I. D. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, Vol. 77 No. s-1 pp. 35–59. <https://doi.org/10.2308/accr.2002.77.s-1.35>
- 23) Hribar, P., & Craig Nichols, D. (2007). The use of unsigned earnings quality measures in tests of earnings management. *Journal of Accounting Research*, Vol 45 No 5, pp. 1017-1053. <https://doi.org/10.1111/j.1475-679X.2007.00259.x>
- 24) DeFond, M., & Zhang, J. (2014). A review of archival auditing research. *Journal of Accounting and Economics*, Vol. 58 No 2-3 pp. 275–326. <https://doi.org/10.1016/j.jacceco.2014.09.002>
- 25) Chen, X., Cheng, Q., & Wang, X. (2015). Does increased board independence reduce earnings management? Evidence from recent regulatory reforms. *Review of Accounting Studies*, Vol. 20 No. 2 pp. 899–933. <https://doi.org/10.1007/s11142-015-9316-0>
- 26) Kim, K., & Yang, J. S. (2014). Director Tenure and Financial Reporting Quality: Evidence from Korea. *Review of Integrative Business and Economics*, Vol. 3 No. 1 pp. 237–256. Retrieved from http://www.sibresearch.org/uploads/2/7/9/9/2799227/riber_k14-129_237-256.pdf
- 27) Kim, K., Mauldin, E., & Patro, S. (2014). Outside directors and board advising and monitoring performance. *Journal of Accounting and Economics*, Vol. 57 No. 2-3 pp. 110–131. <https://doi.org/10.1016/j.jacceco.2014.02.001>
- 28) Ghosh, A., Marra, A., & Moon, D. (2010). Corporate Boards, Audit Committees, and Earnings Management: Pre- and Post-SOX Evidence. *Journal of Business Finance & Accounting*, Vol. 37 No. 9-10 pp. 1145–1176. <https://doi.org/10.1111/j.1468-5957.2010.02218.x>
- 29) Yang, J. S., & Krishnan, J. (2005). Audit Committees and Quarterly Earnings Management. *International Journal of Auditing*, Vol. 9 No. 3 pp. 201–219. <https://doi.org/10.1111/j.1099-1123.2005.00278.x>
- 30) Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes-Oxley Periods. *The Accounting Review*, Vol. 83 No. 3 pp. 757–787. <https://doi.org/10.2308/accr.2008.83.3.757>
- 31) Sun, J., Lan, G., & Ma, Z. (2014). Investment opportunity set, board independence, and firm performance. *Managerial Finance*, Vol. 40 No. 5 pp. 454–468. <https://doi.org/10.1108/mf-05-2013-0123>
- 32) Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2004). Board characteristics, accounting report integrity, and the cost of debt. *Journal of Accounting and Economics*, Vol. 37 No. 33 pp. 15–342. <https://doi.org/10.1016/j.jacceco.2004.01.004>
- 33) Jarque, C. M. (2011). *Jarque-Bera Test*. *International Encyclopedia of Statistical Science*, pp. 701–702. https://doi.org/10.1007/978-3-642-04898-2_319
- 34) Greene, W. H. (2003). *Econometric Analysis*. Pearson Education.
- 35) Heij, C., Franses, P. H., Kloek, T., & van Dijk, H. (2004). *Econometric Methods with Applications in Business and Economics*. Oxford, United Kingdom: Oxford University Press.
- 36) Krishnan, G. V., & Visvanathan, G. (2007). Does the SOX Definition of an Accounting Expert Matter? the Association between Audit Committee Directors' Accounting Expertise and Accounting Conservatism. *SSRN Electronic Journal* <https://doi.org/10.2139/ssrn.866884>
- 37) Lobo, G. J., & Zhou, J. (2006). Did Conservatism in Financial Reporting Increase after the Sarbanes-Oxley Act? *Initial Evidence*. *Accounting Horizons*, Vol. 20 No. 1 pp. 57–73. <https://doi.org/10.2308/acch.2006.20.1.57>
- 38) Vafeas, N. (2003). Length of Board Tenure and Outside Director Independence. *Journal of Business Finance Accounting*, 30(7–8), 1043–1064. <https://doi.org/10.1111/1468-5957.05525>
- 39) Beasley, M. S., Carcello, J. V., Hermanson, D. R., & Neal, T. L. (2009). The Audit Committee Oversight Process. *Contemporary Accounting Research*, Vol. 26 No. 1 pp. 65–122. <https://doi.org/10.1506/car.26.1.3>

Board Characteristics and Company Performance: A Case Study for the U.S.

- 40) Bravo, F., & Reguera-Alvarado, N. (2017). Do independent director's characteristics influence financial reporting quality? *Spanish Journal of Finance and Accounting / Revista Española de Financiación y Contabilidad*, Vol. 47 No. 1 pp. 25–43. <https://doi.org/10.1080/02102412.2017.1362200>
- 41) Carcello, J. V., Hollingsworth, C. W., Klein, A., & Neal, T. L. (2006). Audit Committee Financial Expertise, Competing Corporate Governance Mechanisms, and Earnings Management. *SSRN Electronic Journal*. Published. <https://doi.org/10.2139/ssrn.887512>
- 42) Chan, A. M. Y., Liu, G., & Sun, J. (2012). Independent audit committee members' board tenure and audit fees. *Accounting & Finance*, Vol. 53 No. 4 pp. 1129–1147. <https://doi.org/10.1111/j.1467-629x.2012.00490.x>
- 43) Donoher, W. J., Reed, R., & Storrud-Barnes, S. F. (2007). Incentive Alignment, Control, and the Issue of Misleading Financial Disclosures. *Journal of Management* Vol 33 No 4 pp. 547–569. <https://doi.org/10.1177/0149206307302550>
- 44) Kesner, I.F. (1988). Directors' Characteristics and Committee Membership: An Investigation of Type, Occupation, Tenure, and Gender, *Academy of Management Journal*, Vol. 31, pp. 66-84 <https://doi.org/10.2307/256498>
- 45) Li, N., & Wahid, A. S. (2017). Director Tenure Diversity and Board Monitoring Effectiveness. *Contemporary Accounting Research* Vol 35 No 3 pp.1363–1394. <https://doi.org/10.1111/1911-3846.12332>
- 46) SEC (2003). *Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002*. Retrieved from <https://www.sec.gov/rules/final/33-8177.htm>
- 47) Sharma, V. D., & Iselin, E. R. (2012). The Association between Audit Committee Multiple-Directorships, Tenure, and Financial Misstatements. *AUDITING: A Journal of Practice & Theory*, Vol. 31 No. 3 pp. 149–175. <https://doi.org/10.2308/ajpt-10290>

APPENDICES

APPENDIX 1. Board Tenure

In the past, research on board tenure and performance monitoring was limited and yielded inconsistent results. Several studies indicate a strong correlation between board tenure and monitoring performance in relation to serious accounting failure, fraud, SEC investigations, and restatements (Beasley 1996). Vafeas (2005), on the other hand, finds evidence that the average tenure of audit committee members is associated with the avoidance of negative earnings surprises, implying that as the tenure of outside directors increases, monitoring of less egregious reporting errors weakens. Monitoring financial reporting frequently necessitates a high level of technical detail and knowledge of accounting standards and concepts, concepts of internal control, and auditing procedures. In other words, directors need direct accounting or financial expertise in order to identify issues and formulate penetrating questions (Dhaliwal et al. 2010, DeFond and Francis 2005). This argument refutes the Expertise Hypothesis of Vafaes (2003). It disproves the assumption that monitoring will improve over time as a result of the accumulation of firm-specific knowledge. Through their research, Kim et al. (2014) discovered a negative correlation between board tenure and accruals quality. Specifically, they find that long board tenure marginally increases discretionary accruals and consequently lowers the quality of financial reporting. Thus, these findings are consistent with the expectations and hypotheses of the researchers, who hypothesized that firm-specific and accounting knowledge are necessary for monitoring management.

The findings of Bravo and Reguera-2017 Alvarado's study are consistent with those of Kim et al (2014). Consistently, they assert that the ability of independent directors to supervise companies declines over time, and there is evidence that companies with long-tenured directors produce lower-quality financial reports. Huang and Hilary test the nonlinearity that long-tenured directors lose objectivity and become more in tune with management (2018). Using additional variables, they discover an inverted U-shape relationship between board tenure and financial reporting quality (accruals quality, abnormal accruals, C-score, and restatement). Both the linear and squared terms of board tenure are supported by statistics. Huang and Hilary's (2018) research demonstrates the validity of both the Management Friendliness Hypothesis and the Expertise Hypothesis. For firms with short-tenured boards, the marginal effect of board learning exceeds the entrenchment effect, whereas for firms with long-tenured boards, the entrenchment effect or management friendliness effect dominates the learning effect.

Marra and Mazzola (2014) argue that while the effectiveness of independent directors increases early on because a certain number of years are required to gain a sufficient understanding of a company's operations (Beasley, 1996), this effectiveness declines when directors remain on corporate boards for too long, thereby losing their independence through friendship and accommodating attitudes (U-shape relation). Their study's empirical findings supported this theory. They demonstrate that as the tenure of independent board directors increases, so does their ability to oversee EM. However, after a certain number of years, the ability of independent directors to restrain EM declines. However, after a certain number of years, the ability of independent directors to restrict EM declines.

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There are varying perspectives on the effect of director tenure on conduct, and empirical data on the topic is inconsistent. On the one hand, long-term director involvement may be associated with increased experience (Vance 1983; Vafeas, 2003) and "competence" because it enables directors to amass vital information regarding the firm's plans, policies, operations, and business environment (Vafeas, 2003). According to Liu and Sun (2010), outside directors play a crucial role in monitoring management. They must make decisions regarding issues presented to the committee. Among these issues are accounting corrections. It is crucial to have procedural knowledge when addressing accounting issues (Herz and Schultz, 1999). Procedural knowledge is the understanding of the steps involved in performing a task, such as solving a particular type of problem or evaluating a particular issue. Therefore, the ability of independent directors to review financial reporting is contingent on their procedural knowledge. This procedural knowledge can be acquired "on the job" and is more likely to grow with experience (Quinones et al., 1995). During their tenure, outside directors gain procedural expertise by overseeing the financial reporting process. This argument is also referred to as the "Expertise Hypothesis" of Vafeas (2003). Additionally, the "Management Friendliness Hypothesis" can be used to explain the effects of prolonged director tenure. According to this theory, directors with longer tenure are more likely to befriend managers, thereby reducing their propensity to criticize managers' decisions (Vafeas, 2003). In such a situation, directors with longer tenures are less effective at preventing accrual-based earnings management. In accordance with the first perspective, Beasley (1996), Dhaliwal et al. (2010), and Donohoe et al. (2007) find that the tenure of directors and AC members enhances their capacity to supervise the financial reporting process. Contrary to the latter Management Friendliness Hypothesis, Beasley (1996) finds that the duration of outside board directors reduces the probability of financial statement fraud. However, additional research provides empirical support for the second viewpoint. The relationship between board tenure and accruals quality was found to be negative by Xie et al. (2003), Kim et al. (2014), and Bravo and Reguera-Alvarado (2017). Particularly, they find that long board tenure modestly increases discretionary accruals and, as a result, lowers the quality of financial reporting.

These studies suggest that the relationship between tenure of independent directors and profit management is complex and warrants further study (Vafeas, 2003).

APPENDIX 2. Board Independence

The independence of the board of directors is a board characteristic that can have an influence on the board's monitoring efficacy. A director is deemed independent if he or she has no material connection to the firm other than a board seat. According to one generally held belief, having a larger proportion of independent members on the board and audit committee leads to more effective monitoring and, as a result, less earnings management (Xie et al., 2003). The United States Securities and Exchange Commission agrees (SEC). Section 303A of the NYSE's Listed Company Manual was authorized by the SEC in 2003 (amended in 2009), which says that listed companies on the NYSE and NASDAQ must have a majority of independent directors (>50 percent).

Furthermore, SOX stresses the independence of all audit committee members and forbids the listing of any securities by issuers who do not comply with this criterion (SEC, 2003a). According to the SEC, managers may be encouraged to boost short-term performance for self-interest rather than long-term shareholder value. An independent board and audit committee are thought to solve this problem by better aligning corporate and shareholder interests (SEC, 2003a). This viewpoint is taken from agency theory.

Several studies have been conducted to examine the relationship between board independence and earnings quality. Klein (2002a) investigated the relationship between board independence and earnings management, which erodes earnings quality (Dechow et al., 2010), for US firms and discovered that boards with a majority of independent directors have a negative relationship with total discretionary accruals, a proxy for earnings management and thus earnings quality. This viewpoint is supported by the findings of a research conducted by Xie et al. (2003) in the context of accrual-based earnings management. The findings show that when the board is made up of more independent outsiders, discretionary accruals are lower (Xie et al., 2003). These findings are consistent with those of a more recent study conducted by Chen et al. (2015), who discovered a negative relationship between board independence and the degree of discretionary accruals.

All of the preceding investigations discovered a favorable relationship between board independence and earnings quality. There are, however, opposing viewpoints on this connection. According to Bhagat and Black (2000), independent directors are less educated and may make poor judgments due to a lack of inside information. This means that having too many independent directors may have a detrimental impact on profits quality since there will be a lack of inside knowledge to properly oversee. The issue of too many independent directors is plausible, especially in enterprises with a noisy information environment (Sun et al., 2014), because the adoption of SOX requires more independent boards.

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APPENDIX 3. Financial Expertise

The second characteristic that can impact the monitoring effectiveness of the board of directors is the directors' financial expertise. Financial reporting monitoring is regarded as a specialized monitoring function (Dhaliwal et al. 2010; DeFond et al. 2005). In general, financial reporting monitoring requires a high level of technical detail and knowledge of accounting standards and concepts, concepts of internal control, and auditing procedures. In other words, directors require direct accounting or finance knowledge and experience in order to identify problems and pose perceptive inquiries (Dhaliwal et al. 2010; DeFond et al. 2005). SOX regulations include the contribution accounting experts can make to the oversight of critical financial reporting areas, such as monitoring the quality of accruals. Section 407 of the Sarbanes-Oxley Act (SOX) stipulates that at least one member of the audit committee must have financial expertise (Bédard et al., 2004). The rules require a company to disclose the presence of a financial expert and, if none is present, to explain why none is present (SEC, 2003b). SOX Section 407 defines a financial expert as possessing the following characteristics: (1) knowledge of GAAP and financial statements; (2) experience in applying GAAP to a company's financial statements; (3) experience in preparing or auditing financial statements; (4) experience with financial reporting procedures and internal controls; and (5) knowledge of audit committee functions (SEC, 2003b).

SOX emphasizes that accounting professionals are ideally suited for evaluating accrual policies due to the fact that their assessment of quality frequently relates to elements of the Statement of Financial Accounting Concepts framework (relevance and reliability) and they are better equipped to identify concerns that are not publicly disclosed. In addition, they are more likely to evaluate alternative accounting treatments under generally accepted accounting principles and to discuss estimates and assumptions associated with the implementation of new accounting policies (Beasley et al. 2009).

As a response to corporate scandals, this regulation was enacted with the expectation that the presence of a financial expert would reduce accrual-based earnings management attempts. However, Ghosh et al. (2010) did not find a correlation between the presence of a financial expert and accrual-based earnings management, whereas the vast majority of other studies do (Bédard et al. 2004) discovered that audit committees that include a financial expert are more effective at limiting accrual-based earnings management. In line with this viewpoint, Krishnan and Visvanathan (2007) examine the accounting and non-accounting financial expertise of audit committee members and conclude that only accounting financial expertise is associated with lower discretionary accruals.

After the SOX regulations, the audit committee is the sole focus of the majority of research on the impact of accounting knowledge on financial reporting quality. However, because the board of directors plays a crucial role in monitoring financial reporting quality (Klein, 2002a) and in delivering credible and relevant financial statements (Anderson et al., 2004), the same assumption as Kim et al. is made in this study (2014). In their research, they assume that the positive correlation between the audit committee's financial expertise and the quality of financial reporting applies to outside directors as well.

The findings of Bravo and Reguera-Alvarado's (2017) study are consistent with those of Kim et al (2014). Consistently, they assert that the ability of independent directors to supervise companies declines over time, and there is evidence that companies with long-tenured directors produce lower-quality financial reports. Huang and Hilary test the nonlinearity that long-tenured directors lose objectivity and become more in tune with management (2018). Using additional variables, they discover an inverted U-shape relation between board tenure and financial reporting quality (accruals quality, abnormal accruals, C-score, and restatement). Both the linear and squared terms of board tenure are supported by statistics. Huang and Hilary's (2018) research demonstrates the validity of both the Management Friendliness Hypothesis and the Expertise Hypothesis. For firms with short-tenured boards, the marginal effect of board learning exceeds the entrenchment effect, whereas for firms with long-tenured boards, the entrenchment effect or management friendliness effect dominates the learning effect.

Marra and Mazzola (2014) argue that while the effectiveness of independent directors increases early on because a certain number of years are required to gain a sufficient understanding of a company's operations (Beasley, 1996), this effectiveness declines when directors remain on corporate boards for too long, thereby losing their independence through friendship and accommodating attitudes (U-shape relation). Their study's empirical findings supported this theory. They demonstrate that as the tenure of independent board directors increases, so does their ability to oversee EM. However, after a certain number of years, the ability of independent directors to restrain EM declines. However, after a certain number of years, the ability of independent directors to restrict EM declines.

There are varying perspectives on the effect of director tenure on conduct, and empirical data on the topic is inconsistent. On the one hand, long-term director involvement may be associated with increased experience (Vance 1983; Vafeas, 2003) and "competence" because it enables directors to amass vital information regarding the firm's plans, policies, operations, and business environment (Vafeas, 2003). According to Liu and Sun (2010), outside directors play a crucial role in monitoring management. They must make decisions regarding issues presented to the committee. Among these issues are accounting corrections. It is crucial to have procedural knowledge when addressing accounting issues (Herz and Schultz, 1999).

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Procedural knowledge is the understanding of the steps involved in performing a task, such as solving a particular type of problem or evaluating a particular issue. Therefore, the ability of independent directors to review financial reporting is contingent on their procedural knowledge. This procedural knowledge can be acquired "on the job" and is more likely to grow with experience (Quinones et al., 1995). During their tenure, outside directors gain procedural expertise by overseeing the financial reporting process. This argument is also referred to as the "Expertise Hypothesis" of Vafeas (2003). Additionally, the "Management Friendliness Hypothesis" can be used to explain the effects of prolonged director tenure. According to this theory, directors with longer tenure are more likely to befriend managers, thereby reducing their propensity to criticize managers' decisions (Vafeas, 2003). In such a situation, directors with longer tenures are less effective at preventing accrual-based earnings management. In accordance with the first perspective, Beasley (1996), Dhaliwal et al. (2010), and Donohoe et al. (2007) find that the tenure of directors and AC members enhances their capacity to supervise the financial reporting process. Contrary to the latter Management Friendliness Hypothesis, Beasley (1996) finds that the duration of outside board directors reduces the probability of financial statement fraud. However, additional research provides empirical support for the second viewpoint. The relationship between board tenure and accruals quality was found to be negative by Xie et al. (2003), Kim et al. (2014), and Bravo and Reguera-Alvarado (2017). Particularly, they find that long board tenure modestly increases discretionary accruals and, as a result, lowers the quality of financial reporting.

These studies suggest that the relationship between tenure of independent directors and profit management is complex and warrants further study (Vafeas, 2003).

APPENDIX 4. Interaction between Board Tenure and Independence

According to Huang and Hilary (2018), board tenure captures the tradeoff between board independence and knowledge acquisition. This is because directors acquire firm-specific expertise as their tenure increases, whereas extended tenure leads to familiarity between boards and executives, which is detrimental to the independence of directors. Because they may have formed accommodating relationships with them, long-term directors are more likely to become friends with managers and less likely to monitor them (Vafeas, 2003). This further perpetuates the agency problem (Beasley, 1996). Therefore, long-tenured directors have a tendency to tolerate the poor conduct of executives, resulting in increased earnings management (Sun and Bhuiyan, 2020).

The prior literature supports this viewpoint (Bravo and Reguera-Alvarado, 2017; Huang and Hilary, 2018; Marra and Mazzola, 2014). Consistently, they claim that the monitoring effectiveness of independent directors declines over time, citing evidence that organizations with long-tenured directors have poorer financial reporting quality. Huang and Hilary (2018) test for this nonlinearity, whereby directors with extended tenure lose their objectivity and become more linked with management. In their analysis, they discover a U-shape relation between board tenure and the quality of financial reporting. In firms with short-tenured boards, the marginal effect of board learning outweighs the entrenchment effect, while in firms with long-tenured boards, the entrenchment effect or management friendliness effect dominates the learning effect.

These perspectives result in the following connection between tenure and independence: Initially, the effectiveness of outside directors increases because it takes a certain number of years to gain a sufficient understanding of a company's operations; however, this effectiveness declines when directors remain on corporate boards for too long, eroding their independence through friendship and accommodating attitudes.

This paper follows previous management research that asserts the existence of a U-shape relation between the length of tenure and financial reporting quality (Bravo and Reguera-Alvarado, 2017; Huang and Hilary, 2018; Marra and Mazzola, 2014) in order to investigate this relationship, but differs from previous research in that it focuses solely on outside directors.

As per prior research, it would be interesting to determine whether the tenure of outside directors has a U-shape relation with earnings quality.

APPENDIX 5. Interaction between Board Tenure and Financial Expertise

Directors' characteristics interact with each other, thereby affecting the overall effectiveness of a board of directors in monitoring earnings management (Dhaliwal et al. 2010; Marra and Mazzola, 2014). Krishnan and Visvanathan (2007) and Carcello et al. (2006) investigate how audit committee (AC) accounting experts interact with panoptic indicators of corporate governance to enhance financial reporting quality. What these studies do not address, however, is how the qualities of accounting experts influence the relationship between accounting experts and financial reporting quality.

DeZoort et al. (2002) stress the significance of analyzing how the performance of AC financial specialists is influenced by their personal characteristics, such as independence and tenure. This is an important extension to examine because, in addition to financial expertise, these characteristics are among the most investigated director features from past studies. Taking into account the fluctuation in the tenure of accounting expert-level directors can reveal if these characteristic increases or

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decreases the monitoring efficacy of outside directors with financial competence. If successful monitoring is a talent that is developed internally, then accounting professionals with longer tenure (length of service) are likely to provide more effective monitoring of financial reporting than those with shorter tenure. This is consistent with Quinones et al.'s (1995) procedural knowledge hypothesis. This notion is confirmed by Yang and Krishnan (2005), who demonstrate a negative link between the tenure of directors who serve on ACs and earnings management, indicating that experience with the firm's accounting processes has a favorable influence. Other research, however, contend that longer director tenure results in less effective supervision of managerial conduct (Bhagat and Black, 1999; Vafeas, 2003), implying that AC accounting specialists with shorter tenures are less likely to be influenced by management. In addition, freshly appointed accounting specialists may be recruited to ensure greater compliance with the regulatory standards of SOX (Beasley et al., 2009), which may improve the quality of financial reporting. The provided arguments show that the tenure of accounting professionals can affect the quality of financial reporting.



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