CEO Career Horizon, CEO Power, Corporate Governance and Earnings Quality: Evidence from Egypt

Dalia Ali Mostafa Hemdan[1,*], Suhaily Hasnan[2,*], Saif-Ur-Rehman[3] and Mazurina Mohd Ali[2]

[1]*Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia.*

[2]*International School, Vietnam National University, Hanoi, Vietnam.*

[3]*School of Business, Skyline University College, Sharjah, United Arab Emirates.*

Abstract: This study analysed the determinants of firms' reported earnings quality (hereafter FREQ) for Egyptian firms from 2008 to 2019, using panel data. The Chief Executive Officer (CEO) career horizon (a CEO approaching retirement) is negatively associated with FREQ; CEO power dynamics (CEO duality, CEO stock ownership, CEO tenure, and CEO political connections) negatively affect FREQ; and board independence significantly moderates (weakens) the negative impact of CEO ownership and CEO tenure on FREQ. The findings do not support the weakening or substitution role of board independence for the negative impact of CEO career horizon, CEO duality and CEO political connections on FREQ. The presence of gender-critical mass serves as a substitution mechanism for the negative impact of CEO career horizon and CEO power dynamics (duality, ownership, tenure, and political connections) on FREQ. The findings on the interplay among CEO power dynamics shows that CEO duality, CEO ownership and CEO tenure augment each other in their negative role in determining FREQ. CEO educational level substitutes the negative impacts of CEO ownership and CEO tenure on FREQ. Principal analysis was observed for robustness through propensity matching score and difference-in-difference (DID) techniques. This study adds new knowledge by exploring the negative consequences of CEO career horizon and CEO power dynamics, and provides insights into the constraining role of corporate governance, strengthens reverse-causality, and uses DID approach and propensity matching techniques.

Keywords: CEO Career Horizon, CEO Power, Corporate Governance, Earnings Quality.

1. INTRODUCTION

As per the agency theory, the separation of stock ownership and firm control creates information asymmetry, ultimately allowing managers to pursue their self-interest (Aziz, Mohamed, Hasnan, Sulaiman, & Abdul Aziz, 2017; Jensen & Meckling, 1976). Matta and Beamish (2008) stated that amplified agency conflicts are discussed as the Chief Executive Officer (CEO) career horizon problem when a CEO is at an early stage of his career or approaching retirement. The problem arises once both a beginner and a CEO with a long career horizon make choices that provide short-term benefits, creating a scenario where a CEO opts for strategic decisions that satisfy his short-run needs even at the cost of long-run gains (Strike, Berrone, Sapp, & Congiu, 2015). Career horizon problems might have severe costs for the firms' reported earnings quality (FREQ), often creating the motivation for CEOs to manipulate earnings intentionally (Liang, Marinovic, & Varas, 2018). Ali and Zhang (2015) and Chen, Zhu, Papandreou, Schroff, and Adam (2018) established the association between career horizon problems and FREQ. Therefore, studying the impact of career horizon on FREQ in emerging economies would be valuable (Chen et al., 2018).

According to the upper echelons theory, top executives are solely responsible for determining firms' strategies (Hiebl, 2014). However, firms differ in the balance of power and decision-making authority between the CEO and the board (Abatecola & Cristofaro, 2018). Empirical evidence has proven a possible trade-off between costs and benefits of conversing additional decision-making power with CEOs (Chatterjee & Hambrick, 2011). One school of thought associates CEO power with firm's efficiency as he can accelerate the decision-making processes, resulting in timely responses to the market (Ozbek & Boyd, 2020).

Another school of thought suggests that a CEO with concentrated decision-making power may act individually (Gupta, Han, Nanda, & Silveri, 2018), suggesting that a more centralised decision-making process may not produce better results when the available information is vague (Crossland & Chen, 2013). Previous research has also discovered that the market structure directs a powerful CEO's role, and the outcomes are highly correlated with CEO entrenchment, suggesting a more centralised decision-making process is not likely to produce better results in the presence of information asymmetry (Crossland & Chen, 2013). Therefore, the role of

*Address correspondence to this author at the Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia; E-mail: suhailyhasnan@uitm.edu.my

CEO power dynamics is influenced by the firm's market structure and power dynamics and is significantly associated with CEO entrenchment.

This study highlights the impact of CEO power dynamics on FREQ in Egypt because: first, no empirical evidence has explained the consequences of CEO power dynamics in the Gulf region, where the probability of adverse impacts seems more pronounced. The market, specifically in Egypt, presents a situation where the entrenched context of the issues is not exposed to quick clarifications. Second, an urgent need exists to explore different financial aspects after the new political regime.

This study adds to the existing literature in three ways. First, the findings prove the negative consequences of CEO career horizon and CEO power in the FREQ context. Two CEO career horizon measures (beginner and approaching retirement) and four different CEO power dynamics attributes (duality, tenure, ownership, and political connections) were utilised to highlight the impacts on FREQ. The findings depict negative consequences of CEO career horizon (only approaching retirement) and CEO power on stakeholders. Second, this study explored the moderating role of corporate governance as weakening or substitution mechanisms for the negative association between CEO power dynamics and FREQ. Two governance mechanisms were utilised, i.e., board independence and gender-critical mass. The findings exhibit gender-critical mass on the board substitutes the negative relationship impacts of CEO career horizon and CEO power dynamics on FREQ. Third, the interplay role of CEO specific factors (CEO duality, CEO ownership, CEO tenure and CEO education) was explored.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Corporate governance comprises a system of directives, practices, and procedures that directs and controls a firm's operations (Hasnan, Mohd Razali, & Mohamed Hussain, 2021; Suhaily Hasnan, Rahman, & Mahenthiran, 2014), and balances different stakeholders' interests. When a CEO behaves in an entrenched manner, the effectiveness of the corporate governance mechanisms (Kovermann & Velte, 2019) comes into question.

In the context of CEO power dynamics, corporate governance mechanisms lead to a trade-off between the CEO and the board (Oh, Chang, & Kim, 2018). A system of control that decrees how a board manages a firm exists (Finkelstein, Hambrick, & Cannella, 2009; Nasr & Ntim, 2018). In cases where the CEO is entrenched, he is more likely to track a firm's resources for personal benefit. Circumstances may arise that enable a board to be predominately vigilant, perhaps limiting the CEO from chasing self-centred decisions (Singh, Tabassum, Darwish, & Batsakis, 2018).

2.1. CEO Career Horizon and Firms' Reported Earnings Quality (FREQ)

According to the career horizon theory, a CEO who is a beginner or approaching the end of his career, has objectives that might not essentially be aligned with shareholders. A CEO who is a beginner or nearing retirement age, has fewer motivations to work for the owner's benefits (Ali & Zhang, 2015); his decisions are driven by career concerns (Ali & Zhang, 2015), and are more likely to be driven by short-run interest rather than strategising for long-term goals. A CEO in emerging markets is often judged and compensated for short-run performance. Therefore, a beginner is more likely to focus on refining his market creditability by prompting market views on his managerial ability (Antia, Pantzalis, & Park, 2010). Likewise, a CEO approaching retirement age is more likely to strengthen his market credibility to ensure that his post-retirement benefits and opportunities could be increased (Antia et al., 2010). Thus, a CEO career horizon may negatively impact a firm's strategic choices, such as FREQ (Strike et al., 2015).

A CEO may be tempted to impact market performance when he cannot meet performance tasks (Liang et al., 2018), by managing accounting earnings (Chen et al., 2018). In the context of earnings quality, Reitenga and Tearney (2003) and Ali and Zhang (2015) reported that career horizon might motivate CEOs to manage earnings since it increases their market credibility. Finally, a CEO with career concerns is more opportunistic, thus ultimately reducing FREQ (Strike et al., 2015). Hence, the proposed hypothesis is:

Hypothesis 1a: A CEO career horizon problem is negatively and significantly associated with earnings quality in Egypt.

2.2. CEO Power Dynamics and Firms' Reported Earnings Quality (FREQ)

In the CEO context, power signifies the extent to which power impacts a firm's managerial decisions, and the results can only be contingent upon implementing power and intent that drive the power towards explicit objects (Sariol & Abebe, 2017). These bases where CEOs acquire power comprise internal sources (ownership and management expertise), and external sources (personal status and societal esteem). Any escalation in CEO power strengthens his influence over the board (Baek & Kim, 2015).

CEO power increases over a longer tenure, which dilutes monitoring powers of external or internal mechanisms (Godfrey, Mather, & Ramsay, 2003). Ownership helps the CEO influence the board in certain strategic and financial decisions (Ding, Li, & Wu, 2018). His political connections also serve as a source of power because he can gain extensive backing from political associates (Li & Yang, 2019). Based on the above, several hypotheses were developed.

2.2.1. CEO Duality and Firms' Reported Earnings Quality (FREQ)

Extant evidence supports that a CEO gains more power when he chairs the board as duality enables him to promote entrenchment (Yasser & Mamun, 2015). He can control the most crucial information surfacing from various meetings, and select compliant directors (Li & Yang, 2019). CEO duality is also positively associated with entrenchment, specifically in economies where weak governance mechanisms prevail, consequently affecting FREQ negatively. Based on these views, this study recommended that CEO duality reduces the quality of FREQ in Egypt.

Hypothesis 1b: There is a negative relationship between CEO duality and firms' reported earnings quality in Egypt.

2.2.2. CEO Tenure and Firms' Reported Earnings Quality (FREQ)

CEOs acquire power mainly through their longer firm tenure. Firstly, the CEO requires recognition from the board to ensure that he can retain his job and exert authority (Ali & Taylor, 2014; Mitra, Hakjoon, Lee, & Kwon, 2020). Henceforth, increase in power may empower him to select 'compliant directors', thus allowing him to make self-centred decisions. A powerful CEO can affect the board's decision-making process and procure members' backing even for unethical practices, such as earnings manipulation, resulting in poor FREQ (Altunbaş, Thornton, & Uymaz, 2018). Hence, this study hypothesises that:

Hypothesis 1c: There is a negative relationship between CEO tenure and firms' reported earnings quality in Egypt.

2.2.3. CEO Ownership and Firms' Reported Earnings Quality (FREQ)

Agency theorists argued that executives' and shareholders' interests should be aligned. This idea is more prevalent in the Western context, where CEO monitoring mechanisms are comparatively stronger, and information asymmetry is uncommon (Shahab, Ntim, Ullah, Yugang, & Ye, 2020). Nevertheless, studies have highlighted higher levels of obstructive governance observance among firms where CEOs hold substantial voting power (Ali & Zhang, 2015).

Such a CEO is more likely to influence decision-making (Hoang, Abeysekera, & Ma, 2017), and influence the firm's hiring or firing of directors. Consequently, the minority shareholders are less protected (Baker, Lopez, Reitenga, & Ruch, 2019). Occasionally, CEOs use their powers to safeguard their current position (Ding, Zhang, & Zhang, 2007), and engage in earnings management to smooth their reported earnings quality to signal to the market that their firm is earning profits, thus meeting financial expectations and keeping the company's stock prices intact. This study hence proposes that CEOs' higher stock ownership is negatively associated with FREQ.

Hypothesis 1d: There is a negative relationship between the higher level of CEO stock ownership and firms' reported earnings quality in Egypt.

2.2.4. CEO Political Connections and Firms' Reported Earnings Quality (FREQ)

Political connections have resulted in severe agency problems (Cao, Lemmon, Pan, Qian, & Tiane, 2019; Hashmi, Brahmana, & Lau, 2018; Shen & Lin, 2016; Liu et al., 2022; Esan et al., 2022). A politically connected CEO can persuade the board to reveal discriminatory information, window dress financial reports (Hashmi et al., 2018), and be involved in earnings manipulation (Hashmi et al., 2018). Therefore, political connections result in higher involvement of the CEOs in unethical practices that reduce the credibility of FREQ (Cao et al., 2019; Hashmi et al., 2018; Shen & Lin, 2016). Therefore, this study hypothesises:

Hypothesis 1e: A CEO's political connections have negative and significant impacts on firms' reported earnings quality in Egypt

2.3. Firms' Reported Earnings Quality (FREQ) and Board Vigilance

The fundamental importance of board vigilance is in constraining a CEO's decisions and aligning them with stakeholders' interests (Finkelstein et al., 2009). As per the principal-agent theory, top executives, such as CEOs, may often self-serve if the constraining power of the board is relatively weaker (Suhaily Hasnan, Marzuki, & Shuhidan, 2017). Therefore, this study convened two situations of board resilience: board independence measured by the ratio of independent directors and gender diversity. For this purpose, this study constructed the hypotheses in the following sections.

2.4. Board independence and Firms' Reported Earnings Quality (FREQ)

According to the agency theory, both parties (principals and agents) are rational human beings and often pursue private gain, creating agency conflicts (Jensen & Meckling, 1976). Several scholars have observed the poor monitoring role of independent directors as a major cause of corporate scandals (Zollo & Winter, 2002). Furthermore, governance theorists have emphasised board independence as one of the key constructs determining board efficacy (Finkelstein et al., 2009; Suhaily Hasnan et al., 2017; Nasr & Ntim, 2018; Handoyo et al., 2022; Zizi et al., 2022; James & Andrew, 2022).

A higher percentage of independent directors curtails CEO power. Independent directors determine the CEO's performance sensitivity relationship and oversee earnings manipulation, often constraining a CEO's unethical practices (Finkelstein et al., 2009). This study mainly focused on the constraining or substitution role of the CEO in earnings manipulation that results in poor reported earnings quality via the following hypothesis:

Hypothesis 2a: Higher board independence substitutes or constrains the negative association between career horizon, CEO power dynamics (duality/ownership/political connections) and firms' reported earnings quality in Egypt.

2.5. Gender Diversity and Firms' Reported Earnings Quality (FREQ)

Some scholars have supported that gender-diverse boards improve firm efficiency (Baker et al., 2019; Mitra et al., 2020). They play a relatively more active and independent monitoring role (Perafán Peña, 2018), and are opposed to managers' opportunistic behaviour (Orazalin, 2019). Thus, their existence ensures higher monitoring, thereby decreasing CEO entrenchment behaviour when making financial decisions (Ben-Amar, Chang, & McIlkenny, 2017), leading to the following hypothesis:

Hypothesis 2b: The presence of female directors on the corporate board can curtail the negative association between CEO power dynamics (duality/ownership/political connections) and firms' reported earnings quality in Egypt.

2.6. Control Variables

A few other variables were included in the model to control the possible unexplained effects of firm-level variables. The firm-level financial and governance variables, including the number of board meetings, board size, CEO education, and firm's audit quality (Ding et al., 2007; Latif, 2018), market-to-book value, return on assets (ROA), financial leverage, firm growth, dividend pay-out ratio, and firm size, to address their impacts on FREQ (Khalil & Ozkan, 2016; Sarun, 2016). The year and industry effects of accounting for variation in observations caused by year and industry were also included (see Appendix A).

3. METHODOLOGY

3.1. Measurement of Earnings Quality

Earnings quality is used as the proxy for determining overall credibility of financial reports. Therefore, the dependent variable of this study is FREQ. This study used discretionary accruals and non-discretionary accruals to measure earnings quality. Discretionary accruals are accruals by management choices and typically represents management involvement in earnings manipulation. On the other hand, non-discretionary accruals are often the outcome of business activities.

This study used the adaptive cross-sectional (Jones, 1991) model to measure the absolute values of discretionary accruals to measure FREQ (Dechow, Ge, & Schrand, 2010). In the case of higher discretionary accruals, FREQ was treated as lower and vice versa, in line with Dechow et al. (2010). The measure of a firm's reported earnings quality is in line with other studies (Rezaee & Tuo, 2019). Discretionary accruals were measured in two steps. First, this study used Model 1 below to measure non-discretionary accruals. Second, the estimate of the error term was used to measure the discretionary accruals component. In brief, the difference between total accruals and non-discretionary accruals is represented by the estimated error term. Total accruals were calculated as the firm's earnings before extraordinary items discontinued the firm's operations and net cash flow from operations.

$$\mathrm{TACC}_{\mathrm{I,t}} = \alpha_0 + \alpha_1\left(1/\mathrm{T-assets}_{\mathrm{I,t-1}}\right) + \alpha_2\left(\Delta\mathrm{Revenue}_{i,t}/\mathrm{T-assets}_{\mathrm{I,t-1}}\right) + \alpha_2\left(\Delta\mathrm{PrPlEq}_{i,t}/\mathrm{T-assets}_{\mathrm{I,t-1}}\right) + \varepsilon_{\mathrm{I,t}} \text{---} \mathbf{1}$$

Where,

$\mathrm{TACC}_{\mathrm{I,t}}$ = Firm's total accruals divided by last year total assets

$\mathrm{T-assets}_{\mathrm{I,t-1}}$= The lag of the firm's total assets in year t

$\Delta\mathrm{Revenue}_{\mathrm{I,t}}$ = Change in firm's annual revenue scaled by the lag of total assets

$\Delta\mathrm{PrPlEq}_{\mathrm{I,t}}$ = Firm's property, plant, and equipment, scaled by the lag of total assets

$\varepsilon_{\mathrm{I,t}}$ = Error term

The measurements and definitions of independent variables are provided in Appendix A.

3.2. Model Specification

This study has two-fold objectives: first, to establish the association between CEO power dynamics and FREQ, using the following regression model to test hypotheses 1b, 1c, 1d and 1e.

$$\begin{aligned} FREQ_{it} = {} & \alpha_0 + \beta_1 CEO\ career\ horizon + \beta_2 CEO\ duality + \beta_3 CEO\ ownership + \beta_4 CEO\ tenure \\ & + \beta_5 CEO\ political\ connection + \beta_6 corporate\ governance\ control + \beta_7 ROA + \beta_8\ firm\ size \\ & + \beta_9 leverage + \beta_{10} asset\ growth + \beta_{11} market\ to\ book\ value + \beta_{12} DPS + \beta_{13} year\ FE \\ & + \beta_{14} industry\ FE + \varepsilon_I ----2 \end{aligned}$$

In Equation 2, FREQ of Firm I in Year t is represented by FREQ. Dummy variables were used for: career horizon equal to 1 if a CEO has an age equal to 56 years or above and 0, otherwise (Strike et al., 2015); and beginners if a CEO's experience is below three years and 0, otherwise. Four CEO power dynamic measures used were CEO duality, CEO ownership, CEO tenure, and CEO political connections. Corporate governance mechanisms (CEO education, audit quality, the board size, and board independence) and financial controls (profitability measured by ROA, firm size (log of total assets), leverage (debt-to-equity ratio), asset growth, and market-to-book value, divided by dividend pay-out ratio), were included to capture their impact. This study also included year and industry fixed effects to capture unobserved heterogeneity and used Hausman specification to test the validity of the fixed-effect model. The results show a statistically significant difference between the fixed and random effect models, implying that the fixed effect estimation is appropriate for panel regression.

The second goal was to explore the constraining role of corporate governance measures for the negative association between CEO power dynamics and FREQ. Including gender diversity may cause a classical endogeneity effect as the appointment of females may be affected by other firm-specific factors, which may have impacts on FREQ concurrently. Therefore, this study used the two-step General Method of Moments (GMM) estimation technique to address the endogeneity concern (Rehman, Orij, & Khan, 2020).

The measures used in Equation 3 are the same as in Equation 2. The variables are the interaction terms between CEO power dynamics and corporate governance measures (and their association with FREQ). The interaction term was used for each CEO power and governance measure, resulting in eight interaction terms (four CEO power measures multiplied by two corporate governance measures). The year and industry effects were also included in the regression analysis.

$$FREQ_{it} = \alpha_0 + \beta_1 CEO\ career\ horizon + \beta_2 CEO - power - dynamics + \beta_3 board - independence + \beta_4 gender - critical - mass + \beta_5\ CEO\ career\ horizon\ x\ board - independence + +\beta_6 CEO\ career\ horizon\ x\ gender - critical - mass + \beta_7 CEO - power - dynamics\ x\ board - independence + +\beta_8 CEO - power - dynamics\ x\ gender - critical - mass + \beta_9 governance - control + \beta_{10} financial - controle + \beta_{11} year - Fixed - Effect + \beta_{12} industry\ Fixed - Effect + \varepsilon_I - - - 3$$

Table 1. Sample Description.

	Overall Firms	Financial firms	Manufacturing Firms
Year 2008	183.00	18.00	165.00
Year 2009	178.00	25.00	153.00
Year 2010	175.00	19.00	156.00
Year 2011	174.00	18.00	156.00
Year 2012	171.00	17.00	154.00
Year 2013	170.00	18.00	152.00
Year 2014	172.00	18.00	154.00
Year 2015	172.00	17.00	155.00
Year 2016	172.00	17.00	155.00
Year 2017	172.00	17.00	155.00
Year 2018	172.00	17.00	155.00
Year 2019	172.00	17.00	155.00
Total firm-year observations			2083.00
Firm-year observations with the non-dual CEO role			1621
Firm-year observations with dual CEO role	(1851-1621)		230
Firm-year observations with a non-gender diverse board			528
Firm-year observations with gender diverse board	(1851-587)		1064
Firm-year observations with a gender-critical mass board (three or above female directors)			168
Firm-year observations with a non-gender-critical mass board (less than three female directors)	(1851-168)		1683
Firm-year observations with non-politically connected CEO	(1851-451)		1400
Firm-year observations with politically connected CEO			451

4. DATA SELECTION AND DESCRIPTION

This study faced challenges while finalising the data. First, a significant variation was observed in the number of listed firms on the Egyptian stock market ('The Egyptian Exchange') from 2000 to 2018. In Table 1 below, the overall description of the sample and number of observations are provided, including the sample on a yearly basis and firm-year observations. Only firms that remained listed after selection were included in the sample and as the number of firms kept increasing, the panel data was unbalanced. Thus, only the manufacturing sector was included as its financial structure significantly differs in accounting policy, assets, and profitability measurements. The relevant data were extracted from DataStream Thomson Reuters and published financial reports. The names and photographs of the respective directors were matched to avoid any gender confusion.

5. DESCRIPTIVE STATISTICS

The sample descriptive statistics and variance inflation factor (VIF) are presented in Table **2**. The mean values of CEO career horizon 1 and CEO career horizon 2 are 0.1662 and 0.1118, respectively, indicating that 16.62% of firms have a CEO approaching retirement age, while 11.18% have a CEO less than 35 years old. The mean value of CEO duality is 0.1311, implying 13.11% of the firms have CEO duality roles, while CEO ownership has a mean value of 0.1333, indicating their ownership. On average, CEOs have tenure of 5.5998 years, whereas 18.21% (mean value, 0.1821) are politically connected.

Table 2. Sample Descriptive Statistics and Variance Inflation Factor.

Variable	Mean	Maximum	Minimum	Std. Deviation	VIF
CEO career horizon	0.1862	1.0000	0.0000	0.5172	3.2938
CEO career horizon 2	0.1218	1.0000	0.0000	0.6282	2.2872
CEO ownership	0.1333	0.8885	0.0414	0.4704	2.0226
CEO duality	0.1311	1.0309	0.0000	0.2171	2.1458
CEO tenure	5.5898	21.6495	3.0303	0.2023	2.0592
CEOPC	0.1821	1.0309	0.0000	0.2357	1.0891
CEO education	3.8390	4.1237	2.0202	0.1959	1.0501
Board independence	0.2509	0.5347	0.1276	0.2007	1.8185
Gender diversity	0.6812	1.0000	0.0000	0.7861	1.7921
Gender-critical mass	0.1021	1.0309	0.0000	0.3178	1.1100
Board size	12.114	26.8041	7.0707	0.0933	2.2349
Board meeting	6.3096	14.4330	4.0404	0.1104	1.8419
Audit quality	0.2227	1.0309	0.0000	0.2772	1.3486
Return on asset (ROA) (%)	0.0885	0.8135	-0.0541	0.1931	1.8191
Firm size	6.2933	13.6000	4.1443	0.1756	2.8389
Assets growth (%)	0.0630	0.1452	-0.0219	0.0834	2.2338
Market to book ratio (%)	2.1610	5.3534	0.2963	0.1982	1.0891
Dividend pay-out ratio (%)	0.0428	0.1678	0.0000	0.0836	0.7992

CEO education, board independence and gender diversity have mean values of 3.8390, 0.2509, and 0.6812, respectively. The mean value of firms with gender-critical mass is 0.1021 and number of board members, on average, is 12.114. The latter definition follows, once again, the critical mass theory which argues that in a team/board, each gender should comprise at least 33% of the team/board (implying that no more than 67% of the directors should be women). The sample firms had 6.3096 board meetings annually, and 22.27% (mean value: 0.2227) were audited by Egypt's top five audit firms. Firm size, ROA, and asset growth have mean values of 6.2933, 0.0885, and 0.0630, respectively. The dividend payout ratio is 4.28%, and the mean value of the market-to-book ratio is 2.1610, indicating that the stock was traded above its par value.

Table **2** also reports the value of VIF for each variable, whereby there is no multicollinearity issue as they are less than the recommended maximum range of nine. Therefore, the correlation matrix value is not presented.

6. EMPIRICAL FINDINGS

6.1. CEO Career Horizon, CEO Power Dynamics and Firms Reported Earnings Quality

Table **3** presents the main regression results of Model 2. CEO career horizon is negatively and statistically significant at the 5% level (β = -0.0521 and $p < 0.05$; Refer to Column 1 in Table **3**), supporting Hypothesis 1a (Strike et al., 2015). Therefore, a CEO approaching retirement, whose performance does not encounter executive market insights, would positively impact market performance through aggressive reporting (Liang et al., 2018), resulting in poor FREQ (Chen et al., 2018). There is no significant impact of CEO career horizon 2 on FREQ (Refer to Column 2 in Table **3**). The core abilities essential for learning from others, such as curiosity, openess, and intelligence, are not age-related, and a CEO navigating his earlier career age can take full advantage of this. Hence, an earlier career CEO is unlikely to be involved in earnings manipulations, thus supporting Hypothesis 1a partially.

CEO duality is negatively and significantly associated with FREQ (β = -.1091 and $p < 0.05$), supporting Hypothesis 1b, concurring that a CEO with a dual role enjoys more power over the board (Dechow et al., 2010; Nasr & Ntim, 2018). He can exercise discretion, thus allowing him to be involved in activities that reduce the quality of reported earnings (Nasr & Ntim, 2018), strongly supporting Hypothesis 1b.

Third, the role of CEO ownership to measure FREQ was tested. First, CEO ownership is a negative and significant determinant of FREQ (β = -.10020 and $p < 0.05$). Stock ownership allows CEOs to appoint directors as they like (Dechow et al., 2010). Hence, CEOs exercise dominance over the board by diluting the effect of board independence (Sarun, 2016), strongly supporting Hypothesis 1c.

Fourth, this study examined the role of CEO tenure to determine FREQ. CEO tenure has a negative and significant

Table 3. CEO Career Horizon, CEO Power and Firms' Reported Earnings Quality (FREQ)

Dependent Variable = FREQ				
	Column 1		Column 2	
CEO career horizon	β- value	S.E	β- value	S.E
CEO career horizon 1	-0.0521**	0.0018		
CEO career horizon 2			-0.0041	0.0036
The variable that measures the CEO's power dynamics				
CEO duality	-0.1091**	0.0337	-0.1103**	0.0341
CEO ownership	-0.1002**	0.0288	-0.0964**	0.0277
CEO tenure	-0.0686*	0.0407	-0.0660*	0.0391
CEOPC	-0.1569***	0.0390	-0.157***	0.0394
Governance mechanism factors				0.0000
CEO education	0.0705*	0.0367	0.0678*	0.0353
Board size	0.1280	0.0979	0.1231	0.0941
Board independence	0.0752**	0.0355	2.1167	0.0532
Board meeting	0.1472**	0.0572	0.1488**	0.0578
Audit quality	0.2792***	0.0625	0.282***	0.0632
Control factors				
Return on asset (ROA)	0.1290**	0.0490	0.1304**	0.0495
Firm size (log)	0.0091	0.0337	0.0092	0.0341
Assets growth	-0.0786**	0.0381	-0.0795**	0.0385
Financial leverage	-0.0899**	0.0264	-0.0848**	0.0249
Market-to-book ratio	0.0635*	0.0378	0.0642*	0.0382
Dividend pay-out ratio	0.0676	0.0552	0.0683	0.0558
Constant	-1.0716**		-1.0833**	
Year effect	Included		Included	
Industry effect	Included		Included	
F-test	5.288***		5.345***	
R-square.	0.4198		0.4244	
Hausman test	0.007***		0.006***	
Note: 1%, 5% and 10% are represented by ***, **, and *, respectively.				

impact on FREQ (β = -0.0686, p < 0.10), concurring that a CEO who gains power through a longer tenure can influence the board's decision-making process and seek support for his entrenched behaviour (Zhang, 2009). His longer tenure helps develop relationships with outside directors through hiring and firing processes (Hashim & Devi, 2008; Mitra et al., 2020). Furthermore, longer tenure enables CEOs to attach to a specific group of stakeholders to shield their position (Zhang, 2009), thus diminishing board independence oversight. Their likelihood of being involved in earnings manipulation increases, reducing the quality of reported earnings significantly (Mitra et al., 2020), supporting Hypotheses 1d.

Fifth, this study explored the role of CEO political connections in determining FREQ. The findings show that a politically connected CEO is negatively associated with FREQ (β = -0.1569 and p < 0.01). In emerging economies, a CEO gains power through political connections (Hashim & Devi, 2008), poor management, and involvement in corruption scandals (Hashim & Devi, 2008). Such political connections protect CEOs, thereby increasing the probability of their involvement in poor FREQ (Ding et al., 2018; Hashim & Devi, 2008; Hashmi et al., 2018; Handoyo & Kusumaningrum, 2022; Britel & Cherkaoui, 2022;

OSOSUAKPOR, 2022). Hypothesis 1e is, therefore supported.

This study also included governance mechanisms and financial controls in the regression model, and found that higher education leads to better FREQ ($\beta = 0.0605$ and $p < 0.10$) (Chen, Ni, & Tong, 2016; Hoang et al., 2017). There is also positively significant impacts of frequency of board meetings and audit quality on FREQ (board meeting coefficient estimates, (β) = 0.1472 and $p < 0.05$; audit quality coefficient estimates, (β) = 0.2792; Refer to Table **3**), concurring with Khalil and Ozkan (2016). No support was found for the significant association between board size and FREQ. Positive impacts of ROA and market-to-book value on FREQ (ROA: $\beta = 0.1290$ and $p < 0.05$/ Market-to-book value: $\beta = 0.1290$ and $p < 0.10$) among the firm's specific financial factors, were observed, concurring that better-performing firms (financial and market performances) are more likely to be ethical (Rezaee & Tuo, 2019).

Table **3** presents the analysis results of the association between CEO power dynamics and FREQ. In contrast, the statistics show negative impacts of assets growth ($\beta = -0.0786$ and $p <. 05$) and financial leverage ($\beta = -0.0899$ and $p < 0.05$) on FREQ ($\beta = -0.078$ and $p < 0.05$). Lastly, year and industry controls were also included, as reported in Table **3**.

6.2. Board Vigilance and Earnings Quality

Model 3 explored the role of corporate governance measures in constraining the negative impacts of CEO career horizon and CEO power dynamics on FREQ. In Table **4**, each interaction term was regressed separately to avoid any complexity. Five separate regressions were run, and each finding is reported in separate columns. Before applying the GMM estimator, the econometric model was tested for validity via the Arellano–Bond (AR 1) and Arellano–Bond tests (AR 2). The null hypothesis states no second-order serial correlation in disturbances, and in case it is rejected, the econometric model is valid.

The first-order serial correlation was expected due to the inclusion of the lagged dependent term (FREQ (t-1). Table **4** shows that the p-value of AR 2 is far above the 10% level of significance ($p = 0.452$; refer to Column 1 in Table 4), suggesting a strong rejection of second-order correlation in the primary model. The value of AR 1 is significant, thus rejecting the null hypothesis. Secondly, the Hansen test for validity was performed on the lagged variables, and Table **4** shows that the p-value of the Hansen test is above the 10% significance level, implying that the selection of the instrumental variables is valid.

As far as the impacts of CEO career horizon and CEO power dynamics are concerned, this study discovered identical results, in terms of coefficient and significance level, as in Table **3**. The impacts of governance variables (board independence and gender diversity) on FREQ are explained to avoid repetition. The findings show that board independence is positively and statistically associated with FREQ ($p < 0.10$; (Refer to Columns 1 to 5 in Table **4**). The coefficient estimates remain identical throughout the four regressions, implying that firms with higher board independence are more likely to report higher earnings quality. No significant association was observed between the gender dummy and FREQ. This study also included two other gender diversity measures (gender-2 and gender-critical mass) for clarity purposes.

No support for the role of board gender diversity in determining FREQ was found. Notably, the presence of gender-critical mass ensures better FREQ ($p < 0.01$; Refer to Columns 1-5), implying that female directors significantly impact FREQ only when their presence reaches critical mass (three or more female directors on the board), in tandem with Hoang et al. (2017) and Latif (2018). Tokenism is also supported (Hoang et al., 2017; Latif, 2018).

In Table **4**, the interaction terms are the variables of concern. Two interaction terms were regressed in each model, and the results are presented in Columns 1 to 6. In Column 1, the interaction terms between CEO career horizon 1 and board vigilance measures (board independence and gender-critical mass) are negative and statistically significant ($\beta = -0.0391$ and $p < 0.05$), denoting that board independence cannot constrain CEO horizon 1 in reported tempered earnings. Hence, a CEO approaching retirement is likely to be involved in reporting poor earnings quality despite higher board independence, the present study finding is attributed to two main reasons. First, the ineffectiveness of board independence as a monitoring mechanism in line with Perafán Peña (2018) and Amin, Imam, and Malik (2019).

Second, a retiring CEO has no career concerns and is likely to opt for short-run benefits that may ultimately increase his remuneration (Abad, Cutillas-Gomariz, Sánchez-Ballesta, & Yagüe, 2018). In contrast, the interaction term between CEO career horizon 1 and gender-critical mass is positive and statistically significant ($\beta = 0.00922$ and $p < 0.05$), concurring that gender-critical mass serves as an effective monitoring mechanism that substitutes the negative consequences of retiring CEO on FREQ.

Column 2 presents the findings of the interaction terms between CEO duality and board vigilance measures (board independence and gender-critical mass). The interaction term between CEO duality and board independence is negative and statistically significant ($\beta = -0.11039$ and $p < 0.05$). Importantly, the findings depicted that level of significance remains the same (CEO duality has 5% level of significant in direct relation). Likewise, the difference between coefficient estimate of CEO duality and interaction term is 0.02% which is negligible in context of current study (β = (-0.1123) - 0.1103=0.0020 or 0.02%). This shows that introduction of board independence does not constrain the negative relation between CEO duality and FREQ (Abad et al., 2018; Amin et al., 2019; Perafán Peña, 2018).

Similarly, the coefficient estimates of the interaction term between CEO duality and gender-critical mass is positive and statistically significant ($\beta = 0.22679$ and $p < 0.01$; Refer to Column 3 in Table **4**), indicating that the presence of gender-critical mass significantly substitutes the negative impact of CEO duality on FREQ.

In Column 3, CEO duality was replaced with CEO tenure in the interaction terms for board vigilance measures, whereby it is negative but insignificant (Refer to Column 2 in Table **4**). The study rejects the view that board independence substitutes the negative relationship between CEO tenure and

FREQ. Board independence weakens the negative association between CEO tenure and FREQ in terms of magnitude and level of significance, and dilutes the impact of CEO tenure as the interaction term has an insignificant association with FREQ (Zhang, 2009). Therefore, board independence could be used as a constraining tool for the negative impact of CEO tenure on FREQ but not as a substitution mechanism (Hashim & Devi, 2008). Moreover, the coefficient estimate of the interaction term between CEO tenure and FREQ is positive and statistically significant ($\beta = 0.220$ and $p < 0.01$; Refer to Column 4 in Table **4**), showing that gender-critical mass substitutes the negative and statistically significant impact of CEO tenure on FREQ, supporting Oh et al. (2018).

In Column 4, CEO ownership was used to test its interaction role with both measures of board vigilance for their negative impacts on FREQ. The coefficient estimate of the interaction term between CEO ownership and board independence is statistically insignificant and negative (Refer to Column 3 in Table **4**). Board independence also dilutes the negative impact of CEO ownership on FREQ (Abad et al., 2018). The coefficient estimate of the interaction term between CEO ownership and gender-critical mass is positive and statistically significant, showing that the presence of gender-critical mass ensures the substitution role for the negative impact of CEO ownership on FREQ ($\beta = 0.0865$ and $p < 0.01$; Refer to Column 5 in Table **4**).

Lastly, in Column 5, the interaction terms between CEO political connections and measures of board vigilance were introduced to test the constraining or substitution role of governance measures. The coefficient estimate of the interaction term between CEO political connections and board independence is negative and significant ($\beta = -0.155$ and $p < 0.01$; Refer to Column 4 in Table 4). In term of level of significance, the interaction term does not change 1% level of significance for CEO political connection. Similarly, the difference between coefficient estimate of CEO duality and interaction term is 1.09% which is significant in context of current study (β = -0.1396-(-0.1505) =0.0109 or 1.09%). Therefore, the negative role of political connection in FREQ is augment by presence of board independence in Egyptian context. In contrast, the interaction term for CEO political connections and gender-critical mass is positive and statistically significant ($\beta = 0.188$ and $p < 0.01$; Refer to Column 6 in Table **4**), in line with Oh et al. (2018).

Table 4. Moderating Role of Corporate Governance.

Dependent Variable = FREQ					
	Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**
Board independence	0.0340*	0.03281*	0.03392*	0.03683*	0.03101*
	(0.0195)	(0.0188)	(0.019)	(0.0192)	(0.1859)
Gender-dummy (t_1)	-0.0093	-0.0090	-0.00903	-0.00903	-0.0090
	(0.0087)	(0.0084)	(0.0085)	0.0086	(0.0829)
Gender_2 (t-1)	0.0106	0.0110	0.01104	0.01104	0.0110
	(0.0089)	(0.0093)	(0.0094)	0.0095	(0.0919)
Gender-critical mass (t_1)	0.2336***	0.24285***	0.2428***	0.24285***	0.24285***
	(0.0767)	(0.0797)	(0.0806)	0.0815	(0.7885)
CEO career horizon					
CEO career horizon 1	-0.0428**		-0.0460**		-0.0494**
	(0.0019)		(0.0020)		(0.0022)
CEO career horizon 2		-0.0044		-0.0047	
		(0.0035)		(0.0038)	
Variables that measure CEO's power dynamics					
CEO duality	-0.1123**	-0.10838**	-0.1085**	-0.10858**	-0.1085***
	-0.0510	(0.0492)	(0.0497)	(0.0503)	(0.4867)
CEO tenure	-0.1030**	-0.09935**	-0.09975**	-0.09975**	-0.09975**
	-0.0451	(0.0473)	(0.0478)	(0.0483)	(0.4677)
CEO ownership	-0.0707*	-0.06824*	-0.06834*	-0.06834*	-0.06834*
	-0.0379	(0.0366)	(0.0373)	(0.0374)	(0.3617)
CEO political connections	-0.1639***	-0.1582***	-0.14554***	-0.1255***	-0.1496***

	-0.0464	(0.0448)	(0.0454)	(0.0459)	(0.4437)
Interaction terms					
CEO career horizon 1* Board independence	-0.0391**				
	(0.0019)				
CEO career horizon 1* Gender-critical mass	0.00922**				
	(0.0004)				
CEO duality *Board independence		-0.11039**			
		(0.0536)			
CEO duality*Gender-critical mass		0.22679***			
		(0.0386)			
CEO tenure * Board independence			-0.0143		
			(0.0057)		
CEO tenure * Gender-critical mass			0.220***		
			(0.0674)		
CEO ownership* Board independence				-0.0162	
				(0.4498)	
CEO ownership*Gender-critical mass				0.0865*	
				(0.0402)	
CEOPC* Board independence					-0.1505***
					(0.0396)
CEOPC* Gender-critical mass					0.188**
					(0.0893)
Control factors	Included	Included	Included	Included	Included
Year plus industry dummies	Yes	Yes	Yes	Yes	Yes
F-statistics (Probability > F)	643.74***	621.21***	756.48***	693.09***	716.18***
AR(1) (z, p-value)	-2.114***	-2.04***	-2.09***	-1.88***	-2.25***
AR(2) (z, p-value)	-1.416	-1.366	-0.969	-1.155	-1.115
Sargan test (Chi square, p-value)	790.90***	763.22***	872.46***	786.64***	764.23
Hansen test (Chi square, p-value)	127.575	123.11	158.12	143.56	152.43

Robust standard errors are presented in brackets. 1%, 5% and 10% levels of significant are presented by ***, ** and * respectively. Control factors are included, but only the main findings are presented for brevity purposes.

6.3. The Interplay of CEO Power Dynamics

The interplay of CEO specific factors was also tested (Latif, 2018) to identify their substitution or complementary role. The analyses used interaction terms between four crucial CEO-specific factors (CEO duality, CEO tenure, CEO ownership, and CEO education). In Column 1, the interaction terms, CEO duality and CEO ownership and CEO duality and CEO tenure, are negative and statistically significant at 1% level (Refer to Table **5** and Column1), implying that CEO ownership and higher tenure reflect the negative relationship between CEO duality and earnings quality. The interaction term between CEO duality and CEO education is positive but insignificant (Refer to Column 1 in Table **5**), denoting that CEO education dilutes the negative impact of CEO duality on FREQ.

CEO education partially substitutes the relationship, indicating that a highly educated CEO is less likely to involve in earnings manipulation even if in a duality role. In Column 2, the interaction terms of CEO ownership and CEO tenure are negative and statistically significant ($p < .01$; Refer to Column 2), while both CEO ownership and CEO education and CEO tenure and CEO education are positive and statistically significant at a moderate level of 10% (Refer to Column 3).

Table 5. The Interplay Among CEO Power Dynamics.

Dependent Variable = FREQ						
	Column 1		Column 2		Column 3	
CEO specific factors	β-value	S. E	β-value	S. E	β-value	S. E
CEO duality	-0.104**	-0.0433	-0.101**	0.041	-0.091**	0.0445
CEO ownership	-0.095**	-0.0359	-0.092**	0.034	-0.085**	0.0369
CEO tenure	-0.065**	-0.0148	-0.062**	0.033	-0.062**	0.0178
CEO education	0.067*	0.0337	0.0647*	0.032	0.0642*	0.0347
The Interplay Among CEO Specific Factors						
CEO duality * CEO ownership	-0.1666***	-0.0381				
CEO duality * CEO tenure	-0.1303***	-0.0297				
CEO duality * CEO education	-0.1091	-0.0807				
CEO ownership * CEO tenure			-0.133***	-0.0407		
CEO ownership * CEO education			0.062*	0.0328		
CEO tenure * CEO education					0.0283*	0.015
Control factors	Included		Included		Included	
Year effect	Included		Included		Included	
Industry effect	Included		Included		Included	
F-test	4.209***		3.984***		4.372***	
R-square	0.4033		0.3862		0.3946	
Haussmann test	0.005***		0.001***		0.003***	

Note: 1%, 5% and 10% are represented by ***, **, and *, respectively.

7. DISCUSSION OF FINDINGS

This study was performed in two stages. In the first stage, the association between CEO career horizon (career horizon 1 and career horizon 2) and CEO power dynamics and FREQ was established. In addition, four different constructs of CEO power dynamics: duality role, CEO tenure, stock ownership, and political connections, were used to test the impacts on FREQ. Career horizon 1 is negatively associated with FREQ, meaning a retiring CEO often turns a blind eye to the strategies with long-term rewards irrespective of future value and with good reason to protect self-interest. Thus, the finding indicates that CEO age (near to retiring) matters extensively.

The findings show that CEO power dynamics is negatively associated with FREQ, i.e., a powerful CEO is involved in entrenched behaviour and manipulates the firm's earnings, thus negatively impacting FREQ. The CEO's involvement in financial statement management is an accounting deception that remains one of the Egyptian firms' most critical ongoing problems. When a CEO gains power through these power hubs (duality, ownership, tenure, and political connections), he exercises discretion over the board and behaves more in an entrenched manner that affects FREQ negatively. Furthermore, in economies such as Egypt, the shareholders' protection rights are weak, and higher information asymmetry exists.

Poor market structures also allow CEOs to behave in an entrenched manner that diminishes the quality of FREQ. Also, higher political involvement in Egypt may be one factor that empowers CEOs to manage firm earnings, either to guard their position or to deliver benefits to specific shareholders, aligned with the view that a weaker legal structure and shareholders' protection empower CEOs to behave in an entrenched manner. A weak association is observed between CEO ownership and FREQ, both in coefficient and significance level ($p < 0.10$), compared to other power dynamics.

In the second stage, this study explored the constraining or substitution role of governance mechanisms (board independence and gender-critical mass) for the negative association between CEO career horizon and CEO power dynamics and FREQ. First, the interaction terms between CEO career horizon and board independence are negative and insignificant, implying that board independence does not serve as a constraining mechanism. However, gender-critical mass ensures that a retiring CEO is not likely to be involved in tempered FREQ. Board independence weakens the negative impacts of CEO tenure and CEO ownership on FREQ. The coefficient estimates of both interactions are negative and

Table 6. Differences in CEO Power Dynamics (Mean Difference t-test).

	Panel-A			**Panel-B**		
	Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**	**Column 6**
Variable	Firms with CEO duality	Firms with CEO non-duality	Difference (column 1-2)	CEO ownership > mean value	CEO ownership < mean value	Difference (column 4-5)
FREQ	0.0692	0.1698	-0.1005**	0.0713	0.1806	-0.1094***
Board meeting	0.0420	0.0632	-0.0212**	0.0438	0.0672	-0.0235
Audit quality	0.0957	0.2903	-0.1945**	0.0997	0.3088	-0.2091**
Return on asset (ROA)	0.1036	0.1136	-0.0100	0.1079	0.1208	-0.0129
Market-to-Book Ratio	1.2203	1.2819	-0.0616	1.2712	1.3638	-0.0926
	Panel-C			**Panel-D**		
Variables	**Column 7**	**Column 8**	**Column 9**	**Column 10**	**Column 11**	**Column 12**
	CEO tenure > mean value	CEO tenure < mean value	Difference (column 7-8)	CEOPC	CEOPC	Difference (column 11-12)
FREQ	0.0742	0.1922	-0.1180**	0.0774	0.2044	-0.1270***
Board meeting frequency	0.0456	0.0715	-0.0259	0.0475	0.0761	-0.0286
Audit quality	0.1039	0.3285	-0.2246***	0.1082	0.3495	-0.2413***
Return on asset (ROA)	0.1124	0.1286	-0.0162	0.1171	0.1367	-0.0197
Market-to-book ratio	1.3242	1.4508	-0.1266***	1.3793	1.5434	-0.1641***

Note: **and *** represent significance levels at 5% and 1%, respectively.

statistically insignificant. Therefore, increased board independence ensures that CEOs are not involved in managing earnings, even if they have a longer tenure or substantial stock ownership.

The study also found ineffective board independence in cases where a CEO exercises duality or is politically connected. Gender-critical mass remains effective in all four interactions and performs a substitution role despite changes in power sources, supporting that gender-critical mass improves board efficiency due to the effectiveness in constraining misuse of power. Evidence that gender diversity improves the board's monitoring role and benefits the firm's stakeholders in terms of FREQ is strongly supported in the Egyptian context.

In conclusion, the findings show that CEO duality, CEO tenure and CEO ownership play a complementary role in the context of their negative association with earnings quality, implying that firms with CEO duality and ownership, or duality with longer tenure or longer tenure with ownership, are more likely to report poor earnings quality in Egypt. CEO education dilutes the negative impact of CEO duality on FREQ.

8. ROBUSTNESS OF FINDINGS

8.1. The Difference-In-Difference (DID) Approach

The difference-in-difference (DID) approach is a quasi-experimental strategy that uses longitudinal data from treatment and control groups to achieve a suitable counter-factual to evaluate a causal effect (Rezaee & Tuo, 2019). In constructing CEO power dynamics, this study used four measures that determine CEO power over the board. Thus, the probability of shielding is likely in the primary analysis. Firms with a dual role CEO may be politically connected and have longer tenure or substantial stock ownership. This mix exposes the study to a severe shielding effect. Therefore, four different panels were constructed (Refer to Table **6**) to address this concern. The t-test was used to find any significant difference in the main variables, as reported in Table **6**.

Panel A of Table 6 shows a significantly lower FREQ, frequency of board meetings, and audit quality, implying that firms with CEO duality are more likely to report poor FREQ. The frequency of board meetings is also significantly lower, and these firms are less likely to have been audited by the top-ranked audit firms in Egypt. The lower FREQ supports the primary study finding of the negative association between CEO duality and FREQ. In Panel B, the median split criterion for higher and lower CEO ownership was used. Firms with CEO stock ownership above the median value were categorised as higher CEO ownership firms and vice versa.

Subsequently, the t-test of difference was applied to explore any significant difference in FREQ in both firm groups. The findings depict that firms with higher CEO ownership have lower FREQ and vice versa. Simultaneously, poor audit quality in firms was found where CEO stock ownership is significantly higher. The same criterion was used to construct Panel C. The findings show that firms with higher CEO tenure are more likely to have poor reported earnings quality. These firms are not audited by top audit firms in

Table 7. Results of Propensity Matching Score Based on Gender-Critical Mass Firms.

	Column 1	Column 2	Column 3	Column 4
Variables that measure board vigilance	**β-value**	**β-value**	**β-value**	**β-value**
Board independence	0.04142*	0.03811*	0.03003*	0.03172*
Gender dummy (t-1)	-0.00403	-0.00403	-0.01008	-0.00806
Gender-2 (t-1)	0.01512	0.01512	0.01613	0.01915
Gender-critical mass (t-1)	0.25294***	0.20961***	0.23482***	0.20756
CEO Career Horizon 1				
CEO career horizon 1	-0.0770**		-0.0661**	
CEO career horizon 1		-0.0002		-0.0001
Variables that Measure CEO Power Dynamics				
CEO duality	-0.16428**	-0.15723**	-0.11994**	-0.18242**
CEO tenure	-0.12296**	-0.10381**	-0.09746**	-0.10583**
CEO ownership	-0.09272*	-0.07257*	-0.06138*	-0.08973*
CEO political connections	-0.16630***	-0.15017***	-0.17234***	-0.16739***
Interaction Terms				
CEO career horizon 1× Gender-critical mass	0.0811***			
CEO duality × Gender-critical mass	0.26104***			
CEO tenure × Gender-critical mass		0.26809***		
CEO ownership× Gender-critical mass			0.31647***	
CEO political connections × Gender-critical mass				0.18746**
Control factors	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included
Industry dummy	Included	Included	Included	Included

Table **7** presents the main findings. However, control factors were included in the models

*, **and *** represent significance levels at 10%, 5% and 1%, respectively.

Egypt and have lower market-to-book value. Lastly, Panel D was constructed based on the dummy variable equal to 1 if a CEO is politically connected, and 0 otherwise. The findings show that firms with CEO political connections report poor FREQ, are not audited by top audit firms, and their market-to-book value is also comparatively lower.

Overall, firms with CEOs that possess influential power have comparatively poor FREQ, and are not audited by the top five audit firms. Poor auditor quality also contributes to FREQ in Egypt because the four panels show significantly lower audit quality. Based on these findings, this study recommends that audits by the top audit firms may restrict CEOs' negative involvement in reported earnings.

8.2. Propensity Score Matching Approach

The study used propensity score matching (PSM) to support its main findings based on the role of gender-critical mass as a constraining or substitution role. An artificial control group was constructed by matching treated and non-treated units of the same group with related features. The nearest neighbourhood approach was used to match firms with gender-critical mass to firms with no gender-critical mass to support the main findings (Nekhili, Chakroun, & Chtioui, 2018), using ROA, board size, and market-to-book value for matching purposes. In the overall sample, 1,683 firm-year observations were available, and they were matched with firms having identical ROA, size, and market-to-book value. Furthermore, only firms with gender-critical mass on their boards were observed, to analyse the main findings normally. This technique also reduced the sample significantly, as reported in Table **7**.

Generally, the results of the PSM are similar to the main findings reported in Tables 3 and 4 (Results in Column 2 and Column 3). CEO career horizon and CEO power dynamics negatively impact FREQ in the propensity-matched sample (Table **3**). The findings are similar to the impacts of board independence and gender diversity variables (Table **4**). Moreover, the interaction term between CEO power dynam-

ics and gender-critical mass has positive and significant coefficient estimates. Minor variations in coefficient estimates of independent variables are found (Table **7**). These variations are negligible because the significance level remains the same as reported earlier in the main findings, which depict that gender-critical mass substitutes the negative impacts of CEO power dynamics on FREQ in Egypt, are robust and are not run by sample selection biases.

9. CONCLUSION AND RECOMMENDATION

Based on prior empirical evidence, this study postulated that CEO career horizon and power are negatively associated with FREQ, specifically in economies where shareholder protection is weak and information asymmetry prevails (emerging economy of Egypt). The study found strong empirical support for the negative impact of CEO career horizon (only near to retiring age) and CEO power dynamics on FREQ. This study found a stronger negative influence of CEO political connections on FREQ (higher coefficient estimates and significance level) when comparing power dynamics. The nuanced impact of political connections may be attributed to the high involvement of the government in the firms' operations, thereby reducing FREQ significantly.

The study proposed that active board monitoring effectively substitutes or constrains CEOs' use of power to manage earnings and reduces FREQ. From both these mechanisms, only gender-critical mass constrains the negative impact of CEO career horizon on FREQ through effective monitoring. Moreover, board independence only constrains the negative impact of CEO power on FREQ through effective monitoring when a CEO has longer tenure or substantial stock ownership. Therefore, the findings predict that board monitoring is ineffective when a CEO exercises duality or has political connections.

This study found that the presence of gender-critical mass effectively substitutes the negative use of CEO power in managing earnings, thereby improving FREQ. The presence of gender-critical mass ensures higher FREQ. Nevertheless, the insignificant impact of gender dummy and gender-2 on FREQ backs the notion of female tokenism in Egypt. The interplay of CEO specific variables augment each other in their negative association with FREQ. Conversely, CEO education substitutes the negative impacts of three other CEO-specific factors on FREQ. These findings have important implications and are relatively riskier in combination.

Overall, the study findings align with its supposition that CEO power is negatively associated with FREQ. Board independence can only be a constraining mechanism when the CEO gains power through longer tenure or higher stock ownership. Board gender-critical mass substitutes the negative impacts of CEO power dynamics and augments the credibility and reliability of reported earnings. To conclude, the results show that the duality, tenure and ownership of the CEO have a negative relationship with earnings quality. The implication of this finding is that firms in Egypt with: (i) CEO duality and ownership; or (ii) CEO duality of longer tenure; or (iii) longer tenure with ownership, will be more likely to report poor earnings quality. Therefore, this study adds to the understanding of the negative consequences of CEO power dynamics on FREQ and provides timely empirical evidence concerning the constraining or substitution role of two governance mechanisms.

This study offers recommendations for future research. Exploring the constraining role of the governance mechanisms in economies where shareholder protection is comparatively stronger, or governance mechanisms are effective, would be interesting. Also, exploring the study models in the context of financial firms would be interesting, as these firms are better monitored by regulatory authorities.

APPENDIX A-VARIABLES AND THEIR DEFINITIONS.

Variables-used	Measurement of Variables
FREQ	
CEO – duality	measured as dummy variable equal to 1 if CEO chairs board otherwise 0
CEO – ownership	Percentage of share held by CEO
CEO – tenure	focal firm serving years
CEO – political connections	Dummy variable equal to 1 if CEO is politically connected otherwise 0
CEO – education	CEO education categories in four categories (bachelor, Master, Post – doc and professional)
Board – independence	ratio of independent director to total directors
Gender – critical mass	Dummy variable equal to 1 if firms have gender critical mass otherwise 0.
Board – size	*total directors on corporate board*
Board – meeting	*total board meeting in ayear*
Audit – quality	*Dummy variable that equals to 1 if a firm is audited by top 5, otherwise 0*
ROA	*Return of asset mentioned in financial statement*

Firm size	*Log of total assets*
Assets Growth	*Current asset mines last year assets scaled by last year assets*
Market – to – Book Ratio	*Market to book value mention if financial report*
Dividend payout ratio	*Dividend payout ratio mentioned in financial report*

REFERENCES

Abad, D., Cutillas-Gomariz, M. F., Sánchez-Ballesta, J. P., & Yagüe, J. (2018). Real earnings management and information asymmetry in the equity market. *European Accounting Review*, *27*(2), 209–235. https://doi.org/10.1080/09638180.2016.1261720

Abatecola, G., & Cristofaro, M. (2018). Hambrick and Mason's "Upper echelons theory": Evolution and open avenues *Journal of Management History*, *26*(1), 116-136. https://doi.org/10.1108/JMH-02-2018-0016

Ali, A., & Zhang, W. (2015). CEO tenure and earnings management. *Journal of Accounting and Economics*, *59*(1), 60-79.

Ali, M. M., & Taylor, D. (2014). Corporate risk disclosure in Malaysia: The influence of predispositions of chief executive officers and chairs of audit committee. *Research Journal of Finance and Accounting*, *5*(2), 92-106.

Altunbaş, Y., Thornton, J., & Uymaz, Y. (2018). CEO tenure and corporate misconduct: Evidence from US banks. *Finance Research Letters*, *26*, 1-8. https://doi.org/10.1016/j.frl.2017.11.003

Amin, A. S., Imam, M. O., & Malik, M. (2019). Regulations, governance, and resolution of non-performing loan: Evidence from an emerging economy. *Emerging Markets Finance and Trade*, *55*(10), 2275-2297. https://doi.org/10.1080/1540496x.2018.1523788

Antia, M., Pantzalis, C., & Park, J. C. (2010). CEO decision horizon and firm performance: An empirical investigation. *Journal of corporate finance*, *16*(3), 288-301. https://doi.org/10.1016/j.jcorpfin.2010.01.005

Aziz, N. F., Mohamed, M., Hasnan, S., Sulaiman, N., & Abdul Aziz, R. (2017). Ownership structure and financial restatement in Malaysia. *Pertanika Journal of Social Sciences and Humanities*, *25*(S), 227-236.

Baek, J.-S., & Kim, J. (2015). Cofounders and the value of family firms. *Emerging Markets Finance and Trade*, *51*(sup3), 20-33.

Baker, T. A., Lopez, T. J., Reitenga, A. L., & Ruch, G. W. (2019). The influence of CEO and CFO power on accruals and real earnings management. *Review of Quantitative Finance and Accounting*, *52*, 325-345. https://doi.org/10.1007/s11156-018-0711-z

Ben-Amar, W., Chang, M., & McIlkenny, P. (2017). Board gender diversity and corporate response to sustainability initiatives: Evidence from the Carbon Disclosure Project. *Journal of Business Ethics*, *142*(2), 369–383. https://doi.org/10.1007/s10551-015-2759-1

Britel, Z., & Cherkaoui, A. (2022). Measuring an organization's change readiness regarding the implementation of corporate social responsibility. *International Journal of Management and Sustainability*, *11*(1), 1–20. https://doi.org/10.18488/11.v11i1.2916

Cao, X., Lemmon, M., Pan, X., Qian, M., & Tiane, G. (2019). Political promotion, CEO incentives, and the relationship between pay and performance. *Management Science*, , *65*(7), 2947–2965. https://doi.org/10.1287/mnsc.2017

Chatterjee, A., & Hambrick, D. C. (2011). Executive personality, capability cues, and risk taking: How narcissistic CEOs react to their successes and stumbles. *Administrative Science Quarterly*, *56*(2), 202-237. https://doi.org/10.1177/0001839211427534

Chen, L. C., Zhu, Y., Papandreou, G., Schroff, F., & Adam, H. (2018). *Encoder-decoder with atrous separable convolution for semantic image segmentation*, In Proceedings of the European Conference on Computer Vision.

Chen, S., Ni, X., & Tong, J. Y. (2016). Gender diversity in the boardroom and risk management: A case of R&D investment. *Journal of Business Ethics*, *136*(3), 599-621. https://doi.org/10.1007/s10551-014-2528-6

Crossland, C., & Chen, G. (2013). Executive accountability around the world: Sources of cross-national variation in firm performance–CEO dismissal sensitivity. *Strategic Organization*, *11*(1), 78-109. https://doi.org/10.1177/1476127012460946

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2–3), 344–401. https://doi.org/10.1016/j.jacceco.2010.09.001

Ding, R., Li, J., & Wu, Z. (2018). Government affiliation, real earnings management, and firm performance: The case of privately held firms. *Journal of Business Research*, *83*, 138-150.

Ding, Y., Zhang, H., & Zhang, J. (2007). Private vs state ownership and earnings management: Evidence from Chinese listed companies. *Corporate Governance: An International Review*, *15*(2), 223-238. https://doi.org/10.1111/j.1467-8683.2007.00556.x

Esan, O. M., Nwobu, O., Adeyanju, I. T., & Adeyemi, J. O. (2022). Firm value response to internal and external corporate governance in the Nigerian stock market. *Asian Economic and Financial Review*, *12*(4), 227–243. https://doi.org/10.55493/5002.v12i4.4465

Finkelstein, S., Hambrick, D. C., & Cannella, S. (2009). Strategic leadership: Theory and research on executives, top management teams, and boards. *Oxford Leadership Online*.

Godfrey, J., Mather, P., & Ramsay, A. (2003). Earnings and impression management in financial reports: The case of CEO changes. *Abacus*, *39*(1), 95-123. https://doi.org/10.1111/1467-6281.00122

Gupta, V. K., Han, S., Nanda, V., & Silveri, S. (2018). When crisis knocks, call a powerful CEO (or not): Investigating the contingent link between CEO power and firm performance during industry turmoil. *Group & Organization Management*, *43*(6), 971-998. https://doi.org/10.1177/1059601116671603

Hashim, H. A., & Devi, S. (2008). Board characteristics, ownership structure and earnings quality: Malaysian evidence, Tsamenyi, M. and Uddin, S. (Ed.) Corporate governance in less developed and emerging economies (Research in Accounting in Emerging Economies. In (Vol. 8, pp. 97-123). Bingley: Emerald Group Publishing Limited.

Hashmi, M. A., Brahmana, R. K., & Lau, E. (2018). Political connections, family firms and earnings quality. *Management Research Review*, *41*(4), 414-432. https://doi.org/10.1108/mrr-05-2017-0136

Hasnan, S., Marzuki, H., & Shuhidan, S. M. (2017). Effects of board characteristics on financial restatement in Malaysia. *Farming Journal of Social Sciences and Humanities*, *25*(S), 255-263.

Hasnan, S., Mohd Razali, M. H., & Mohamed Hussain, A. R. (2021). The effect of corporate governance and firm-specific characteristics on the incidence of financial restatement. *Journal of Financial Crime*, *28*(1), 244-267.

Hasnan, S., Rahman, R. A., & Mahenthiran, S. (2014). Determinants of Fraudulent Financial Reporting: Evidence from Malaysia. *Journal of Management*, *42*, 103-117.

Hiebl, M. R. (2014). Upper echelons theory in management accounting and control research. *Journal of Management Control*, *24*, 223-240. https://doi.org/10.1007/s00187-013-0183-1

Hoang, T. C., Abeysekera, I., & Ma, S. (2017). The effect of board diversity on earnings quality: An empirical study of listed firms in Vietnam. *Australian Accounting Review*, *27*(2), 146-163. https://doi.org/10.1111/auar.12128

Handoyo, S., & Kusumaningrum, I. T. (2022). Does corporate governance and other factors influence earnings management? A study on Indonesia's banking sector. *Humanities and Social Sciences Letters*, *10*(1), 11–26. https://doi.org/10.18488/73.v10i1.2227

Handoyo, S., Wicaksono, A. P., & Darmesti, A. (2022). Does corporate governance support tax avoidance practice in Indonesia?. *International Journal of Innovative Research and Scientific Studies*, *5*(3), 184–201. https://doi.org/10.53894/ijirss.v5i3.505

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305-360.

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, *29*(2), 193-228. https://doi.org/10.2307/2491047

James, O., & Andrew, K. (2022). Fostering organizational learning through corporate culture, and core competences. *American Journal of Social Sciences and Humanities*, *7*(2), 36–55. https://doi.org/10.55284/ajssh.v7i2.680

Khalil, M., & Ozkan, A. (2016). Board independence, audit quality and earnings management: Evidence from Egypt. *Journal of Emerging Market Finance*, *15*(1), 84-118. https://doi.org/10.1177/0972652715623701

Kovermann, J., & Velte, P. (2019). The impact of corporate governance on corporate tax avoidance—A literature review. *Journal of International Accounting, Auditing and Taxation*, *36*, 100270. https://doi.org/10.1016/j.intaccaudtax.2019.100270

Latif, K. (2018). *Interactions between corporate governance, earnings quality attributes and value of firm: Empirical analysis from non-financial sector of Pakistan.* Unpublished Doctoral Dissertation, International Islamic University, Islamabad.

Li, M., & Yang, J. (2019). Effects of CEO duality and tenure on innovation. *Journal of Strategy and Management*, *12*(4), 536–552. https://doi.org/10.1108/JSMA-04-2019-0049

Liang, Y., Marinovic, I., & Varas, F. (2018). The credibility of financial reporting: A reputation-based approach. *The Accounting Review*, *93*(1), 317-333. https://doi.org/10.2308/accr-51764

Liu, J., Zheng, N., Lu, X., & Qu, Y. (2022). Corporate charitable donation under the theory of organizational legitimacy from the perspective of listed companies' violations in a regional institutional environment. *Asian Development Policy Review*, *10*(4), 241–277. https://doi.org/10.55493/5008.v10i4.4601

Matta, E., & Beamish, P. W. (2008). The accentuated CEO career horizon problem: Evidence from international acquisitions. *Strategic Management Journal*, *29*(7), 683-700. https://doi.org/10.1002/smj.680

Mitra, S., Hakjoon, S., Lee, S. M., & Kwon, S. H. (2020). CEO tenure and audit pricing. *Review of Quantitative Finance and Accounting*, *55*(2), 427-459. https://doi.org/10.1007/s11156-019-00848-x

Nasr, M. A., & Ntim, C. G. (2018). Corporate governance mechanisms and accounting conservatism: Evidence from Egypt. *Corporate Governance (Bingley)*, *18*(386–407). https://doi.org/10.1108/CG-05-2017-0108

Nekhili, M., Chakroun, H., & Chtioui, T. (2018). Women's leadership and firm performance: Family versus nonfamily firms. *Journal of Business Ethics*, *153*(2), 291-316. https://doi.org/10.1007/s10551-016-3340-2

Oh, W.-Y., Chang, Y. K., & Kim, T.-Y. (2018). Complementary or substitutive effects? Corporate governance mechanisms and corporate social responsibility. *Journal of Management*, *44*(7), 2716-2739. https://doi.org/10.1177/0149206316653804

Orazalin, N. (2019). Board gender diversity, corporate governance, and earnings management: Evidence from an emerging market. *Gender in Management: An International Journal*, *35*(1), 37-60.

Ozbek, O. V., & Boyd, B. (2020). The influence of CEO duality and board size on the market value of spun-off subsidiaries: The contingency effect of firm size. *Journal of Strategy and Management*, *13*(3), 333-350. https://doi.org/10.1108/JSMA-03-2019-0039

OSOSUAKPOR, J. (2022). Corporate governance and organizational performance: Evidence from Nigeria. *International Journal of Public Policy and Administration Research*, *9*(3), 46–55. https://doi.org/10.18488/74.v9i3.3112

Perafán Peña, H. F. (2018). Board gender diversity and earnings quality. Evidence from the Latin American integrated market (MILA). *Accounting University of Antioquia* (72), 151–163.

Rehman, S., Orij, R., & Khan, H. (2020). The search for alignment of board gender diversity, the adoption of environmental management systems, and the association with firm performance in Asian firms. *Corporate Social Responsibility and Environmental Management*, *27*(5), 2161-2175. https://doi.org/10.1002/csr.1955

Reitenga, A. L., & Tearney, M. G. (2003). Mandatory CEO retirements, discretionary accruals, and corporate governance mechanisms. *Journal of Accounting, Auditing & Finance*, *18*(2), 255-280. https://doi.org/10.1177/0148558x0301800205

Rezaee, Z., & Tuo, L. (2019). Are the quantity and quality of sustainability disclosures associated with the innate and discretionary earnings quality? *Journal of Business Ethics*, *155*, 763-786. https://doi.org/10.1007/s10551-017-3546-y

Sariol, A. M., & Abebe, M. A. (2017). The influence of CEO power on explorative and exploitative organizational innovation. *Journal of Business Research*, *73*, 38-45. https://doi.org/10.1016/j.jbusres.2016.11.016

Sarun, A. (2016). *Corporate governance, earnings quality and firm value: evidence from Malaysia.* Doctoral Dissertation, Victoria University.

Shahab, Y., Ntim, C. G., Ullah, F., Yugang, C., & Ye, Z. (2020). CEO power and stock price crash risk in China: Do female directors' critical mass and ownership structure matter? *International Review of Financial Analysis*, *68*, 101457. https://doi.org/10.1016/j.irfa.2020.101457

Shen, C.-H., & Lin, C.-Y. (2016). Political connections, financial constraints, and corporate investment. *Review of Quantitative Finance and Accounting*, *47*, 343-368. https://doi.org/10.1007/s11156-015-0503-7

Singh, S., Tabassum, N., Darwish, T. K., & Batsakis, G. (2018). Corporate governance and Tobin's Q as a measure of organizational performance. *British Journal of Management*, *29*(1), 171-190. https://doi.org/10.1111/1467-8551.12237

Strike, V. M., Berrone, P., Sapp, S. G., & Congiu, L. (2015). A socioemotional wealth approach to CEO career horizons in family firms. *Journal of Management Studies*, *52*(4), 555-583. https://doi.org/10.1111/joms.12123

Yasser, Q. R., & Mamun, A. A. (2015). The impact of CEO duality attributes on earnings management in the East. *Corporate Governance*, *15*(5), 706-718. https://doi.org/10.1108/cg-04-2015-0041

Zhang, W. (2009). *CEO Tenure and earnings quality. In journals.sagepub.com*. Retrieved from https://journals.sagepub.com/doi/abs/10.1177/0894486513486343

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, *13*(3), 339-351. https://doi.org/10.1287/orsc.13.3.339.2780

Zizi, Y., Oudgou, M., & Moudden, A. E. (2022). The macroeconomic determinants of moroccan corporate bankruptcy. *International Journal of Applied Economics, Finance and Accounting*, *14*(1), 25–33. https://doi.org/10.33094/ijaefa.v14i1.636

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