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Corporate Governance Attributes and CEO Turnover: Evidence from a Frontier Market

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ABSTRACT

Based on managerial power and agency theories, this study aims to provide empirical evidence on corporate governance- chief executive officer (CEO) turnover relationship. Authors investigate a sample of 44 firms listed on the Tunis Stock Exchange (TSE) over the 2014-2019 period, using the logistic regression method. Results show that board size, its independence and its diligence have a significant and a positive effect on CEO turnover. Then, board independence is likely to be a key factor in the removal of an underperforming CEO. However, managerial ownership has a significant and a negative effect on CEO turnover. The findings regarding board size, board diligence, managerial ownership and CEO turnover are still valid when checking results robustness. The paper contributes to the corporate governance literature by focusing on corporate governance-CEO turnover on a frontier market. Empirical and practical contributions are present in our paper. Especially, this study provides policymakers and managers with insights into factors that influence CEO turnover in a frontier context such as Tunisia. Our findings also offer implications for corporations, investors, regulators, and academic researchers, by highlighting areas needing considerable attention pertaining to corporate governance. The paper contributes to the existing literature by focusing on the relationship corporate governance-CEO turnover on a frontier market. It provides further empirical support and enhances corporate governance practices.

Keywords: Corporate Governance, Board of Directors, Ownership Structure, CEO turnover, Frontier Market
JEL Classifications: G32, G34, M41

1. INTRODUCTION

Research on corporate governance has focused on two main aspects of governance systems: Shareholder control and manager incentives. The issue is not whether control or incentives are superior, but rather how both control and incentive mechanisms can be applied effectively. Control helps mitigate entrenchment strategies, managerial abuse of power, and self-dealing. However, excessive control may also hinder the creation of shareholder value by undermining effective managerial incentives. Among governance mechanisms, the board of directors and ownership structure are central to both control and incentives. They significantly influence corporate decisions regarding the hiring and firing of managers. Therefore, understanding the factors that drive changes in top executives is crucial for assessing the effectiveness of a corporate governance framework.

Studying CEO turnover is essential for several reasons, as it sheds light on various facets of corporate performance, governance, and leadership dynamics. Analyzing CEO turnover enables researchers and practitioners to evaluate the effectiveness of leadership and gain insights into the decision-making processes of boards of directors, as well as their role in supervising executive performance. Understanding these dynamics can enhance corporate governance practices. Therefore, this paper focuses on examining the impact of corporate governance on

CEO turnover. Investigating this relationship is crucial because it helps us comprehend how governance mechanisms affect the CEO succession process and the overall health of organizations.

Several motivations underpin the study of the relationship between governance practices and CEO turnover. Investigating how governance practices influence CEO turnover can reveal how well management decisions align with shareholder value. This analysis also assesses the effectiveness of oversight mechanisms in ensuring leadership accountability and performance. Additionally, understanding the impact of board attributes on CEO turnover decisions can contribute to enhancing board effectiveness. Examining this relationship sheds light on how governance mechanisms contribute to organizational stability, foster positive perceptions in financial markets, promote ethical behavior, and bolster investor confidence.

The primary objective of this study is to elucidate the governance attributes that influence executive turnover. This research focuses on board characteristics and ownership structure as the main governance attributes, guided by agency theory (Jensen and Meckling, 1976).

Studies of CEO transitions have been conducted since the 1950s, yet a strong interest in CEO transition emerged in the 1980s. In fact, the attributes of a company's CEO, who holds the highest executive position, may be considered the most crucial determinant of organizational success (Farah and Li, 2021).

Most previous studies focused on the CEO turnover-firm performance. Most of the findings on CEO transition focus on CEO turnover because previous studies have indicated that the sudden removal of a CEO affects the sustainability of future firm performance, which is reflected in stock price volatility (Caton et al., 2019).

Recent research on CEO turnover reveals diverse impacts on firm performance. Lassoued et al. (2013), Dedman and Lin (2002), Lambertides (2009), and Huson et al. (2001) suggest forced CEO turnovers typically boost firm performance. In contrast, Shubasini et al. (2020) argue that planned turnovers yield higher gains, showing that planned turnovers positively influence firm value due to better investment decisions.

Farah and Li (2021) contradict the positive view of forced turnovers, indicating no positive market returns unless the CEO was underperforming. Jenter and Lewellen (2021) introduce "performance-induced turnover," attributing 38-55% of turnovers to poor performance. Qin and Yang (2022) find that CSR contracting in CEO evaluations emphasizes long-term strategies, attracting socially conscious investors, thus reducing short-term performance pressures.

Studies also indicate a weak relationship between CEO turnover and firm performance. Jatana (2023) highlights board size as a significant factor, while other board characteristics have negligible effects. Liu et al. (2023) and Chijoke-Mgbame et al. (2023) report generally negative impacts of CEO turnovers on market performance, moderated by CEO attributes such as experience, network size, and age.

Recently, Velte (2024) analyzed the impact of board governance on institutional ownership, focused on CEO characteristics, neglected institutional ownership heterogeneity, and used advanced regression models to solve endogeneity problems. He found that the relationship between total institutional ownership and board governance is heterogeneous. However, certain types of institutions, such as foreign, specialized, and pressure-resistant institutions, represent active monitoring tools and promote better board governance.

However, board and ownership structure of the firm affects the likelihood of CEO turnover following poor performance (Dimopoulos and Wagner, 2012; Bouras and Gallali, 2017; Liu et al., 2020). With respect to board structure, it is widely recognized that a small, highly independent board with separate roles for the CEO and chairman will be better able to fulfill its control mission. It is based on this theoretical background that this current study examines the link between board attributes, ownership structure and CEO turnover.

CEO turnover in emerging and frontier markets varies significantly due to economic conditions, industry trends, and regional factors. These markets pose unique challenges and opportunities for CEOs, stemming from rapid growth, diverse regulatory environments, and cultural differences. Corporate governance in these regions has gained considerable attention and development recently (Ammar Zahid et al., 2023). Effective governance is crucial for transparency, accountability, and sustainable growth. Emerging markets are strengthening their regulatory frameworks, often adopting guidelines from international organizations like the OECD and the World Bank. However, corporate governance practices vary widely among these markets and continue to evolve. Organizations such as the International Finance Corporation (IFC) and the International Corporate Governance Network (ICGN) provide resources and guidance on best practices in corporate governance for emerging markets.

Previous studies have mainly examined corporate governance and CEO turnover in developed and emerging markets, with limited research on frontier markets. Frontier markets, characterized by smaller economies, lower liquidity, less developed financial markets, and higher political and economic risks, present a unique context for study. Despite these challenges, frontier markets hold significant economic potential and offer long-term investment opportunities due to untapped resources, potential for rapid growth, and early market access (Bousnina et al., 2024).

We decided to select Tunisia as the context for this study, as it is defined as frontier market by the IMF (Schipke, 2015). Tunisia's economy is relatively small compared to more developed economies. Its financial markets are considered less mature than those of larger emerging markets. Despite its challenges, Tunisia offers potential investment opportunities in various sectors, including tourism, agriculture, textiles, and services.

This study is among the first to explore CEO turnover in a frontier market such as Tunisia. It addresses a gap in the literature by examining the relationship between corporate governance and CEO turnover. The paper aims to contribute to the fields of market microstructure, corporate governance, and finance. It is the inaugural study to investigate the connection between corporate governance attributes and CEO turnover within the Tunisian context. All previous specificities of our study make it different from others. The papers does not uses the same methodology or discuss the same context. Thus, we believe that our paper can add to the existing literature.

Since the economic scandals, new rules have been introduced to achieve better corporate governance in Tunisia. The Financial Security Act (2005) aims to strengthen the financial statements' sincerity and the companies' financial disclosure. Other reforms follow, such as the adoption of the International Standards of Audit (ISA) in 2010 and the International Financial Reporting Standards (IFRS) in 2021. Thus, Tunisia represents a very interesting context to consider as it is characterized by the promulgation of several laws and rules to improve corporate governance system. Tunisian context is also marked by a high level of ownership concentration, a less developed financial market and a low level of financial information disclosure.

The present study proceeds as follows. Section 2 reviews previous literature and empirical evidence related to corporate governance and CEO turnover before developing the research hypotheses. Section 3 describes the data and variables as well as presenting the research design and the methodological strand. The empirical results are reported in section 4. Section 5 concludes.

2. THEORETICAL BACKGROUND AND HYPOTHESES

Managerial power theory shows that the most powerful CEOs become entrenched in the company even if it performs poorly (Finkelstein et al., 2009). Their entrenchment leads them to dismiss managers to avoid their turnover and departure (Boeker, 1992).

Contrary to managerial power theory, agency theory, through the perspective of the optimal contract perspective, shows that boards of directors can be used as a means of controlling CEOs. CEO rotation reduces agency conflicts (Engel et al., 2003; Kato and Long, 2006).

In addition, agency theory (Jensen and Meckling, 1976) deals with agency relationships in which one party (the principal) delegates work to another party (the agent). This theory aims to solve agency problems. Because ownership and decision-making functions are separate, the CEO wields considerable power (Caton et al., 2019). As a result, there is a risk that managers will seek to achieve their own goals at the expense of the interests of the firm's owners and the community. Such a situation therefore triggers control mechanisms. These mechanisms include managerial ownership (Jensen and Meckling, 1976), majority shareholder ownership (Agrawal and Mandelker, 1990), institutional investor ownership (Brickley et al., 1988), the executive compensation system (Mehran, 1995), the takeover market (Jensen and Ruback, 1983), the labor market (Fama, 1980) and the goods and services market (Hart, 1983).

The board of directors is also one of the main control mechanisms (Fama and Jensen, 1983). Therefore, CEO turnover is theoretically supported by agency theory, which posits that (principal) shareholders use turnover as a tool by which CEOs can be dismissed in case of poor firm performance (Fama and Jensen, 1983).

To mitigate agency problems, Fama and Jensen (1983) recommended delegating internal control to the board of directors to monitor management decisions and corporate behavior. They also made suggestions regarding specific board attributes that could improve the board's effectiveness in monitoring and ensuring that managers act in the best interests of shareholders. On the other hand, the board should act in the best interests of shareholders. Rotation provides incentives for CEOs to implement appropriate strategies and manage firms effectively and efficiently to increase shareholder wealth and improve firm performance to avoid being fired by shareholders (Dikolli et al., 2014). According to Huang et al. (2020), the shareholder wealth depends on the cost of capital associated with the financing needed for the projects the firm has. The cost of capital is a function of the investors' assessment of how the firm will perform in the future. Several research considering CEO replacements have found benefits of management-friendly boards (Aghamolla and Hashimoto, 2021). According to Lin et al. (2022), Baker et al. (2019), Dasgupta et al. (2018), CEOs are more likely to be forced out in weak governance firms. However, more recent studies such as that of Sheikh (2024) show that extensive CEO power is synonymous with low CEO turnover, so based on the results of this study, there is no relationship between CEO turnover and weak governance.

We will focus on the characteristics of the board of directors and ownership structure, and we will formulate the study's research hypotheses.

For board structure, it has been widely recognized that a small, highly independent board that separates the roles of CEO and board director will be better able to fulfill its monitoring role. This view has been supported by numerous empirical studies.

Kufo and Shtembari (2023), Khondkar et al. (2022), Bekiris (2013) and Dimopoulos and Wagner (2012) indicated that a large board size has a negative effect on its control quality and that smaller boards are more likely to replace poorly performing CEOs. Similarly, Rachpradit et al. (2012) found that the probability of CEO turnover to be low increases when board size is large in a sample of Thai firms.

According to Bekiris (2013), a small board size improves the board's ability to monitor the CEO, making it more likely to replace an underperforming CEO. On the other hand, a large board would have a negative impact on the quality of board monitoring (Dimopoulos and Wagner, 2012). Nguyen (2011) finds that firms with one-tier boards show negative and significant CEO turnover-

performance sensitivity. This finding favor claims by Viénot I and Viénot II reports that one-tier board is more efficient.

Therefore, we formulate our first hypothesis as follows:
H_1: Board size has a negative impact on CEO turnover.

Board independence plays a crucial role in influencing CEO turnover. The 2015 Code of Good Governance recommends that outside directors (owners and independent) represent a large majority, with an appropriate proportion between owners and independent directors. The literature on CEO turnover in companies has interpreted high CEO turnover as a sign of an active and an independent board. This proposal has been reinforced by the fact that boards with more outside directors are more sensitive to rotation performance.

Graham et al. (2020) show that Board independence increases at CEO turnover, indicating a positive impact on CEO turnover in CEO-board dynamics. Dimopoulos and Wagner (2012) noted that board independence is likely to be a key factor in the removal of an underperforming CEO. Empirically, Rachpradit et al. (2012) show that the probability of CEO turnover is high when the board is more independent. Then, there is a positive relationship between independent directors and CEO turnover. According to Laux (2008) model, it predicts that a trend toward greater board independence is associated with subsequent trends toward higher CEO turnover.

Thus, our second hypothesis is as follows:
H_2: Board independence has a positive impact on CEO rotation.

For board diligence, this attribute can improve board effectiveness. In this regard, board diligence, which is reflected in the frequency of board meetings, should lead to more effective monitoring of managers, and thus reduce agency problems, which will reduce information asymmetry through greater voluntary disclosure.

According to Liu et al. (2020), the more meetings, the higher the probability of CEO turnover.

The frequency of board meetings increases the turnover of directors in newly listed companies (Garg et al., 2018). Ji et al. (2016) examined the relationship between the frequency of board meetings and CEO dismissal/compensation and performance sensitivities and found that turnover-performance sensitivity is weaker when there is a higher frequency of meetings discussing the nomination of directors and top management.

Accordingly, we formulate the following third hypothesis:
H_3: Board diligence has a positive impact on CEO turnover.

CEO dual functions (where the CEO is simultaneously chairman of the board) has become a topic of great interest. Most of the previous research has focused mainly on the direct impact of performance on CEO turnover and on the effects of CEO duality on firm performance (Yu, 2023). The primary research paper was conducted by andconcluded that CEO duality is also an important factor affecting the board's role in CEO monitoring and replacement. In this regard, Trung Tran (2016) examined the influence of CEO duality and state ownership on the sensitivity of CEO turnover in companies listed on the Vietnam Stock Exchange between 2009 and 2015. Their results corroborate those of Goyal and Park (2002), who found better board oversight when the positions of CEO and chairman were separated.

Dardour et al. (2019) found that CEO-Chairman duality negatively correlates with the probability of turnover in all specifications. CEO who combine the roles of CEO and chairman of the board are rarely fired. This conclusion can be explained by the fact that excessive power vested in a CEO-chairman increases their entrenchment. Indeed, CEO duality increases managerial power, which may weaken the monitoring effect of the board.

Hsu et al. (2021) find that CEO turnover is less sensitive to poor firm performance in cases of CEO duality. According to them, a more independent board can help mitigate the adverse effects of CEO duality on company performance.

In line with the above proposals, we formulate the following hypothesis:
H_4: CEO duality has a negative effect on CEO turnover.

For ownership structure, foreign-owned firms monitor and maintain more effectively best corporate governance practices. As a result, firms tend to replace non-performing CEOs (He et al., 2014).

Miyajima et al. (2018) found that foreign institutional investors, which have increased rapidly since late 1990s, affect sensitivity of forced turnover to performance, and their influence is stronger in the most recent period.

In addition, it was found that foreign institutional investors have an impact on management turnover decisions through blockholding. Thus, sensitivity of forced turnover to firm performance is significantly higher for firms where foreign institutional investors hold a block interest.

Abdullahi and Tanko (2020), whose study was conducted on all Nigerian non-financial firms listed on the Nigerian Stock Exchange (NSE) from 2011 to 2015, found that foreign ownership positively affects CEO turnover.

Iwasaki et al. (2020) carry out a comparative analysis of the relationship between corporate shareholding and CEO turnover in two diametrically opposed economies. The aim is to compare the evidence of this relationship between Communist China and Eastern Europe. It involves a meta-analysis of 736 estimates extracted from 31 previous studies.

The results show that in Eastern Europe, outside private investors and large shareholders exert a positive influence on management turnover. Indeed, shareholders exert a positive influence on the managerial discipline of the companies in which they invest. The government is also heavily involved in the governance of state-

owned companies. On the other hand, the Chinese government and the Chinese Communist Party exert such strong control over companies as their owners. The state and company insiders negatively impact managerial turnover at the companies they own, whereas both domestic and foreign private shareholders have a positive effect on turnover.

Thus, we formulate the following hypothesis:
H_5: Foreign ownership has a positive impact on CEO turnover.

According to agency theory, excessive managerial power increases the ability to extract private profit, which harms shareholder interests and triggers agency problems. High managerial ownership might result in a lesser CEO turnover-performance sensitivity (Fan et al., 2023; Burns et al., 2023; Zhong et al., 2021; Nguyen, 2011).

Managerial ownership reduces agency costs as it aligns the managerial interests with that of the shareholders. We must notice that higher ownership by the mangers could lead to the entrenchment of the management.

Consequently, firm performance the governance mechanisms of the corporation can negatively affected (Tsegba et al., 2014). In the same vein, Hornstein (2013) show the higher the managerial ownership level in a firm, the lower the probability of CEO turnover.

Denis et al. (1997) report that the probability of top executive turnover is negatively related to stakes held by officers and directors and positively related to the presence of an outside blockholder.

Bouras and Gallali (2017), Fabisik et al. (2021) and Burns et al. (2023) indicated that firms with a high proportion of managerial ownership are less likely to change CEOs. Then, managerial ownership negatively relates to CEO turnover. Accordingly, we formulate the following hypothesis:
H_6: Managerial ownership has a negative effect on CEO turnover.

3. RESEARCH DESIGN

3.1. Sample

This study examines a sample of 44 Tunisian companies listed on the Tunis Stock Exchange (TSE) during the 2014-2019 period. The methodology that was used in this study is based on secondary data and is longitudinal. The data were collected from the reports published on the website of the Financial Market Council and from the annual financial statements published on the website of the TSE.

3.2. Model Specification and Variables Definition

Barros et al. (2020) claim that, based on panel data, it is possible to mitigate or eliminate the endogeneity problem derived from the time-invariant omitted variables. Thus, we estimate a panel data model to examine the relationship between corporate governance and CEO Turnover in the Tunisian context.

Pallant (2007) observed that logistic regression is an analytical tool used in simultaneously investigating the effects of several independent variables on a single dependent variable. This is an appropriate statistical technique when the dependent variable is nominal and a binary.

Logistic regression is often the most widely used statistical tool for identifying the relationship between CEO turnover and board characteristics. Using logistic regression analysis, Abdullahi and Tanko (2020) examine the influence of Nigerian firms' performance and internal governance mechanisms on 72 cases of CEO turnover decision. In the Tunisian context, Amri et al. (2023) used the logistic regression to test the corporate governance-tax aggressiveness relationship, as the dependant variable is a binary variable.

Based on the discussions and to test the hypotheses previously developed, we use a logistic regression to estimate the following CEO turnover model for firm i and time t:

$$CEO\_TURNOVER_{it} = \beta_0 + \beta_1 SIZEBO_{it} + \beta_2 INDBO_{it} + \beta_3 DILBO_{it} + \beta_4 DUALBO_{it} + \beta_5 FOROWN_{it} + \beta_6 MGOWN_{it} + \beta_7 SIZE_{it} + \beta_8 ROA_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \varepsilon_{it} \quad (1)$$

All variables are defined and summarized in Table 1.

4. DESCRIPTIVE ANALYSIS

Table 1 reports summary statistics for all used variables in our model specification. Panel A presents descriptive statistics of all continuous variables of our model. Panel B presents statistics of dichotomous variables.

Panel B of Table 2 shows that the percentage of turnover of managers represents (6.5%) for the total sample. This shows that changing the CEO in Tunisian companies is very low. In addition, Panel A of Table 1 shows that company performance (ROA) represents an average of (0.018) with a maximum of (0.464). These statistics are low, consistent with the argument that poor performance leads to an increase in the probability of CEO turnover.

For the variable DUALBO, the duality function is present in more than (67%) of the total observations. It indicates an entrenchment effect of the CEO in Tunisian companies. Thus, the duality reduces the effectiveness of internal control systems.

Panel A of Table 2 shows that board size is (8) members on average with a median of (2.106) showing that board sizes differ from one company to another. Regarding board independence, statistics show that on average (0.006) of the board directors are independent non-executive members with a median that amounts to (0.029). This implies a homogeneity problem.

As for board diligence, Panel A of Table 2 shows an average of more than 4 meetings during the fiscal year with a maximum of meetings. Foreign participation registers an average of (0.042), and a maximum of (0.779).

Table 1: Variables definition and measurement

Variable label	Description measurement	References
CEO_ Turnover	Binary variable that takes 1 if the CEO leaves his or her company during the year, and zero otherwise.	Rachpradit et al. (2012), Abdullahi and Tanko (2020), Dardour et al. (2019), Shubasini et al. (2020), Farah and Li (2021), Fan et al. (2023) and Burns et al. (2023).
SIZEBO	This variable is measured by the total number of directors on the board.	La Rocca et al. (2024), Cambrea et al. (2022) and Chams and García-Blandón (2019).
INDBO	This is the proportion of non-executive directors i.e., the number of non-executive directors on the board divided by the total number of directors on the board.	Lajmi et al. (2019), Cambrea et al. (2022) and La Rocca et al. (2024).
DILBO	It is measured by the number of meetings conducted by the board per year.	Liu et al. (2020).
DUALBO	It is a binary variable, that takes 1 if the position is held by the same person, CEO and board director, zero otherwise.	La Rocca et al. (2024), Zouari-Hadiji and Zouari, (2021), Huang et al. (2020), Dah et al. (2020) and Dardour et al. (2019)
FOROWN	This variable is measured by the proportion of shares held by foreign investors i.e., the participation of shares held by foreigners to the total shares of the company.	Abdullahi and Tanko (2020), Dakhlaoui and Gana (2020) and Bousnina et al. (2024)
MGOWN	This variable is measured by the proportion of shares held by the firm's managers (executives).	Gana and Lajmi (2013) and Bouras and Gallali (2017).
SIZE	This variable is measured by the natural logarithm of total assets.	Shubasini et al. (2020), Huang et al. (2020), Lajmi et al. (2021), Bousnina et al. (2024) and Abdullahi et al. (2018) and Ben Flah and Lajmi (2024)
ROA	This variable is measured by net income divided by total assets.	Dardour et al. (2019), Abdullahi and Tanko (2020), Lajmi et al. (2021), Lajmi and Yab (2022) and Ben Flah and Lajmi (2024).
AGE	This variable is measured by the number of years the firm has been in business.	Abdullahi et al. (2018).
LEV	It is measured by the ratio of total debt to total assets	Otieno and Ngwenya (2015), Lajmi et al. (2021) and Affes and Jarboui (2023).

Table 2: Summary statistics

Panel A: Continuous variables					
Variables	**N.Obs**	**Mean**	**Median**	**Minimum**	**Maximum**
SIZEBO	264	8.299242	2.106806	3	12
INDBO	264	0.0063712	0.0298187	0	0.167
DILBO	264	4.481061	0.7028062	4	7
FOROWN	260	0.0426062	0.1361197	0	0.779
MGOWN	259	0.3770458	0.2953454	0	1.4456
SIZE	262	18.2107	1.116422	15.35926	20.6519
ROA	262	0.0182002	0.4366052	−6.555772	0.4649294
AGE	264	34.31818	20.14862	1	94
LEV	262	0.5248133	0.4491874	0.0007958	4.30147
Panel B: Dichotomous variables					
Variables	**1**		**0**		
	N.Obs	**Proportion (%)**	**N.Obs**	**Proportion (%)**	
CEO_ TURNOVER	17	6.5	245	93.5	
DUALBO	177	67.6	85	32.4	

Finally, managerial ownership in Tunisian companies shows an average of (0.4) during the study period, with a maximum of (1.445) and a median of (0.295).

These preliminary results should be completed with tests that check the absence of multi-collinearity problems. Table 3 indicates that multi-collinearity is low since most of the variables in the model lowly correlate with each other (between [0.0054] and [0.3712]).

5. REGRESSION ANALYSIS

After performing the preliminaries tests on our panel data, we found the following results reported in Colum 1 of Table 4.

The results show that board size has a positive and a significant effect on CEO turnover at the (10%) level. This rejects our first hypothesis H1. We can explain this result by the fact that board size influences the effectiveness of coordination among board members and the decision-making process. Larger boards tend to be less effective, which reduces the sensitivity of firm performance to CEO turnover. Our results are confirmed by the studies of Jatana (2023) and Dah et al. (2020). According to them, board size was found to have a significant role in strengthening the CEO turnover performance relationship. However, other characteristics, such as board independence, multiple directors, board meetings and board gender diversity, played no role in influencing the CEO turnover performance relationship. Chemmanur and Fedaseyeu

Table 3: Pearson correlation matrix

	ROA	SIZEBO	INDBO	DILBO	DUALBO	FOROWN	MGOWN	SIZE	AGE	LEV
ROA	1.0000									
SIZEBO	0.0060	1.0000								
INDBO	0.0346	0.2522	1.0000							
DILBO	0.0533	0.0244	0.0226	1.0000						
DUALBO	−0.0452	−0.0589	0.1141	0.0189	1.0000					
FOROWN	0.0505	0.0855	0.1116	−0.0610	0.1586	1.0000				
MGOWN	0.0325	0.0370	0.3176	0.1249	−0.1515	−0.2402	1.0000			
SIZE	0.1766	0.3701	0.2628	0.1081	−0.0534	0.3712	0.0030	1.0000		
AGE	0.0599	0.1165	−0.0054	0.0457	0.1847	0.0335	−0.0346	0.1346	1.0000	
LEV	−0.6531	−0.0642	−0.0886	−0.0614	−0.1762	−0.1762	−0.0173	0.0735	0.0178	1.0000

Table 4: Regression of CEO_TURNOVER on corporate governance attributes

Variables	CEO_TURNOVER	
	(1)	(2)
SIZEBO	0.3121445**	0.2855412**
	(1.83)	(1.69)
INDBO	6.38566**	2.870363
	(1.53)	(0.22)
DILBO	0.9815715*	1.011605*
	(2.93)	(2.90)
DUALBO	−0.4192401	−0.4679598
	(−0.71)	(−0.78)
FOROWN	−0.3928706	0.7125267
	(−0.19)	(0.32)
MGOWN	−2.411605**	−2.246849**
	(−1.85)	(−1.70)
ROA	0.4306549	
	(0.14)	
TOBINQ		−0.4720548
		(−1.09)
SIZE	−0.2408607	−0.1759519
	(−0.73)	(−0.53)
AGE	−0.0334924**	−0.0336182**
	(−1.78)	(−1.69)
LEV	−0.8021799	−1.239004
	(−0.66)	(−1.05)
CONS	−3.167506	−3.277506
	(−0.58)	(−0.60)
Pseudo R	0.1420	0.1571
LR chi2 (10)	16.96	18.72
Prob>chi^2	0.0753	0.0439

The z statistic is presented in parenthesis.*,** denotes significance at 1% and 10%, respectively

(2018) found that having a larger board size increases the amount of information potentially available to the board and that a larger board can also help firms access resources. This implies that the board would be better equipped with the information and capabilities to monitor CEOs and effectively make an informed decision about CEO rotation, and thus more likely to replace the CEO when performance declines.

Our findings offer managerial and practical implications for corporations and investors by emphasizing the importance of board effectiveness and overall corporate governance systems. Specifically, board independence has a positive and significant impact on CEO turnover, confirming Hypothesis H2. This suggests that board independence is crucial in removing an underperforming CEO, consistent with Dimopoulos and Wagner (2012).

Additionally, Laux (2008) argues that a fully independent board is more active than efficient ex ante, implying that some degree of dependence may benefit shareholders. Therefore, our findings provide valuable insights for stakeholders and academic researchers, highlighting the nuanced role of board independence in corporate governance and CEO turnover.

Furthermore, Table 4 shows that board diligence is positively and significantly related to CEO turnover at the 1% level. This indicates that an increase in the number of board meetings correlates with a higher probability of CEO turnover, thereby confirming Hypothesis H3. This finding aligns with empirical results reported by researchers like Liu et al. (2020). It suggests that more diligent boards enhance disclosure levels, reducing information asymmetry. Consequently, our results imply that boards give greater consideration to CEO attributes when making decisions about hiring and firing executive managers.

Regarding the final board attribute, duality, this variable exhibits a negative but statistically insignificant impact on CEO turnover. Consequently, our fourth hypothesis (H4) is rejected. Our multivariate test results align with the findings of Goyal and Park (2002) and Dardour et al. (2019), who observed that dual CEO functions can undermine board control effectiveness, leading to a decrease in firm value when CEOs also serve as board directors. This negative relationship suggests that replacing a CEO who holds both positions is notably more challenging.

For foreign ownership, this variable does not show statistically significant estimates, but it has a negative impact on CEO turnover. Then, hypothesis H5 is rejected. Our results contrast those of other researchers reporting that foreign ownership enhances board independence, which in turn improves firm monitoring ability, thereby increasing CEO turnover.

The regression results in Table 4 support Hypothesis H6, showing a significant and negative coefficient for managerial ownership. This indicates that higher managerial ownership leads to CEO entrenchment and weaker board control, thereby reducing CEO turnover, consistent with Bouras and Gallali (2017).

Among the control variables, only firm age significantly and negatively influences CEO turnover, aligning with Abdullahi et al. (2018). Additionally, the model has high explanatory power, as indicated by the coefficient of determination (R^2), demonstrating a good fit with the observed data.

The robustness test involves substituting our performance measure with Tobin's Q to determine if the results are sensitive to the performance metric used. Tobin's Q is considered an excellent indicator as it reflects growth opportunities. According to Bozec et al. (2010), Tobin's Q is a traditional measure of expected long-term business performance. This metric is chosen because it reflects the total value of the company, including debt. It is appropriate for evaluating tax planning within agency practices. Furthermore, a high Q ratio shows that the company has succeeded in leveraging its investment to develop the business, which is valued more in terms of market value than book value (Kapopoulos and Lazaretou, 2007). Regression results are presented in Table 4, Colum 2.

Regarding board characteristics, the relationship between board size and CEO turnover remains significant, as does board diligence. Also, the result of managerial ownership is significant at the (10%) level, which confirms the result found in the first analysis.

As for control variables, only the sign of the variable age of the company remains negatively significant at the (10%) level. Variables that remained significant in the regression model are considered robust.

6. CONCLUSION

This study aims to determine the impact of various governance mechanisms on CEO turnover. We examined 44 Tunisian firms listed on the Tunis Stock Exchange over 6 years, from 2014 to 2019. Using panel data and the logistic regression method, the study confirms most of our hypotheses. We found significant effects of certain board characteristics and ownership structures on CEO turnover, specifically board size, independence, diligence, and managerial ownership. Additionally, firm age significantly influences CEO turnover. These results are largely consistent with previous studies on the impact of corporate governance mechanisms on CEO turnover. The relationships between board size, board diligence, managerial ownership and CEO turnover remain significant because of our robustness check.

We believe our study significantly contributes to the corporate governance literature. It is among the few that examine the relationship between corporate governance mechanisms and CEO turnover in a frontier market. While frontier economies lag behind emerging markets, our analysis provides valuable insights into this relationship, particularly within the Tunisian context. This research offers both practical and theoretical implications, potentially enhancing existing practices and informing professional decision-making. Our findings deepen the understanding of how board dynamics and managerial ownership influence CEO turnover.

This research provides a comprehensive perspective on CEO turnover. It is a hot topic in current research. However, the existing literature has mainly focused on the corporate performance-CEO turnover relationships. There are few studies analysing the relationship between corporate governance-CEO turnover.

On the empirical level, our study used the logistic regression method to examine CEO turnover. Pallant (2007) observed that logistic regression is an analytical tool used to simultaneously study the impact of several independent variables on a single dependent variable. It is an adequate statistical approach when the dependent variable is nominal and binary.

Furthermore, this article provides policymakers and managers with insights into factors that influence CEO turnover in a frontier context like Tunisia. So, it can be useful to the managers of Tunisian firms insofar as they can improve their strategy of CEO rotation.

Our findings can suggest to regulators to focus on the effective enforcement of laws that strength the governance-CEO turnover relationship by improving the monitoring role of boards, particularly in frontier markets and especially in Tunisia.

It is worth mentioning that our study suffers from some limitations. For instance, the study used a limited sample size. Also, due to data unavailability, we were not able to use other variables such as the independence of the board's nomination committee, which has an impact on turnover. In addition, there are other governance attributes that were not addressed by our study like CEO compensation and gender composition of the board. These limitations could be explored in future research.

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