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Does CEO Age Matter in a Crisis? Empirical Evidence from Vietnam's COVID-19 Experience

Nguyen Thi Thanh Binh[✉]

University of Economics, Hue University

ABSTRACT

This study investigates the impact of CEO characteristics, particularly age, on the performance of non-financial firms listed on the Hanoi Stock Exchange (HNX) from 2013 to 2022. The analysis distinguishes between the pre-pandemic period (2013–2019) and the COVID-19 period (2020–2022). Using the FGLS method, the results show that CEO age has a significant positive effect on both accounting-based (ROE) and market-based (MVBV) performance under normal conditions. However, during the pandemic, its impact on market valuation became statistically insignificant, suggesting that investors prioritize adaptability and responsiveness over experience during crises. In contrast, internal performance continues to benefit from the CEO's experience in both periods. These findings are particularly relevant in the Vietnamese context, where age is culturally linked to wisdom and leadership credibility. The study emphasizes the importance of striking a balance between experience and agility in CEO appointments, suggesting that boards and policymakers incorporate strategic flexibility and crisis leadership into their executive evaluation processes.

Keywords: CEO age, ROE, MVBV, COVID-19.

1. Introduction

One of the key mechanisms of corporate governance is the chief executive officer (CEO), who wields significant power and influence over the enterprise's strategy and performance. The upper echelons theory (Hambrick & Mason, 1984) posits that the demographic and psychological characteristics of the CEO, such as education, age, tenure, and experience, can significantly influence both the strategy and performance of the organization. The age of a CEO is increasingly recognized as a crucial factor influencing corporate performance, as it reflects a combination of accumulated experience, strategic maturity, and leadership style. Globally, numerous prominent CEOs have successfully led their companies at relatively mature ages. For instance, Warren Buffett, the CEO of Berkshire Hathaway, remains an influential leader well into his 80s. At the same time, Satya Nadella

✉ Corresponding author. Tel.: +84905445757.
Email address: thanhbinh@hce.edu.vn

took the helm at Microsoft at the age of 46, significantly boosting the company's market value through cloud-focused strategies. In Vietnam, similar trends can be observed. Pham Nhat Vuong, Chairman of Vingroup, and Mai Kieu Lien, the long-serving CEO of Vinamilk, have both shown sustained strategic vision and solid firm performance well into their late 50s and 60s. These examples suggest that the age of a CEO can have a positive impact on firm outcomes.

The relationship between CEO age and firm performance remains a topic of considerable debate in the empirical literature. On one hand, proponents argue that older CEOs bring a wealth of life and managerial experience, which may enhance their ability to navigate uncertainty and improve overall firm outcomes (Peni, 2014). Conversely, critics suggest that as CEOs age, they often adopt a more conservative approach to decision-making, prioritizing stability over innovation. This increased risk aversion can potentially limit the firm's growth prospects and reduce its responsiveness to dynamic market conditions (Cline & Yore, 2016; Pham, 2023). These contrasting perspectives underscore the complexity of assessing CEO age as a factor influencing corporate performance.

In Vietnam, the relationship between CEO characteristics and firm performance remains an underexplored and methodologically challenging area of research. As a rapidly growing emerging economy, Vietnam exhibits distinct structural features, including a high prevalence of family-owned, state-owned, and newly privatized enterprises, each with differing governance dynamics. Moreover, the country's legal and regulatory framework is still in development, often lacking transparency and consistent enforcement, while being heavily influenced by socio-political institutions. These limitations hinder the direct application of corporate governance models from developed economies (Al-Mamun & Seamer, 2021). Additionally, cross-cultural differences influence how investors interpret CEO attributes (Kaur & Singh, 2019). Vietnamese culture remains deeply rooted in Confucian ideology, which places strong emphasis on hierarchy and respect for elders and authority figures. Within this cultural framework, older leaders—particularly those in middle age and seniority—are often perceived as more authoritative, experienced, and trustworthy. This perception enhances their legitimacy and fosters greater confidence among investors and stakeholders. These contextual factors underscore the necessity of examining CEO attributes within Vietnam's unique institutional and cultural setting, where outcomes may diverge significantly from global patterns. In Vietnam, the relationship between CEO age and corporate performance has been explored through a variety of studies. Some findings highlight that older CEOs tend to possess extensive life experience, which equips them to navigate complex market challenges effectively (Pham, 2023; Nguyen et al., 2023). Conversely, other research suggests that age is not a decisive factor influencing firm performance (Vu et al., 2019). Notably, although international literature has extensively examined this relationship within volatile contexts such as the COVID-19 pandemic, empirical evidence from Vietnam in this regard remains limited.

This study examines non-financial companies listed on the HNX from 2013 to 2022, contributing to both the theoretical and practical understanding of corporate governance. The findings reveal a significant relationship between the age of the CEO and firm performance. Furthermore, this study addresses a gap in the existing literature by uncovering differential impacts of CEO age on firm performance across the pre- and during-COVID-19 periods, thereby offering valuable empirical insights for corporate governance in emerging markets. These results provide a

valuable foundation for policymakers and boards of directors in developing CEO selection criteria that not only align with periods of stable growth but also ensure leadership resilience and adaptability in navigating external shocks and crises.

The remainder of the paper is organized as follows: Section 2 presents the theoretical framework and the development of the hypotheses. Section 3 details the research methodology, followed by Section 4, which discusses the empirical results. Finally, Section 5 offers conclusions and policy implications.

2. Literature review and hypothesis development

2.1. Theories

The Upper Echelons Theory, formulated by Hambrick and Mason, posits that the characteristics of senior executives, particularly CEOs, have a significant impact on organizational outcomes. This theory suggests that the values, cognitive biases, and experiences accumulated throughout a CEO's life shape their strategic decisions and, consequently, the firm's performance (Hambrick & Mason, 1984). It highlights the importance of understanding CEO characteristics, such as age, in predicting firm behavior and performance (Wang et al., 2016).

Agency Theory, on the other hand, posits that a fundamental conflict of interest exists between owners (shareholders) and managers (CEOs), potentially leading to increased agency costs if not adequately addressed (Jensen & Meckling, 1976). The age of CEOs can influence their risk-taking behavior, with older executives often being more risk-averse and favoring safer options, which may hinder the company's growth.

2.2. Hypothesis development

CEO characteristics are dynamic and often change with age (Yim, 2013). Hambrick and Fukutomi (1991) argue that CEO age is often associated with variations in risk tolerance, time horizons, and career motivations. Drawing from Upper Echelons Theory, Hambrick and Mason (1984) highlighted that CEO age acts as a significant proxy for life experience, which can influence strategic decision-making. Empirical research has also examined this connection. For example, Huang et al. (2012) found that the age of the CEO affects the quality of financial reporting. Younger CEOs, having less experience and lower accumulated wealth, may display greater impatience and a stronger inclination toward short-term gains, which can lead them to adopt riskier strategies (Yim, 2013). Their limited foresight and lack of strategic depth may hinder their ability to foresee the long-term consequences of their choices (Hambrick & Fukutomi, 1991). Besides, as CEOs age, they tend to gain wisdom, adopt long-term perspectives, and better understand market trends, which can lead to improved internal performance (Peni, 2014; Dalimunthe & Sabila, 2023; Pham, 2023; Nguyen et al., 2023).

Conversely, while Hambrick and Mason (1984) observed that younger CEOs tend to drive firm growth and innovation actively, older CEOs are generally more conservative, investing less in R&D and diversification while maintaining lower operational leverage (Huang et al., 2012). Cline and Yore (2016) identified a negative correlation between CEO age and firm value, indicating that aging leaders might prioritize personal comfort over organizational advancement. Moreover, older CEOs are less likely to pursue product innovation, risk-taking, and international diversification, all of which are associated with future firm performance. Their findings suggest that reduced strategic

investment and innovation among older CEOs may contribute to a decline in long-term performance (Wang et al., 2016; Zhang, 2010; Belenzon et al., 2019; Minh Ha et al., 2021). In contrast, Vu et al. (2019) found no statistically significant relationship between CEO age and firm performance, as measured by ROA and ROE.

In the context of Vietnam, practical evidence from the VNR500 report by Vietnam Report reveals that a significant majority of CEOs are aged 45 and older. This demographic is generally considered the "prime age" for business leaders in Vietnam, as it reflects a stage of maturity characterized by accumulated knowledge, managerial expertise, strategic insight, and well-established business networks. Consequently, drawing on upper echelons theory, empirical research, and the specific characteristics of the Vietnamese market, we propose the following research hypothesis:

Hypothesis: The age of the CEO positively influences firm performance.

3. Data and methodology

3.1. Data

The study utilized a combination of manual and software-based data collection methods. Information about corporate governance and observable CEO characteristics was manually extracted from annual and management reports available on company websites, as well as financial information portals such as *cafef.vn* and *finance.vietstock.vn*. Financial data were sourced from the FinPro database. According to the State Securities Commission, as of 2022, there were 400 firms listed on the Ho Chi Minh City Stock Exchange (HOSE), 341 on the Hanoi Stock Exchange (HNX), 857 on UPCoM, and 10 ETF entities. This research focuses specifically on non-financial firms listed on HNX during the period from 2013 to 2022. After excluding financial institutions, insurance companies, and banks, as well as firms established after 2013 or those with incomplete data, the final sample consists of 203 non-financial firms, resulting in a total of 2,030 firm-year observations.

3.2. Variable measures

Dependent variable: Firm performance

This study assesses corporate performance through both accounting-based and market-based metrics. The accounting measure used is return on equity (ROE), defined as the ratio of after-tax profit to total equity, as per Saidu (2019). While ROE offers valuable insights into a firm's short-term financial performance, it does not capture the market's perception of the firm's overall value. To mitigate this limitation, the study incorporates a market-based indicator—the ratio of market value to book value of equity. Here, market value is derived from stock prices and reflects both investor sentiment and the market's evaluation of the firm's prospects (Saidu, 2019). Compared to accounting metrics, market-based measures are typically considered more reliable, as they are less vulnerable to manipulation through managerial discretion (Roy, 2016). The methodology for calculating the market-to-book value ratio follows the guidelines established by Roy (2016):

$$\text{MVBV} = \frac{\text{Number of outstanding shares} \times \text{Price}}{\text{Book value of Equity}}$$

Independent variable: CEO age

Upper Echelons Theory, as articulated by Hambrick and Mason (1984), emphasizes the role of CEO age as a key indicator of the executive's accumulated life experiences, which, in turn, influence strategic decision-making. In this study, CEO age refers to the chronological age of the CEO, following the methodology established by Yim (2013).

Control variables

To accurately estimate the impact of CEO characteristics on firm performance, it is essential to control for a set of variables known to influence corporate outcomes. These control variables include both corporate governance attributes and firm-specific characteristics. The governance-related controls comprise board size (BS) and board gender diversity (FIB), while firm-level controls encompass financial leverage (LEV) and firm size (FS). Controlling for these factors helps isolate the effect of CEO attributes on performance and enhances the robustness of the empirical analysis.

Table 1. Variable measures

| Variable | Measure | Source |
|--|---|------------------------------|
| ROE | After-Tax Return on Equity | Saidu (2019) |
| MVBV | Market-to-book ratio | Roy (2016) |
| CEO age (AGE) | Age of CEO | Yim (2013) |
| CEO duality (DUAL) | Dummy variable: 1 if the CEO is also the Chairman of the Board of Directors and 0 otherwise | Shrivastav and Kalsie (2016) |
| CEO ownership (OWN) | Percentage of shares owned by the CEO of the total outstanding shares | Saidu (2019) |
| CEO gender (GEN) | Dummy variable: 1 if the CEO is male and 0 otherwise | Faccio et al. (2016) |
| CEO tenure (TEN) | Number of years the CEO has been in the company | Simsek (2007) |
| Board size (BS) | Number of members on the board of directors | Tang et al. (2020) |
| Leverage (LEV) | Total debt to total assets | Zhou et al., (2021) |
| Firm size (FS) | Ln(total assets) | Mashayekhi and Bazaz (2008) |
| Gender diversity on the board of directors (FIB) | Dummy variable: 1 if there are women on the board of directors, and 0 otherwise | Orazalin (2020) |

3.3. Research model

To examine the linear relationship between CEO age and firm financial performance, the independent variable is specified as CEO age. In contrast, firm performance is assessed using two dimensions: accounting-based and market-based measures. The regression model is specified as follows:

$$PER_{i,t} = \beta_0 + \beta_1 CEO\ AGE_{i,t} + \sum \theta_j (Control)_{i,t} + \varepsilon_{i,t}$$

In this model, the dependent variable is PER, representing operating efficiency. The key independent variable is CEO age, serving as a proxy for executive characteristics. Control variables include board size, board gender diversity, CEO tenure, CEO gender, CEO ownership ratio, CEO duality, firm size, and financial leverage.

$$ROE_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 GEN_{it} + \beta_3 TEN_{it} + \beta_4 DUAL_{it} + \beta_5 BS_{it} + \beta_6 OWN_{it} + \beta_7 FS_{it} + \beta_8 LEV_{it} + \beta_9 FIB_{it} + \varepsilon_{it} \quad (1)$$

$$MVBV_{it} = \beta_0 + \beta_1 AGE_{it} + \beta_2 GEN_{it} + \beta_3 TEN_{it} + \beta_4 DUAL_{it} + \beta_5 BS_{it} + \beta_6 OWN_{it} + \beta_7 FS_{it} + \beta_8 LEV_{it} + \beta_9 FIB_{it} + \varepsilon_{it} \quad (2)$$

3.4. Research approach

Initially, the research data was reviewed to assess its reasonableness and to eliminate the influence of outliers. Variables exhibiting significant outliers, such as MVBV and ROE, displayed high skewness and kurtosis coefficients, which could introduce bias into the analysis. Consequently, the Winsor technique was utilized to adjust for outliers at the 5%-95% threshold. After this adjustment, the data were found to be reliable for use in regression models. The study tested its hypotheses through panel data multivariate regression. For each dependent variable (ROE and MVBV), the baseline regression model (OLS) was estimated, incorporating control variables. To mitigate the endogeneity problem arising from unobserved factors, as noted by Himmelberg et al. (1999), the study employed regression models with both fixed effects and random effects. The appropriate model was determined using the Hausman test and the F test.

To ensure the reliability of the model, common issues in panel data, including multicollinearity, heteroscedasticity, and autocorrelation, were examined. The Likelihood Ratio (LR) test was employed to identify heteroscedasticity, while serial autocorrelation was assessed using the Wooldridge test. Multicollinearity was detected through the Variance Inflation Factor (VIF) coefficient. In cases where heteroscedasticity or autocorrelation was present, the Feasible Generalized Least Squares (FGLS) model was implemented.

4. Empirical results

4.1. Descriptive statistics

Descriptive statistics in Table 2 for the sample of 2,030 firm-year observations reveal several key characteristics. The average ROE is approximately 10.63%, with a standard deviation of 8.53%, indicating notable variation in profitability across firms. The MVBV has a mean of 0.79 and ranges from 0.24 to 2.74, suggesting differences in how the market values firms relative to their book equity. The average age of a CEO is 48.8 years, ranging from 24 to 73, reflecting a broad distribution of leadership maturity. The average CEO tenure is 5.14 years, with a maximum of 24 years, indicating varying levels of organizational experience among CEOs. Approximately 16.95% of firms exhibit CEO duality, where the CEO also serves as board chair. Male CEOs dominate the sample, accounting for 95.7%, and the average CEO ownership ratio is relatively low at 3.58%. The average board size is 5.19 members, with a minimum of 3 and a maximum of 9. Firms exhibit an average leverage ratio of 48.95%, while the mean firm size is 26.46. Nearly half of the firms (49.3%) have at least one female member on the board.

Table 2. Descriptive statistics

| Variable | N | Mean | Std. dev. | Min | Max |
|----------|-------|--------|-----------|--------|--------|
| ROE | 2,030 | 0.106 | 0.085 | -0.010 | 0.305 |
| MVBV | 2,030 | 0.793 | 0.609 | 0.239 | 2.740 |
| AGE | 2,024 | 48.833 | 8.398 | 24 | 73 |
| TEN | 2,030 | 5.137 | 5.047 | 0 | 24 |
| DUAL | 2,030 | 0.169 | 0.375 | 0 | 1 |
| GEN | 2,030 | 0.957 | 0.203 | 0 | 1 |
| OWN | 2,025 | 0.036 | 0.071 | 0 | 0.506 |
| BS | 2,030 | 5.189 | 0.925 | 3 | 9 |
| FS | 2,030 | 26.457 | 1.379 | 23.330 | 30.915 |
| LEV | 2,030 | 0.490 | 0.236 | 0.007 | 1.376 |
| FIB | 2,030 | 0.493 | 0.500 | 0 | 1 |

All other pairwise correlations in Table 3 are below 0.6, and most are below 0.3, indicating that multicollinearity is unlikely to bias the regression estimates. Therefore, the model satisfies the assumption of low intercorrelation among explanatory variables (Tabachnick et al., 2001).

Table 3. Variable correlation matrix

| Variable | ROE | MVBV | AGE | TEN | DUAL | GEN | OWN | BS | FS | LEV | FIB |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| ROE | 1 | | | | | | | | | | |
| MVBV | 0.25 | 1 | | | | | | | | | |
| AGE | 0.25 | 0.05 | 1 | | | | | | | | |
| TEN | 0.06 | -0.03 | 0.43 | 1 | | | | | | | |
| DUAL | 0.07 | -0.10 | 0.20 | 0.33 | 1 | | | | | | |
| GEN | -0.04 | -0.17 | -0.04 | 0.02 | 0.02 | 1 | | | | | |
| OWN | -0.02 | -0.05 | 0.16 | 0.29 | 0.30 | 0.01 | 1 | | | | |
| BS | 0.11 | 0.07 | 0.06 | 0.02 | 0.00 | 0.08 | -0.04 | 1 | | | |
| FS | 0.00 | -0.05 | -0.16 | -0.14 | -0.13 | 0.03 | -0.10 | 0.15 | 1 | | |
| LEV | -0.09 | -0.16 | -0.15 | 0.00 | -0.05 | 0.09 | 0.02 | -0.01 | 0.52 | 1 | |
| FIB | 0.09 | 0.13 | -0.01 | -0.03 | -0.05 | -0.19 | 0.06 | 0.14 | -0.12 | -0.21 | 1 |

To ensure the absence of multicollinearity, we conducted the variance inflation factor (VIF) test for all explanatory variables. The VIF values fell within the acceptable threshold of less than 5, suggesting that multicollinearity does not pose a concern in this model (Gujarati, 2002).

4.2. Regression model results

The study initially employs OLS regression, using two dependent variables—ROE and MVBV—to measure firm performance, with CEO age serving as the key independent variable that represents CEO characteristics. However, given the panel nature of the data, both fixed effects (FEM) and random effects models (REM) are considered to account for unobserved heterogeneity across firms over time. Model selection tests indicate that the REM is the more appropriate specification. Additionally, the Wooldridge test confirms the presence of first-order autocorrelation in both ROE and MVBV models (p -value < 0.05), while the Wald test reveals group-wise heteroscedasticity (p -value = 0.000). To address these issues, the Feasible Generalized Least Squares (FGLS) estimator is employed to obtain efficient and unbiased estimates.

The regression analysis in Table 4 reveals that CEO age has a statistically significant and positive impact on both accounting-based and market-based measures of firm performance. Specifically, the coefficient for CEO age is 0.002 ($p < 0.01$) in the Return on Equity (ROE) model and 0.003 ($p < 0.05$) in the Market-to-Book Value (MVBV) model. This indicates that companies led by older CEOs are likely to exhibit stronger performance. This finding is consistent with the research of other authors (Peni, 2014; Dalimunthe & Sabila, 2023; Pham, 2023; Nguyen et al., 2023), who argue that increased age—often linked with greater managerial experience, strategic maturity, and familiarity with the organization—can enhance internal profitability and market valuation. This insight is particularly significant within the Vietnamese context, where cultural values highly regard seniority, associating greater age with accumulated life experience and improved problem-solving abilities.

Table 4. FGLS model regression results

| | ROE | MVBV |
|------|----------------------|--------------------|
| AGE | 0.002*** (0.000) | 0.003** (0.047) |
| TEN | -0.001*** (0.002) | -0.000 (0.895) |
| DUAL | 0.011*** (0.003) | -0.081*** 0.000 |
| GEN | -0.001 (0.856) | -0.098* (0.096) |
| OWN | -0.050** (0.019) | -0.09 (0.519) |
| BS | 0.004*** (0.008) | 0.011 (0.294) |
| FS | 0.007*** (0.000) | 0.015 (0.192) |

| | | |
|-------|----------------------|----------------------|
| LEV | -0.040*** (0.000) | -0.238*** (0.000) |
| FIB | 0.006** (0.042) | 0.038** (0.040) |
| _cons | -0.170*** (0.000) | 0.233 (0.452) |
| N | 2020 | 2020 |

T-statistics (, **, ***) indicate statistical significance at the 1%, 5%, and 10% levels, respectively*

4.3. COVID-19 Pandemic

This study examines the influence of CEO age on firm performance under both standard economic conditions and during periods of external disruption. Specifically, we investigate the impact of the COVID-19 pandemic, which began affecting Vietnam in January 2020 and continued until the country successfully controlled the virus in 2022, resulting in significant economic and social upheaval. To explore the potential variations in CEO effectiveness across different contexts, the dataset is segmented into two distinct periods: the pre-pandemic phase (2013–2019), representing normal operations, and the pandemic phase (2020–2022), marked by increased uncertainty and demands for crisis management. The FGLS regression results for each period, detailed in Table 5, reveal notable differences in how CEO characteristics—particularly age—affect financial performance in both stable and crisis environments.

The regression results indicate that CEO age has a consistently positive and statistically significant impact on firm performance, as measured by return on equity (ROE), both before and during the COVID-19 pandemic. Specifically, the coefficient of CEO age on ROE stands at 0.002 ($p < 0.01$) in both sub-periods, indicating that older CEOs contribute positively to accounting-based performance, regardless of the economic context. In contrast, the impact on market-based performance (MVBV) varies between the two periods. Before the pandemic, CEO age exhibited a significant positive effect on MVBV (coefficient = 0.003, $p < 0.01$); however, this relationship became statistically insignificant during the pandemic ($p = 0.828$).

This disparity may reflect a shift in investor perceptions during times of crisis. In stable environments, older CEOs—often perceived as more experienced and prudent—tend to inspire greater market confidence. However, during times of high uncertainty, such as the COVID-19 pandemic, investors may prioritize traits such as adaptability, innovation, and rapid response capabilities, which are not inherently associated with age. Consequently, while internal performance continues to benefit from the experience of older CEOs, external market valuations appear more cautious, possibly favoring agility over tenure during times of crisis.

These findings underscore the nuanced role of CEO age in influencing firm outcomes, suggesting that its effects are context-dependent, particularly when comparing stable and turbulent economic periods.

Table 5. The impact of CEO age on performance in the context of COVID-19

| | IN COVID-19 | | BEFORE COVID-19 | |
|-------|----------------------|----------------------|----------------------|----------------------|
| | ROE | MVBV | ROE | MVBV |
| AGE | 0.002*** (0.000) | 0.000 (0.828) | 0.002*** (0.000) | 0.003*** (0.008) |
| TEN | -0.000 (0.236) | -0.005 (0.139) | -0.001*** (0.001) | -0.002 (0.264) |
| DUAL | | | 0.006 (0.157) | -0.041** (0.027) |
| GEN | 0.004 (0.573) | -0.173 (0.108) | -0.005 (0.537) | -0.143** (0.039) |
| OWN | -0.014 (0.558) | -0.245 (0.234) | -0.067** (0.014) | -0.061 (0.636) |
| BS | 0.005*** (0.000) | 0.070*** (0.000) | 0.005*** (0.002) | 0.009 (0.331) |
| FS | 0.007*** 0.000 | -0.036** (0.012) | 0.005*** (0.008) | -0.006 (0.556) |
| LEV | -0.055*** (0.000) | -0.265*** (0.001) | -0.028*** (0.008) | -0.164*** (0.002) |
| FIB | 0.010*** (0.002) | 0.114*** 0.000 | 0.008** (0.031) | 0.004 (0.796) |
| _cons | -0.207*** (0.000) | 1.792*** (0.000) | -0.135*** (0.007) | 0.705*** (0.009) |
| N | 609 | 609 | 1411 | 1411 |

T-statistics (, **, ***) indicate statistical significance at the 1%, 5%, and 10% levels, respectively*

5. Conclusion

This study examines the impact of CEO characteristics on the performance of non-financial publicly listed companies on the HNX from 2013 to 2022, with a particular focus on comparing the pre-pandemic and COVID-19 periods. The findings reveal that CEO age has a positive correlation with both accounting-based and market-based performance under normal circumstances. However, during the crisis period, its impact on market valuation becomes statistically insignificant. This change highlights the gap between market expectations and internal governance capabilities, emphasizing the need for adaptability, strategic agility, and effective crisis management in navigating uncertain environments.

The study's findings indicate that CEO age has a positive impact on internal performance during both stable and crisis periods, highlighting the importance of experience and strategic maturity. This is particularly relevant in Vietnam, where age is culturally linked to wisdom and credibility in leadership roles. However, the observed diminished impact of CEO age on market-based performance during the COVID-19 pandemic suggests that investor expectations shift in times of crisis, prioritizing adaptability and responsiveness over seniority. This highlights the need for companies to strike a balance between experience and flexibility in their CEO selections. Therefore, boards should consider both operational competence and crisis leadership abilities when appointing CEOs. Additionally, policymakers may encourage firms to incorporate adaptability and innovative capacity into their executive evaluation and succession planning, especially in increasingly uncertain environments.

Despite these advancements, some limitations persist. While the FGLS model effectively addresses issues of heteroscedasticity and autocorrelation, it does not adequately account for potential endogeneity, which could compromise the reliability of the findings. Additionally, this study focuses solely on a single individual characteristic—CEO age—while other attributes such as educational attainment, international experience, and gender may also significantly influence corporate strategy and performance, particularly in times of crisis. Therefore, future research should extend the analysis to include a broader range of CEO traits, offering a more comprehensive and nuanced understanding of leadership's impact on firm performance, especially within the context of emerging markets like Vietnam.

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