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THE IMPACT OF CEO POWER ON STOCK PRICE CRASH RISK IN FAMILY BUSINESSES: EVIDENCE FROM INDONESIA

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ABSTRACT

This study analyzes the effect of Chief Executive Officer (CEO) power and non-family CEO status on stock price crash risk in family-owned firms in Indonesia. The study is motivated by agency theory, which emphasizes potential conflicts arising from concentrated managerial power that may harm shareholder interests and capital market stability. A quantitative approach is employed using panel data from 75 family firms listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period, resulting in 226 firm-year observations. Panel data regression analysis is conducted using STATA to examine the effects of non-family CEO status, CEO power, and their interaction on stock price crash risk. The results show that the presence of a non-family CEO has a negative and significant effect on stock price crash risk, indicating that professional management can reduce information asymmetry. CEO power, when analyzed independently, also exhibits a significant negative effect on crash risk. However, the interaction between non-family CEO status and high CEO power significantly increases stock price crash risk, suggesting opportunistic behavior under weak governance structures. This study concludes that professional leadership must be accompanied by strong corporate governance mechanisms to mitigate financial risk in family-owned firms. The findings provide implications for investors and policymakers.

Keywords: CEO Power, Family Firms, Non-Family CEO, Stock Price Crash Risk

ABSTRAK

Penelitian ini menganalisis pengaruh kekuatan Chief Executive Officer (CEO) dan status CEO non-keluarga terhadap risiko kejatuhan harga saham pada perusahaan keluarga di Indonesia. Penelitian ini didasarkan pada teori keagenan yang menekankan adanya potensi konflik akibat konsentrasi kekuasaan manajerial yang dapat merugikan kepentingan pemegang saham dan mengganggu stabilitas pasar modal. Pendekatan kuantitatif digunakan dengan memanfaatkan data panel dari 75 perusahaan keluarga yang terdaftar di Bursa Efek Indonesia (BEI) selama periode 2019–2023, sehingga diperoleh 226 observasi perusahaan-tahun. Analisis regresi data panel dilakukan menggunakan STATA untuk menguji pengaruh status CEO non-keluarga, kekuatan CEO, serta interaksi keduanya terhadap risiko kejatuhan harga saham.Hasil penelitian menunjukkan bahwa keberadaan CEO non-keluarga berpengaruh negatif dan signifikan terhadap risiko kejatuhan harga saham, yang mengindikasikan bahwa manajemen profesional mampu mengurangi asimetri informasi. Kekuatan CEO yang dianalisis secara terpisah juga menunjukkan pengaruh negatif dan signifikan terhadap risiko tersebut. Namun, interaksi antara status CEO non-keluarga dan tingkat kekuatan CEO yang tinggi secara signifikan meningkatkan risiko kejatuhan harga saham, yang mencerminkan perilaku oportunistik dalam kondisi tata kelola perusahaan yang lemah. Penelitian ini menyimpulkan bahwa kepemimpinan profesional harus diimbangi dengan mekanisme tata kelola perusahaan yang kuat untuk memitigasi risiko keuangan pada perusahaan keluarga. Temuan ini memberikan implikasi bagi investor dan pembuat kebijakan.

Kata Kunci: *CEO Non-Keluarga, Kekuasaan CEO, Perusahaan Keluarga, Risiko Penurunan Harga Saham*

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A. INTRODUCTION

The Chief Executive Officer (CEO) is the highest-ranking executive in a company's organizational structure and bears primary responsibility for strategic decision-making, resource allocation, and oversight of overall

corporate operations (Hasnan et al., 2023). Moreover, the CEO acts as the main liaison between the board of directors and daily managerial activities, positioning this role as a critical determinant of corporate direction and long-term success. In family-owned firms, the CEO's role becomes more complex due to the close interaction between ownership concentration, managerial control, and family ties. One defining characteristic of family firms is concentrated ownership, which may intensify agency conflicts, particularly when the CEO does not originate from the controlling family (Michiels, 2017), Prior studies have extensively examined the implications of appointing non-family CEOs at the corporate level, including their effects on management practices (Skorodziyevskiy, Chandler, Chrisman, Daspit, & Petrenko, 2024). However, empirical evidence on how non-family CEOs influence market-based risks especially stock price crash risk remains limited, particularly in developing economies such as Indonesia.

Tang (2022), argues that the impact of family ownership on firm performance is not always direct, as firm value is also shaped by capital market structures. In family firms, non-family CEOs tend to derive power from structural and professional attributes such as tenure, share ownership, and reputation. When effective governance and monitoring mechanisms are weak, this concentration of power may exacerbate agency conflicts. According to agency theory, conflicts arise due to divergent interests between principals (owners) and agents (managers), as well as information asymmetry between these parties (Jensen & Meckling, 2019). Under such conditions, CEOs may engage in opportunistic behavior, including delaying the disclosure of unfavorable information to protect personal reputation or stabilize stock prices (Haghighi & Safari Gerayli, 2020). Compared to family-member CEOs, non-family CEOs in family firms generally possess lower informal power rooted in family authority. Consequently, their influence on strategic decision-making relies more heavily on formal or structural power, particularly tenure Tang and Fiorentina (2021), onger CEO tenure is positively associated with increased power and potential entrenchment, which may elevate earnings management practices and financial risk exposure (Bauer, Fang, & Pittman, 2021), This condition highlights the importance of constraining excessive CEO power to reduce agency conflicts and safeguard firm value.

Agency conflicts have been shown to increase the likelihood of extreme negative stock price movements, commonly referred to as stock price crash risk. This risk reflects negative skewness in stock return distributions, indicating the possibility of abrupt and substantial price declines within a short period (Hasan, Taylor, & Richardson, 2022; Kao, Huang, Fung, & Liu, 2020). uch events not only harm investors but also threaten capital market stability and weaken perceptions of corporate governance quality. In family firms, stock price crash risk is particularly consequential because family wealth and reputation are closely tied to firm performance (Y. Sun, Liu, & Chen, 2023). As a result, family owners tend to adopt more cautious governance policies to prevent value-destroying outcomes (Jiang, Cai, Nofsinger, & Zheng, 2020). Given these considerations, it is essential to examine whether the presence of non-family CEOs functions as an effective governance mechanism in mitigating stock price crash risk and agency conflicts in family firms. Accordingly, this study aims to analyze the effect of CEO power and non-family CEO status on stock price crash risk in Indonesian family-owned companies. Indonesia provides a relevant empirical setting due to its distinctive corporate governance environment and the limited empirical evidence from developing markets.

This study employs panel data from family firms listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. Non-family CEO status is measured using a dummy variable reflecting kinship ties between the CEO and controlling family owners. Stock price crash risk is proxied by the down-to-up volatility (DUVOL) measure, where higher values indicate greater exposure to extreme price declines Tran, Nguyen, Nguyen, and Duong (2023), through this approach, the study seeks to contribute to agency theory and corporate governance literature, particularly in the context of family firms in emerging economies.

B. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The present study is predicated on agency theory, which posits that a misalignment of interests between owners (principals) and managers (agents) can engender conflicts that have a deleterious effect on the stability of the company. In instances where the Chief Executive Officer (CEO) possesses a more extensive array of information compared to the proprietors, there exists a potential for the withholding of unfavorable information with the objective of safeguarding personal interests, including one's reputation and the incentives received (Haghighi & Safari Gerayli, 2020; Jensen & Meckling, 2019).In the context of family enterprises, this phenomenon is particularly salient, as kinship ties within the organizational structure can result in suboptimal oversight of the CEO.

Conversely, the Upper Echelon theory, pioneered by Hambrick and Mason in 1984, posits that the attributes of top managers, such as experience, background, and power, influence corporate strategic decision-making. In family organizations, this aspect assumes even greater importance when the CEO position is occupied by an external party, that is, an individual who is not a member of the owner family. Non-family CEOs are frequently regarded as exhibiting greater professionalism and neutrality in their decision-making processes. This is due to the absence of emotional attachment and direct ownership of the company by the CEO, which are characteristics associated with family ownership. A multitude of studies have demonstrated that the presence of a non-family Chief Executive Officer (CEO) can engender enhanced efficiency and innovation within the realm of company management (W. Sun, Bai, & Fan, 2024; Waldkirch, 2020).

However, the effectiveness of non-family CEOs has not been universally accepted Yopie and Itan (2016) It has been observed that companies under the leadership of Chief Executive Officers who do not hail from the company's founding family often exhibit substandard performance. This phenomenon may be attributed to a deficiency in comprehension of the company's internal values and principles, which are crucial for effective leadership and decision-making. However, there are several other studies that provide evidence to the contrary, including Calabrò et al. (2019) dan D. Xu, Chen, and Wu (2019) It has been posited that the trend of appointing non-family Chief Executive Officers (CEOs) is on the rise. This is primarily due to the perception that such individuals possess the necessary skills to bring an objective and professional approach to management.

In addition to the status of Chief Executive Officer, the power wielded by a leader is also a significant factor in explaining a company's behavior and strategic decisions. This authority can be obtained through share ownership, a protracted tenure, or a dual position as both chief executive and commissioner. As posited by Zavertiaeva and Ershova (2025), Chief Executive Officers (CEOs) who possess a high degree of authority may find themselves in a position to augment conflicts of interest, a phenomenon attributable to the fact that such individuals are able to operate with greater autonomy, unencumbered by the constraints of rigorous oversight. In certain instances, this phenomenon can facilitate the manipulation of the compensation system or the delay in the disclosure of crucial information (Brahmana, You, & Yong, 2021; Kao et al., 2020).

A potential consequence of an imbalance of managerial power and agency conflict is an elevated risk of a precipitous decline in stock prices or the probability of a stock price crash. This risk pertains to a precipitous decline in stock prices resulting from the accumulation of unfavorable information that remains undisclosed (Cui, Sun, Sensoy, Wang, & Wang, 2022; Kalia, 2024). Researchers generally employ the DUVOL and NCSKEW indicators to gauge this risk, as they delineate the negative skewness and asymmetric volatility of stock returns (Shahab, Ntim, Ullah, Yugang, & Ye, 2020; Tran et al., 2023). A multitude of additional factors have been identified as potential catalysts for this risk, including a paucity of transparency in financial reporting, pressure from analysts or the media, and inadequate corporate governance systems (Ali, Wilson, & Husnain, 2022; Zhou, Li, Yan, & Lyu, 2021).

Conversely, due to their absence of personal connections to the company, these individuals may be predisposed to engage in high-risk behaviors or prioritize immediate outcomes (Kelleci, Lambrechts, Voordeckers, & Huybrechts, 2019; W. Sun et al., 2024). Consequently, the impact of non-family CEOs on market risk is not invariably one-sided and necessitates further examination (Itan, Ahmad, Setiana, & Karjantoro, 2024). A further critical element pertains to the manner in which CEO power interacts with non-family status, thereby influencing stock price decline risk.

A non-family CEO with significant power may be able to strengthen managerial effectiveness and information control more comprehensively (W. Sun et al., 2024; J. Xu & Zou, 2019). Nevertheless, in the absence of robust oversight, this authority may be subject to exploitation through opportunistic means, thereby amplifying potential market risks (Al Mamun, Balachandran, & Duong, 2020). Therefore, it is imperative to comprehend how these two factors—non-family status and power—interact reciprocally within the paradigm of corporate governance.

A review of extant literature reveals a dearth of research addressing the moderating role of CEO power on the relationship between non-family status and stock price decline risk. The majority of extant studies have exclusively emphasized the CEO aspect in isolation, neglecting to integrate the concepts of power and ownership structure within a unified analytical framework. This study aims to address this gap, particularly in the context of developing countries such as Indonesia, where family corporate governance still faces significant challenges in achieving professionalism and transparency. A CEO with significant authority (CEO power) has the capacity to manage the financial reporting process and adopt accounting procedures that are consistent with personal

interests. According to Firmansyah, Karyadi, and Setyaningtyas (2020) management has the flexibility or discretion to enhance corporate earnings for many reasons, such as maintaining their position or obtaining certain rewards. This condition suggests that the more authority a CEO has, the greater the possibility of manipulating earnings information, thereby increasing the likelihood of a stock price fall.

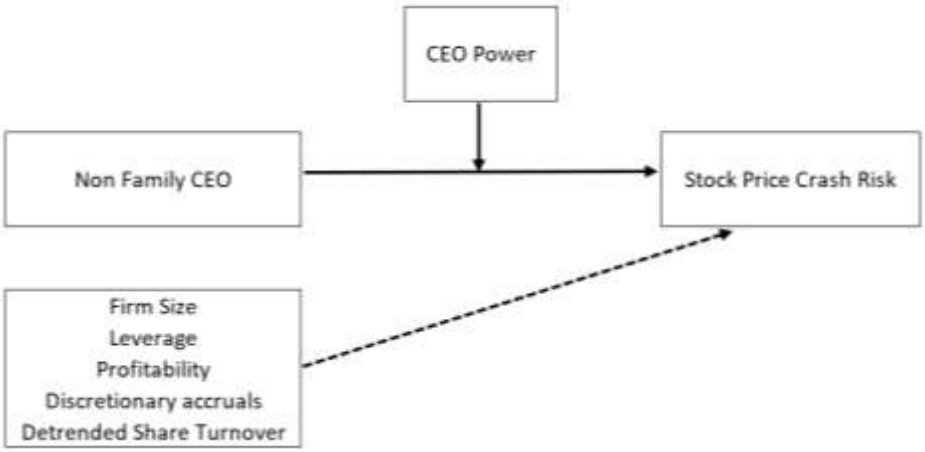

Figure 1. Conceptual Framework

This study is grounded in agency theory and upper echelon theory to explain how Chief Executive Officer (CEO) characteristics influence stock price crash risk in family firms. Agency theory posits that information asymmetry and misaligned interests between owners and managers may motivate CEOs to withhold unfavorable information for personal benefit, thereby increasing market risk, particularly in family firms where monitoring mechanisms may be weakened by kinship ties. Upper echelon theory emphasizes that the attributes of top executives, including professional background and level of power, play a crucial role in shaping strategic decisions and organizational outcomes. Within this framework, non-family CEOs are often perceived as more professional and objective; however, empirical evidence regarding their effectiveness remains mixed. While some studies associate non-family CEOs with improvements in efficiency and innovation, others suggest potential performance deterioration due to limited understanding of family-specific values and governance practices. Furthermore, CEO power derived from tenure, ownership, or dominant structural positions can significantly influence managerial behavior. When not balanced by strong governance mechanisms, excessive CEO power may intensify agency conflicts, facilitate information manipulation, and ultimately increase stock price crash risk. Therefore, the interaction between non-family CEO status and CEO power becomes a critical factor in explaining variations in stock price crash risk in family firms. This study seeks to address the existing research gap by examining how CEO power moderates the relationship between non-family CEO status and stock price crash risk, particularly in the context of family-owned firms in developing countries such as Indonesia.

Non Family CEO

As indicated by Waldkirch (2020), family members who possess ownership of the company are capable of assuming a variety of roles and attaining disparate levels within the organizational structure. By virtue of their proprietorship, these individuals are able to exercise supervision and control over non-family Chief Executive Officers. Non-family CEOs are expected to lead the company, protect family assets, and serve as mentors for the next generation (Waldkirch, 2020). As Yopie and Itan (2016) note, mounting pressure from shareholders to achieve financial performance, coupled with the growing influence of "shareholder logic" on family businesses in the stock market, has led to an increase in the prevalence of non-family Chief Executive Officers (CEOs) in listed family companies (Waldkirch, 2020; D. Xu et al., 2019). Recent reports indicate a growing trend among family businesses to adopt a more inclusive hiring approach, including the appointment of non-family CEOs while retaining ownership. This shift represents a departure from the historical focus on familial succession within the context of family businesses (Calabrò et al., 2019). It has been demonstrated in prior studies that the performance of companies led by family Chief Executive Officers (CEOs) differs from the performance of companies led by non-family CEOs (Itan et al., 2024).

CEO Power

In the study "CEO Power," Zavertiaeva and Ershova (2025) investigated the influence of CEO power on corporate behavior, performance, and market valuation. The study found that CEO power has a negative relationship with company operational performance and market valuation. This finding suggests that CEOs with greater power tend to engender more agency problems. Liu and Sickles (2021) study revealed a correlation between the choice of relative performance evaluation and the level of influence wielded by Chief Executive Officers. The findings indicated that CEOs with greater influence were more inclined to opt for relative performance evaluation. According to the findings of Brahmana et al. (2021) prominent Chief Executive Officers (CEOs) demonstrate substandard performance in comparison to their counterparts when confronted with a business environment characterized by heightened risk and instability. CEOs who wield power, such as those appointed by individuals as CEOs or by other pangkats in a company, can establish authority and strengthen private interests (Yulianti, Sari, Santoso, Ekdjaja, & Rorlen, 2024). Kao et al. (2020) discovered that prominent Chief Executive Officers (CEOs) exert influence over the board to modify the weighting of performance metrics, thereby favoring higher-performing metrics. This modification will have implications for incentive compensation.

Stock Price Crash Risk

According to extant research, future stock price crashes can be caused by several company-specific determinants of stock price crash risk built on the agency perspective of bad news hoarding Kalia (2024) concerns about their careers Baginski, Campbell, Hinson, and Koo (2018), and ineffective governance (Haghighi & Safari Gerayli, 2020). According to Cui et al. (2022), companies with less transparent financial reporting are more likely to experience a crash from a behavioral and company characteristics perspective.

A multitude of studies have been conducted to examine the impact of institutional-level characteristics and other pertinent factors on the probability of a decline in stock value. For instance, as posited by (Wu, Fu, & Kong, 2022). Local religiosity has been demonstrated to have a mitigating effect on the probability of corporate decline. As indicated by the findings of Cao, Xia, and Chan (2016) and Zaman, Atawnah, Haseeb, Nadeem, and Irfan (2021). the risk of decline can be mitigated by the presence of social trust. According to the findings of (Zhou et al., 2021). the probability of business failure is positively correlated with the level of media attention received by the enterprise. According to the findings of Ali et al. (2022). an increase in analyst coverage has been shown to be associated with an elevated risk of system crashes. Empirical evidence on the impact of crash risk is scarce, with the exception of the aforementioned studies on factors influencing stock price crash risk (Harper, Johnson, & Sun, 2020). According to the findings of Z. An, Li, and Yu (2015), a negative correlation exists between crash risk and the speed of future leverage adjustment. This suggests that companies modify their financial leverage in order to achieve their objectives in the aftermath of a crash risk event.

The Relationship Between Non-Family Ceos And Falling Stock Prices

The present study explores the relationship between non-family chief executive officers (CEOs) and stock price declines. CEOs are entrusted with the responsibility of propelling the company forward through the judicious implementation of strategic decisions (W. Sun, Huang, & Su, 2023). Non-family CEOs are expected to fulfill several key roles. These roles include the management of the business, the protection of the family's capital, and, in some cases, the mentorship of the next generation (Kelleci et al., 2019). Non-family Chief Executive Officers (CEOs) assume a variety of roles within the company. Preliminary studies have indicated that companies under the leadership of non-family Chief Executive Officers (CEOs) demonstrate substandard performance in comparison to those guided by family CEOs. Calabrò et al. (2019). However, this assertion is internally inconsistent, as certain companies under the leadership of non-family Chief Executive Officers have demonstrated a capacity for enhanced innovation and progress (W. Sun et al., 2023). Information disclosure planning plays an important role in the bankruptcy risk of companies managed by family CEOs (H. An & Niu, 2024).

H1: Family-owned companies managed by non-family CEOs have a significant negative impact on stock price declines.

The Relationship Between Non-Family Chief Executive Officers (Ceos) And Stock Price Declines Is Moderated By CEO Power

Non-family CEOs are expected to run the business, protect family capital, and sometimes act as mentors for the next generation (Tabor, Chrisman, Madison, & Vardaman, 2018). Waldkirch (2020) argues that taking on

reciprocal roles is crucial for non-family CEOs to develop cultural competence. Through socialization, non-family CEOs develop the ability to see situations from the perspective of family owners. Based on incentive theory, companies tend to give more authority and power to CEOs in decision-making, thereby motivating CEOs to take care of the company and triggering CEO creativity and motivation (K. Sun, 2022).

When power increases, CEOs will have greater control and influence over other leaders (Kao et al., 2020). When CEOs have greater power, they have greater control and influence over company operations and transparency of information related to the risk of falling stock prices (W. Sun et al., 2024). To test the moderating effect of CEO power, CEO duality and salary are used to measure the structural power of CEOs. A high CEO salary indicates the CEO's power (J. Xu & Zou, 2019). However, power has several dimensions, including structural power, ownership power, prestige power, and expert power. Previous studies have not fully explored the role of CEO power in other dimensions (W. Sun et al., 2024). If CEOs are motivated by corporate motives, such as personal gain, then the power they wield will facilitate CEOs to counter bad news (Al Mamun et al., 2020).

H2: CEO power strengthens the influence of non-family CEOs on the risk of future stock price declines.

C. RESEARCH METHODOLOGY

The criteria used in sample selection include: (1) companies classified as family businesses, determined based on majority ownership by individuals or family groups, as well as active family involvement in company management; (2) companies that were consistently listed on the Indonesia Stock Exchange during the observation period, namely from 2019 to 2023; (3) companies that have complete annual reports and financial statements during that period; and (4) companies that provide information related to the identity of the CEO and share ownership structure, which allows for the identification of the CEO's status (family or non-family) and the measurement of the CEO's level of power. All data collected was then processed and analyzed using STATA statistical software to perform panel data regression tests and classical assumption tests required in this study.

Variable Measurement

Dependent Variable

The dependent variable in this study is Stock Price Crash Risk. To measure stock price crash risk, we refer to previous studies (Haseeb, Mahdzan, & Wan Ahmad, 2023; Kalia, 2024; Shahab et al., 2020; Tran et al., 2023) (Haseeb et al., 2023; Kalia, 2024; Oanh et al., 2023; Shahab et al., 2020; W. Sun et al., 2024)The first is the weekly return for each company during the fiscal year, which has a negative skewness coefficient (NCSKEW). DUVOL, the second metric, is the log of the ratio of the standard deviation of company-specific daily returns for the “down day” sample to the standard deviation of company-specific daily returns for the “up day” sample for the fiscal year. High values for NCSKEW and DUVOL indicate a high probability of a crash.

Independent Variable

The independent variable in this study is Non-Family CEO. Using a dummy variable for the independent variable, a non-family CEO is defined as a CEO who is not a member of the owner's family; if the CEO has no blood or marital relationship with the owner's family, the value is 1, and if not, the value is 0.

Moderating Variable

The moderating variable in this study is CEO Power (CEOP). To measure CEO Power, we refer to the research W. Sun et al. (2024) and Zavertiaeva and Ershova (2025) using ownership power, where the CEO's share percentage is the CEO's share percentage; Board Share Percentage: the total number of shares in the company owned by the four board members who own the most shares.

Control Variable

The control variable used is the natural logarithm of total assets to calculate company size (SIZE). It takes into account company leverage (LEV), which is calculated by dividing total liabilities by total assets. The calculation of return on assets (ROA) involves dividing net income by total assets (W. Sun et al., 2024).

Table 1. Variable Definitions

Variable Type	Variable	Definition
Dependent	Stock Price Crash Risk	Significant stock price declines are measured using negative skewness (NCSKEW) and down-to-up volatility (DUVOL). Higher values indicate greater vulnerability. This study uses DUVOL measurements (Tran et al., 2023).
Independent	Non Family CEO	Dummy: 1 if the CEO has no blood/marital relationship with the

		owner's family, 0 if otherwise (W. Sun et al., 2024).
Moderating	CEO Power	Measured using ownership strength Zavertiaeva and Ershova (2025), namely the CEO's share percentage + the board of directors' share percentage.
Control	Firm Size	Natural logarithm of total assets (W. Sun et al., 2024).
Control	Tangible Fixed Assets	Total Asset.
Control	Leverage	Total liabilities ÷ total Asset.
Control	ROA	Net income ÷ total assets.
Control	Discretionary Accrual	Total accruals ÷ total assets in the previous year, involving changes in revenue, accounts receivable, PPE, ROA ratio, and error term (Aldahray, 2024).
Control	Detrended Share Turnover	Average monthly stock turnover in year t minus average monthly stock turnover in year t-1 (W. Sun et al., 2024).

Model Specifications

$$\mathbf{CrashRisk_{it} = \beta_0 + \beta_1 NonFamilyCEO_{it} + \beta_2 CEOPower_{it} + \beta_3 (NonFamilyCEO_{it} \times CEOPower_{it}) + \beta_4 FirmSize_{it} + \beta_5 Leverage_{it} + \beta_6 Profitability_{it} + \beta_7 DiscretionaryAccruals_{it} + \beta_8 DetrendedTurnover_{it} + \varepsilon_{it}}$$

Sample Selection

The company that was acquired	= 900 Companies
Companies that do not meet the criteria (incomplete reports)	= (825 Companies)
Remaining Companies	= 75 Companies
Total data (x5 years)	= 75 data
Data that does not meet the criteria includes incomplete annual reports	= 149 data
Total Data Used	= 226 data

This study employs panel data regression analysis to examine the relationship between non-family CEO status, CEO power, and stock price crash risk. The estimation procedure is conducted through several stages. First, descriptive statistics are presented to provide an overview of the distribution and characteristics of the variables. Second, correlation analysis is performed to identify potential multicollinearity issues among independent variables.Third, the appropriate panel data estimation model is determined. The Chow test is conducted to choose between the pooled ordinary least squares (OLS) model and the fixed effects model (FEM). Subsequently, the Hausman test is applied to select between the fixed effects model and the random effects model (REM). The model that best fits the data is then employed for hypothesis testing. Fourth, classical assumption tests are performed to ensure the validity of the regression results. These tests include multicollinearity diagnostics using the variance inflation factor (VIF), heteroskedasticity testing, and autocorrelation testing. To address potential violations of these assumptions, robust standard errors are applied where necessary. Finally, hypothesis testing is conducted based on the estimated regression coefficients. The significance of each coefficient is evaluated using t-statistics, while the overall model fit is assessed using the F-statistic and the coefficient of determination (R^2).

D. RESULT AND DISCUSSION

Descriptive Statistics

Table 2. Descriptive Statistics

	N	Mean	Standard Deviation	Min	Median	Max
SPCR	226	1.018	0.169	0.542	1.000	1.528
NFC	226	0.867	0.340	0.000	1.000	1.000
CEOP	226	0.624	0.285	0.000	0.477	1.000
FSIZE	226	12.927	1.423	9.455	12.996	16.715
LEV	226	0.171	0.649	0.000	0.004	4.952
ROA	226	1.178	9.155	-0.366	0.026	94.402
DAC	226	5.009	39.134	-95.329	0.321	404.825
DST	226	81.314	627.861	0.000	0.000	5814.140

Table 2 presents the descriptive statistics of the variables used in this study. The mean value of stock price crash risk (SPCR), measured using DUVOL, is 1.018 with a standard deviation of 0.169, indicating moderate variation in crash risk among family firms. The minimum and maximum values range from 0.542 to 1.528, suggesting heterogeneity in stock price stability across companies. The non-family CEO (NFC) variable shows a mean value of 0.867, indicating that most sampled firms are led by non-family CEOs. CEO power (CEOP) has a

mean of 0.624, reflecting a relatively high level of ownership-based power among CEOs, although variation exists across firms.

Regarding control variables, firm size (FSIZE) has a mean of 12.927, indicating that most firms are medium to large in size. Leverage (LEV) remains relatively low on average, while profitability (ROA) exhibits substantial dispersion. Discretionary accruals (DAC) and detrended share turnover (DST) also show high variability, indicating differences in earnings management practices and trading activity across firms.

The mean SPCR value of 1.018 with a standard deviation of 0.169 and a range between 0.542 and 1.528 indicates that the majority of the companies in the sample exhibit a relatively elevated and heterogeneous level of stock price decline risk. The median value of 1.000 indicates that half of the companies have a stock price decline risk level above or equal to the average value. The broad spectrum of SPCR values signifies that there are discrepancies in stock price stability among companies, which may be attributable to various factors, including the size, ownership structure, and financial condition of each company. The mean CEO power (CEOP) level of 0.624 with a standard deviation of 0.285 indicates significant variation in CEO power levels among companies in the sample. The range of values from 0 to 1 indicates a spectrum of CEO power, ranging from a complete absence of influence to a complete dominance over company decisions. The median value of 0.477 signifies that more than half of the CEOs within the sample possess full authority.

The analysis of control variability reveals substantial disparities among the companies in the sample. The average company size (FSIZE) is 12.927 (log total assets), with a standard deviation of 1.423, a minimum of 9.455, and a maximum of 16.715, indicating that the majority of companies are medium to large in size. The majority of businesses exhibit minimal debt levels, as evidenced by an average leverage (LEV) of 0.171, a standard deviation of 0.649, a minimum value of 0, a maximum value of 4.952, and a median of 0.004. The standard deviation of 9.155% and the range from -0.366% to 94.402% indicate significant variability in the returns on assets (ROA) of 1.178%. The DAC variable has an average of 5.009 and a standard deviation of 39.134, with a range of values from -95.329 to 404.825, and a median of 0.000. This suggests that while most companies exhibit low stock turnover, some demonstrate substantial fluctuations in trading. The DST variable has an average of 81.314 and a standard deviation of 627.861, with a range of values from 0 to 5,814.140.

Correlation Analysis

The Pearson correlation results indicate that non-family CEO (NFC) is negatively correlated with stock price crash risk (SPCR), suggesting a potential inverse relationship. CEO power (CEOP) also exhibits a negative correlation with SPCR. None of the correlation coefficients exceed critical thresholds, indicating that multicollinearity is not a concern.

	spcr	nfc	ceop	fsize	lev	roa	dac	dst
spcr	1.000							
nfc	-0.375***	1.000						
	(0.000)							
ceop	0.034	0.178***	1.000					
	(0.616)	(0.007)						
fsize	0.024	-0.095	-0.021	1.000				
	(0.725)	(0.157)	(0.751)					
lev	0.009	0.041	0.011	0.437***	1.000			
	(0.889)	(0.540)	(0.865)	(0.000)				
roa	0.072	-0.139**	-0.064	-0.207***	0.003	1.000		
	(0.282)	(0.036)	(0.341)	(0.002)	(0.960)			
dac	-0.070	0.023	-0.055	-0.121*	0.009	0.231***	1.000	
	(0.296)	(0.730)	(0.414)	(0.070)	(0.891)	(0.000)		
dst	0.068	-0.070	0.166**	-0.048	-0.032	-0.015	-0.014	1.000
	(0.307)	(0.293)	(0.012)	(0.470)	(0.631)	(0.823)	(0.837)	

p-values in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 2. Pearson Correlation Coefficient

The findings indicate that the non-family CEO (NFC) variable possesses a coefficient of -0.311, which is deemed to be statistically significant at the 1% level of confidence (p = 0.000). This finding suggests that the

presence of a non-family CEO can serve as a mitigating factor in reducing the risk of stock price decline (SPCR), with a documented decrease of 0.311. Moreover, the findings of the CEO Power (CEOP) variable, with a coefficient of -0.059 and a significance value of p 0.006 (significant at the 1% level), demonstrate that the impact of CEO Power (CEOP) is also negative and significant. This finding suggests a negative correlation between the increase in CEO power and the SPCR, with a regression coefficient of -0.059. It has been estimated that Chief Executive Officers (CEOs) possess superior information management and strategic decision-making skills when they wield considerable power, including structural influence or substantial share ownership.

The control variables demonstrate a range of outcomes. The coefficient of the number of companies (FSIZE) is 0.002, and its significance value, denoted by p, is 0.729. This indicates that the small size of the company has no significant effect on the risk of a decline in stock price (SPCR). The leverage variable (LEV) was found to be insignificant, with a coefficient of -0.049 and a significance value of p = 0.229. This indicates that the company's debt level is not sufficient to explain the variation in SPCR. Conversely, profitability (ROA) exhibited a positive and significant effect. Conversely, Detrended Share Turnover (DST) exhibited a coefficient of -0.0000047, which was found to be statistically significant at the 1% level (p = 0.001). This finding suggests that stock trading activity has increased compared to the previous year, thereby indicating that profit management practices do not exert a significant influence on SPCR.

Regression Results

Table X reports the results of the multiple linear regression analysis. In Model (1), the non-family CEO variable (NFC) shows a significant negative coefficient, indicating that firms led by non-family CEOs tend to exhibit lower stock price crash risk. CEO power (CEOP) also shows a significant negative effect on SPCR. Among control variables, profitability (ROA) exhibits a positive and significant relationship with SPCR, while detrended share turnover (DST) shows a negative and significant effect. Other control variables, including firm size and leverage, do not show statistically significant effects. In Model (2), which includes the interaction term between non-family CEO and CEO power (NFC × CEOP), the interaction variable shows a significant positive coefficient. This indicates that the effect of non-family CEOs on stock price crash risk changes when CEO power increases. The adjusted R^2 increases from 0.339 to 0.353, suggesting improved explanatory power after including the interaction term.

```
Fixed-effects (within) regression               Number of obs      =       226
Group variable: code                            Number of groups   =        55

R-sq:                                           Obs per group:
     within  = 0.2584                                         min =         1
     between = 0.0227                                         avg =       4.1
     overall = 0.0487                                         max =         5

                                                F(10,54)           =         .
corr(u_i, Xb)  = -0.8553                        Prob > F           =         .

                                  (Std. Err. adjusted for 55 clusters in code)
------------------------------------------------------------------------------
             |               Robust
        spcr |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         nfc |   .1760857   .0400472     4.40   0.000      .095796    .2563755
        ceop |  -.0660496    .017058    -3.87   0.000    -.1002488   -.0318504
       fsize |   .0507805   .0497694     1.02   0.312    -.0490013    .1505622
         lev |  -.0506166   .0441714    -1.15   0.257    -.1391749    .0379417
         roa |   .0496416   .0138442     3.59   0.001     .0218857    .0773974
         dac |  -.0010664   .0012169    -0.88   0.385    -.0035062    .0013733
         dst |  -.0001735   .0000228    -7.59   0.000    -.0002193   -.0001277
             |
       tahun |
       2020  |  -.0954845   .0300056    -3.18   0.002    -.1556422   -.0353268
       2021  |   .0140039   .0322279     0.43   0.666    -.0506092    .0786169
       2022  |  -.0855185   .0294784    -2.90   0.005    -.1446191    -.026418
       2023  |  -.1010691   .0285689    -3.54   0.001    -.1583464   -.0437919
             |
       _cons |   .2976916   .6545726     0.45   0.651    -1.014647    1.610031
-------------+----------------------------------------------------------------
     sigma_u |  .26207943
     sigma_e |  .13416553
         rho |  .79234957   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Figure 3. Regression Results

The regression results indicate that non-family CEOs (NFC) exert a substantial positive influence on stock price decline risk (SPCR), as evidenced by a coefficient of 0.176 and a significance level below 0.01. This finding suggests that the presence of a non-family CEO at the helm of a company is associated with a 17.6% increase in the likelihood of a decline in stock price. This phenomenon may be attributed to the strategic decisions made by managers, who may adopt a more assertive approach or exhibit a lesser degree of emotional attachment to the continuity of relationships. However, Detrended Share Turnover (DST) exhibited a substantial negative impact (β

= -0.0001735; p < 0.01). This finding suggests that riskier financial conditions or higher debt structures may play a role in stock price stabilization, perhaps because the market has anticipated these risks from the outset.

	(1) spcr	(2) spcr
nfc	-0.311***	0.030
	(0.047)	(0.088)
ceop	-0.059***	0.588***
	(0.016)	(0.099)
fsize	0.002	-0.007
	(0.049)	(0.048)
lev	-0.049	-0.045
	(0.045)	(0.045)
roa	0.038***	0.034**
	(0.013)	(0.013)
dac	-0.001	-0.001
	(0.001)	(0.001)
dst	-0.000***	-0.000***
	(0.000)	(0.000)
nfc_ceop		-0.649***
		(0.101)
Year FE	Yes	Yes
r2_a	0.339	0.353
N	226	226

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 4. Multiple Linear Regression Test

The present study investigates the impact of non-family CEOs (NCF), CEO power (CEOP), and the interplay between these two factors on stock price crash risk (SPCR). Two models were utilized in order to conduct the analysis. In the initial model, the direct effects of NFC and CEO on SPCR were examined, with control variables such as leverage (LEV), profitability (ROA), company size (FSIZE), discretionary accruals (DAC), and detrended share turnover (DST) employed to ensure a comprehensive analysis. In the second model, an interaction variable between NFC and CEO power (NCFOP) was incorporated to ascertain whether CEOs with non-family backgrounds augment or diminish the influence of CEOs on stock price crash risk.

The findings of the initial model demonstrate a substantial negative impact of the NFC variable on SPCR, with a coefficient of -0.311 and a significance level of 1% (p < 0.01). In essence, the presence of a non-family CEO has been demonstrated to possess a genuine capacity to mitigate the likelihood of a decline in stock price. Furthermore, the findings indicate a substantial negative impact of CEO power on SPCR, as evidenced by a coefficient of -0.059 and a p-value less than 0.01. This suggests that as the CEO's power increases, the probability of a decline in stock price decreases. In contrast, control variables such as leverage (lev) and company size (fsize) demonstrate no substantial impact. However, a notable positive correlation was observed between profitability (ROA) and SPCR (coefficient 0.038; p < 0.01), suggesting that businesses with higher profitability tend to exhibit a greater propensity for accidents. It is conceivable that managers may demonstrate a preference to eschew unfavorable news. While the dac variable is not significant, the dst variable has a significant negative impact (p < 0.01), indicating that high stock turnover can reduce the risk of stock price decline.

Following the incorporation of the interaction variable nfc_ceop into the second model, the findings indicate that the direct effect of nfc becomes non-significant (coefficient 0.030), while ceop experiences a substantial and positive shift in direction (coefficient 0.588; p < 0.01). However, with a coefficient of -0.649 and a p-value of 1%, the interaction variable nfc_ceop demonstrates that CEOs who are not family members significantly increase the risk of SPCR. This suggests that Chief Executive Officers who are not family members may be able to mitigate the risk of a decline in stock price. Consequently, in instances where the Chief Executive Officer does not hail from the owner's familial circle, the adverse repercussions can be mitigated to a considerable extent. The adjusted R2 value increased from 0.339 in the first model to 0.353 in the second model, indicating that by adding interaction variables, the model's ability to explain the overall variation in SPCR improved.

Residual Normality Test

Table 3. Residual Normality Test

Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	Adj Chi2 (2)	Prob.chi2
Residuals	226	0.9205	0.1330	2.29	0.3186

The results of the residual normality test, conducted using the Skewness/Kurtosis test, indicate that the Prob value exceeds chi2 of 0.3186. This value is greater than 0.05, indicating that there is no evidence of a violation of the normality assumption. In essence, normally distributed residual patterns are generated from regression models involving independent variables such as NFC, CEOP, and the NFC_CEOP interaction. The following control variables are to be considered: firm size, leverage (lev), profitability (roa), discretionary accruals (dac), and detrended share turnover.

Heteroscedasticity Test

Chi2 (1) = 4.04
Prob > chi2 = 0.0444

The heteroscedasticity test was conducted using the Breusch-Pagan/Cook-Weisberg method. The chi-squared value was determined to be 4.04, and the probability of the chi-squared value being greater than the observed value was found to be 0.0444. The presence of heteroscedasticity is indicated, as evidenced by the non-constant nature of the residual variance in the model, as indicated by a probability value less than 0.05. In the regression model, heteroscedasticity is indicated by variables such as the strength of the non-family CEO (nfc), the strength of the dual CEO (nfc_ceop), and the interaction between the dual CEOs. Furthermore, the study incorporated control variables, including firm size, leverage (lev), profitability (roa), discretionary accruals (dac), and unpredicted stock turnover (dst).

Wooldridge Test for Autocorrelation

F (1, 43) = 0.680
Prob > F = 0.4142

The Wooldridge test for panel data was employed to assess the presence of autocorrelation. The F value (1,43) = 0.680, and Prob > F = 0.4142. The p value, which is used to determine statistical significance, is greater than 0.05, indicating that there is insufficient evidence to reject the null hypothesis, which states that the model residuals do not have first-order autocorrelation. In summary, the residuals are not correlated with each other between periods or are independent over time.

Hausman Specification Test

Chi2 (7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 4.72
Prob > F = 0.6941

The Fixed Effect Model (FEM) and Random Effect Model (REM) were evaluated using Hausman to ascertain the most suitable panel regression model. The statistical analysis revealed a chi-squared value of 4.72 and a probability greater than 0.05, thereby indicating that the null hypothesis was not rejected. This indicates that the probability value is much greater than 0.05, which means that the difference between the FEM and REM estimates is not statistically significant. Given the absence of a systematic discrepancy between the FEM and REM coefficients, the null hypothesis posits that the Random Effect model provides efficient and unbiased estimates within this particular context. Consequently, the Random Effect model is regarded as a more suitable and statistically efficient approach for this study.

The present study aims to examine how the presence of a Chief Executive Officer (CEO) who is not from the owner family and the level of power he or she possesses can affect the risk of a stock price crash in the context of family businesses in Indonesia. Furthermore, this study assesses the impact of CEO power on the amplification or attenuation of the influence of non-family status on this risk.The regression analysis results presented in Model (1) demonstrate that both independent variables, namely the presence of a non-family CEO (nfc) and CEO power (ceop), exhibit a significant and negative correlation with stock price crash risk. This suggests that when a company is led by a Chief Executive Officer (CEO) from outside the owner family, the potential for crash risk tends to decrease. This phenomenon is further compounded when the Chief Executive Officer (CEO) wields considerable

influence within the organizational structure. This finding aligns with the concept posited by agency theory, which asserts that Chief Executive Officers (CEOs) lacking emotional ties or personal interests with the owner family are more likely to act objectively and maintain information disclosure. Such Chief Executive Officers (CEOs) will be more inclined to convey relevant information transparently to the public, thereby minimizing the risk of bad news hoarding, which can trigger a drastic decline in stock prices.

Moreover, from the standpoint of the upper echelon theory, the characteristics of top leaders, including their power and influence within the company, will affect the direction of company policy and performance. A Chief Executive Officer (CEO) with significant influence can effectively make strategic decisions and carry out managerial functions without encountering impediments. This, in turn, has the effect of increasing investor confidence and reducing stock price volatility.

However, the findings from Model (2), which incorporates the interaction variable between NFC and CEOOP (nfc_ceop), demonstrate a substantial positive association with the risk of a decline in stock prices. This suggests that when a non-family CEO possesses significant authority within the company, there is a concomitant increase in the probability of a corporate collapse. This finding indicates that CEO power can be a double-edged sword. While power can enhance control and effectiveness, in the context of non-family CEOs, an excessively dominant power can create opportunities for manipulative behavior. Such behavior may include concealing negative information to protect one's personal image or maintain one's position in the organization.

Consequently, these findings suggest that while the presence of non-family CEOs and CEO power may mitigate the likelihood of stock price declines, the concomitant presence of both can potentially generate an opposing effect, particularly in the absence of a robust oversight system and effective corporate governance. In the context of family businesses, it is imperative for owners to strike a balance between delegating authority to professional management and implementing stringent internal controls. This balance is crucial for ensuring stability and maintaining investor confidence.

The findings of this study provide important insights into the role of CEO characteristics in influencing stock price crash risk in family firms. The negative effect of non-family CEOs on crash risk supports the argument that professional managers without family ties may adopt more objective decision-making and maintain better information disclosure practices. This finding is consistent with agency theory, which suggests that reduced emotional attachment can limit bad news hoarding behavior. Similarly, the negative relationship between CEO power and crash risk indicates that CEOs with sufficient authority may be more effective in managing corporate operations and controlling information flow, thereby reducing uncertainty perceived by investors. From the perspective of upper echelon theory, powerful CEOs may be better positioned to implement strategic decisions efficiently, which enhances firm stability.

However, the positive and significant interaction between non-family CEO status and CEO power suggests that excessive power held by non-family CEOs may increase opportunistic behavior. This finding implies that CEO power can function as a double-edged sword. While power enhances effectiveness, excessive dominance in the absence of strong monitoring mechanisms may facilitate information manipulation, ultimately increasing crash risk. These results highlight the importance of balancing professional management with effective governance mechanisms in family firms. Granting substantial authority to non-family CEOs without adequate oversight may undermine transparency and elevate market risk.

E. CONCLUSION AND SUGGESTION

This study examines the impact of non-family Chief Executive Officers (CEOs) and CEO power on stock price crash risk in family firms listed on the Indonesia Stock Exchange, as well as the moderating role of CEO power in this relationship. The findings show that the presence of a non-family CEO significantly reduces stock price crash risk, indicating that professional leadership outside the controlling family enhances transparency and limits the accumulation of undisclosed negative information. In addition, CEO power is found to have a negative and significant effect on crash risk, suggesting that stronger CEO authority can improve managerial effectiveness and contribute to greater stock price stability. These results support the first and second hypotheses, confirming that both non-family CEO status and CEO power individually play a protective role against stock price crashes. However, when CEO power is combined with non-family CEO status, the interaction effect reveals a significant increase in stock price crash risk. This finding supports the third hypothesis and highlights that excessive power held by non-family CEOs may encourage opportunistic behavior in the absence of effective monitoring mechanisms. Accordingly, the study concludes that while professional leadership and strong CEO authority can reduce market risk, their simultaneous presence must be balanced by robust corporate governance and internal oversight. For family firms, establishing a governance structure that prevents excessive power concentration is

essential to maintaining long-term stability and investor confidence.

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