

**THE ROLE OF CONTROLLING OWNERSHIP IN RISK  
MANAGEMENT UNDER MARKET UNCERTAINTY: STUDY ON  
KOMPAS 100 LISTED COMPANIES IN 2014-2024**



**THESIS**

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**A THESIS**

**Submitted in a partial fulfilment of the requirements for  
the Bachelor Degree of Business Administration**

## CERTIFICATE OF APPROVAL

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We hereby declare that this Thesis is from the student's own work, has been read and presented to the Institute IPMI Board of Examiners, and has been accepted as part of the requirements needed to obtain a Bachelor of Business Administration Degree and has been found to be satisfactory.

Jakarta, 13 March 2026

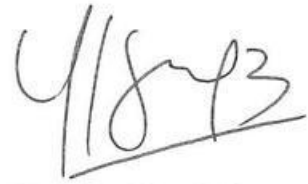
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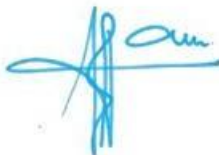
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## NON-PLAGIARISM DECLARATION FORM

This Thesis is a presentation of our original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions.

Also, this work is being submitted in partial fulfilment of the requirements for the Bachelor of Business Administration degree and has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Jakarta, 13 March 2026

A handwritten signature in black ink is written over a rectangular official stamp. The stamp has a yellow background with a red border and contains the Garuda Pancasila emblem and the text 'KEMENTERIAN PENDIDIKAN DAN KULTUR' and 'KEMENTERIAN RISET, TEKNOLOGI, DAN INOVASI'.

Nike

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## ABSTRACT

This study examines how controlling ownership, exchange rate volatility, and firm profitability (ROA) influence stock volatility in Indonesia, with market-wide volatility acting as a moderating factor. Using ownership data from the Bloomberg Terminal, the analysis captures ultimate controlling shareholders and cross-ownership structures among 37 permanent constituents of the Kompas 100 Index over the 2014–2024 period, yielding 370 firm-year observations from Indonesia’s most liquid and institutionally monitored firms. Panel data estimation using Fixed Effects and Random Effects models addresses unobserved firm heterogeneity and time-specific influences, while a COVID-19 and post-COVID dummy variable is incorporated to account for structural breaks during periods of systemic stress. The results indicate that controlling ownership consistently reduces stock volatility, even after controlling for pandemic-related disruptions, suggesting that concentrated control strengthens monitoring and stabilizes investor expectations during both normal and crisis periods. Exchange rate volatility significantly increases stock volatility, confirming its role as a key macro-financial transmission channel in Indonesia’s externally exposed economy, while higher ROA exerts a stabilizing effect under normal market conditions. The moderating analysis further shows that elevated market volatility weakens the stabilizing influence of controlling ownership and profitability, while amplifying the impact of exchange rate fluctuations, highlighting how systemic shocks can dominate firm-level fundamentals. Overall, this study integrates governance structure, macroeconomic risk, market-wide volatility, and structural breaks into a unified empirical framework, offering insights relevant for investors, regulators, and corporate governance policy in emerging markets.

**Keywords:** Controlling ownership, Stock volatility, Exchange rate volatility, Profitability (ROA), Market volatility.

## CHAPTER I INTRODUCTION

### 1.1 Research Background

Stock price volatility has become a key indicator of market stability and investor confidence, especially in emerging economies like Indonesia. It reflects how uncertain investors are about a firm's future performance and the economy's resilience. For investors, volatility presents both opportunity and risk, creating room for short-term gains while increasing exposure to sudden losses.

For regulators, excessive volatility signals weak market fundamentals and governance inefficiencies. Understanding what drives volatility is thus crucial in analyzing how ownership control, profitability, and macro-financial shocks interact in shaping market dynamics.

One of the most influential drivers of volatility is ownership concentration, which defines how much power major shareholders hold in corporate decisions. Rajverma (2024) finds that ownership structure significantly affects firm risk and market liquidity, showing that concentrated ownership can both stabilize or destabilize returns depending on transparency and monitoring quality.

In Indonesia's context, where conglomerate and family ownership dominate, controlling shareholders often play dual roles, acting as stabilizers in crises yet occasionally limiting governance openness. This tension makes ownership control a pivotal factor in explaining market behavior.

Recent research in Indonesia reinforces this complexity. Tamala and Lubis (2025) reveal that concentrated ownership may not directly increase crash risk but alters firm responsiveness to shocks, depending on sectoral dynamics and governance strength. Their findings align with the notion that control can either enhance strategic discipline or deepen information asymmetry.

Such dynamics are highly relevant today, as Indonesia's market transitions through global interest rate tightening and currency volatility. Hence, understanding how control ownership interacts with firm performance and systemic risk remains vital for investors and policymakers navigating a rapidly changing financial landscape.

The implication for stock volatility is twofold. On one hand, concentrated control can reduce volatility by ensuring consistent long-term strategy and limiting managerial short-termism. Yet, when minority shareholders feel excluded or suspect poor transparency, information asymmetry can grow, fueling speculation and amplifying volatility.

Recent empirical work in Indonesia supports this tension, Tamala & Lubis (2025) find that high ownership concentration is not significantly correlated with crash risk, but its effect varies strongly by sector and firm characteristics. Their findings suggest that control alone doesn't always destabilize, and that firm-level details matter a lot more than blanket assumptions about blockholders.

Indonesia's corporate landscape is a particularly fertile context for this debate. Many large public companies, like Astra International (ASII) dominated by Jardine Cycle & Carriage, or Unilever Indonesia (UNVR), controlled by its global parent, operate under highly concentrated ownership.

While such control can signal commitment and competence to investors, it may also reduce free float and market liquidity, making stock dynamics more vulnerable in stress periods. This *"control-liquidity trade-off"* underlies why ownership concentration can both calm and unsettle markets.

Another major driver of stock market volatility in emerging economies is exchange rate fluctuation. Exchange rate volatility has long shaped Indonesia's market dynamics. The rupiah's sensitivity to external shocks is well documented, but its roots trace back to the 1997–1998 Asian Financial Crisis, when Indonesia experienced one of the sharpest currency collapses in emerging-market history.

Before the crisis, the rupiah traded around Rp 2,380-2,440 per USD, supported partly by Bank Indonesia's practice of repeatedly buying back rupiah to maintain stability (Kompas, 2025a; Okezone, 2025). As reserves thinned and speculative pressure rose, the currency became increasingly fragile.

When capital flight accelerated, Bank Indonesia turned to the IMF for emergency support. One condition of the IMF package required the central bank to stop intervening heavily in the foreign-exchange market, allowing the exchange rate to float freely.

Without the previous intervention mechanism, the rupiah crashed around Rp 2,400 to over Rp 17,000 per USD (Kompas, 2025b; Kompas, 2025c) triggering a nationwide domino effect, bank failures, corporate defaults, and a deep economic contraction. This episode shaped how Indonesians perceive currency risk to this day.

The legacy of the crisis still influences investor psychology in Indonesia. Because the 1998 collapse demonstrated how quickly exchange rate shocks can become systemic, modern investors tend to react more cautiously whenever the rupiah shows signs of instability.

Periods of sharp depreciation, such as during the 2015 taper tantrum, 2020 pandemic, and 2022–2023 tightening cycle, often coincide with reduced risk appetite, weaker liquidity, and heightened stock volatility, especially among firms with foreign-currency exposure. This makes exchange rate volatility a key explanatory variable in emerging-market equity behavior.

According to international finance theory, exchange rate volatility transmits macroeconomic uncertainty into firm-level stock volatility. Adjasi et al. (2019) demonstrate that in emerging markets, exchange rate shocks significantly increase stock return variability, particularly in economies reliant on external financing.

Wasiaturrahma et al. (2025) confirm this in Indonesia, showing that rupiah depreciation shocks have stronger destabilizing effects than appreciations. However, evidence from Le (2024) and Naufa et al. (2019) indicates that large, export-oriented firms with diversified revenue bases or natural hedges may experience the opposite effect.

Exchange rate volatility can correspond with reduced stock volatility if firms successfully manage currency exposure, based on this study suggesting that Kompas 100 firms, which are larger and more internationally exposed, may use sophisticated hedging mechanisms or benefit from policy buffers that dampen the pass-through of currency shocks to equity volatility.

At the firm level, profitability now must be viewed through the risk–return trade-off lens, higher returns may signal operational strength, but they can also invite risk-taking, due to concentrated control. Research shows that firms with higher ROA often show lower return volatility because strong performance attracts informed investment and reduces speculation (Smith et al., 2023).

Conversely, in emerging markets like Indonesia where retail participation is high, strong profitability can stimulate short-term trading, increasing volatility under certain conditions. Thus, profitability plays a dual role, a signal of strength or a trigger for instability.

Stock volatility is influenced by broader systemic conditions, as reflected by the Jakarta Composite Index (IHSG), which indicates overall market sentiment and volatility. Research by Fitriani and Desmiza (2023) shows that macroeconomic shocks, such as inflation surges and global liquidity crises, can significantly increase IHSG volatility, affecting firm-level stock fluctuations.

For market Indonesia, where foreign investors hold roughly one-third of total equity shifts in global capital flows can sharply intensify volatility (IDX, 2024). During global risk-off periods, foreign fund withdrawals reduce market liquidity, often triggering widespread sell-offs that elevate both market-level and firm-level price swings.

In this environment, movements in the IHSG become a critical indicator of systemic pressure rather than merely overall market performance. As a moderating factor, IHSG volatility reflects the broader financial stress that shapes how ownership structures, profitability, and exchange-rate fluctuations affect individual firm behavior.

The Kompas 100 Index, which consists of Indonesia's most liquid and fundamentally robust public companies, offers a strong empirical foundation for examining governance and macroeconomic influences on volatility.

Among these firms, 37 have remained permanent constituents from 2014 to 2024, representing key sectors such as banking, mining, energy, consumer goods, telecommunications, infrastructure, media, and property.

The 2014–2024 period captures a series of major economic transitions, including commodity downturns, foreign capital reversals, the COVID-19 shock, and global monetary tightening. These events provide meaningful variation in ownership dynamics, profitability cycles, and market-wide volatility.

At the same time, regulatory improvements by OJK and IDX have strengthened reporting standards, although governance weaknesses persist, creating a diverse and realistic environment for assessing the determinants of stock volatility.

For investors, analyzing how controlling ownership, profitability, and exchange rate volatility influence stock price fluctuations provides a foundation for better portfolio construction and risk management. Firms with stronger profitability and effective ownership monitoring may serve as defensive investments, while those exposed to macroeconomic shocks may require higher risk premiums.

For regulators, understanding these linkages aids in strengthening investor protection frameworks and promoting sustainable capital market development. For corporate managers, the findings reveal how their ownership structure and financial performance influence investor confidence and cost of capital, guiding strategic communication and policy design.

From a theoretical standpoint, this study extends Modern finance views risk as the deviation between expected and actual returns, meaning risk only exists when investors form expectations. Building on the logic of Modern Portfolio Theory and subsequent asset-pricing studies, total risk in equities is generally decomposed into three core components.

Systematic risk represents market-wide movements that cannot be diversified and shapes how firms respond to macro shocks (Ramírez et al., 2023). Systematic asymmetric risk, often captured through downside beta, reflects how stocks behave in adverse conditions and is closely tied to investor loss-aversion (Chaudhry & Samarakoon, 2022).

In practice, the Indonesian market, marked by concentrated family or group ownership, recurring macro shocks, and growing foreign participation, offers a real-world laboratory for testing this tension. By examining the joint effects of controlling ownership, firm profitability, and macro-financial stress on stock volatility, moderated by market volatility.

Through theoretical and practical lens, this study contributes new insight to the governance-risk literature and provides actionable insights for investors and regulators by clarifying when concentrated control stabilizes or destabilizes the individual firm behavior, aiding in the understanding of Indonesia's ownership-volatility relationship.

## **1.2 Problem Statements and Research Gap**

Research on ownership structure and financial market behavior has long recognized that concentrated ownership can shape firm outcomes through its influence on governance quality and managerial oversight.

Recent governance studies suggest that controlling ownership may generate opposing effects, it can stabilize firms by strengthening monitoring, yet it may also increase uncertainty when transparency and minority shareholder protection are weak (Rajverma, 2024).

These contrasting mechanisms imply that stock volatility should be interpreted not merely as a market reaction to information, but as a signal of how governance structures manage uncertainty.

This issue is particularly relevant in Indonesia's contemporary corporate landscape, which remains dominated by conglomerates and family-controlled firms with complex ownership and board structures.

Unlike dispersed ownership systems typically observed in developed markets, Indonesian firms often combine ownership control with managerial influence, shaping how information is disclosed and how strategic risks are managed.

While evidence from other emerging Asian economies indicates that ownership concentration can heighten volatility by amplifying governance-related risk (Pham & Nguyen, 2021), empirical findings in Indonesia remain mixed and fragmented.

Existing studies have largely emphasized foreign or institutional ownership, offering more limited insight into the role of controlling shareholders in driving stock price fluctuations, despite Indonesia's repeated exposure to governance-driven market swings and external shocks.

At the same time, Indonesia's capital market is increasingly influenced by systemic factors, particularly the Jakarta Composite Index (IHSG) volatility. Global uncertainties, such as monetary tightening and market shifts, have shown that this volatility can overshadow firm fundamentals, causing significant price fluctuations even in well-governed companies.

Furthermore, systemic risk is often viewed merely as a background factor, potentially underestimating its impact on governance outcomes and investor behavior.

Methodologically, much of the existing Indonesian literature relies on relatively short observation windows, sector-specific samples, or narrowly defined firm groups, limiting its ability to capture longer-term governance dynamics and structural changes in the market.

This limitation has become more apparent in the post-pandemic environment, where the COVID-19 crisis and its aftermath fundamentally altered investor expectations, risk perceptions, and corporate behavior.

By incorporating a structural dummy variable to capture the COVID-19 and post-COVID periods, this study explicitly accounts for shifts in volatility dynamics during systemic stress, allowing governance effects to be evaluated across both normal and disrupted market conditions.

Examining the permanent constituents of the Kompas 100 Index from 2014 to 2024 provides a stable and long-term perspective on Indonesia's most liquid and closely monitored firms. This setting allows governance dynamics to be observed across different market cycles and economic conditions.

Despite their relative stability, the specific influence of controlling ownership, distinct from foreign and institutional investors, has not been consistently disentangled within this group. As a result, how ownership control interacts with macro-financial volatility and firm performance remains unclear.

This study addresses the issue by analyzing whether controlling ownership dampens or amplifies stock volatility under varying exchange rate movements, market-wide volatility, and profitability levels, offering practical insight into how governance operates in Indonesia's evolving capital market.

### **1.3 Research Novelty**

This research offers a fresh lens by positioning controlling ownership as a key driver of stock volatility in Indonesia, an angle rarely explored in prior research, which largely centers on institutional or foreign ownership. Building on recent evidence that concentrated control can either improve oversight or intensify governance opacity in emerging markets (Herlambang, 2024).

This research shifts the focus from firm performance to volatility as a direct reflection of investor confidence. By integrating ownership structure with exchange rate movements, profitability, and market-wide volatility (IHSG), the study captures how internal governance interacts with external macro-financial shocks in a rapidly evolving capital market.

Using a decade-long panel of Kompas 100 permanent firms (2014–2024), investigates the role of dominant shareholders in influencing market risk, amidst Indonesia's ongoing post-pandemic challenges, currency pressures, and issues related to corporate control and transparency (Sato, 2017).

#### **1.4 Research Questions**

In accordance with the contextual background and the findings presented of the research problem, the research questions that can be formulated are as follows:

1. How does Controlling Ownership affect Stock Volatility?
2. How does Exchange Rate Volatility affect Stock Volatility?
3. How does Return on Asset (ROA) affect Stock Volatility?
4. How does Market Volatility moderate the effect of Controlling Ownership on Stock Volatility?
5. How does Market Volatility moderate the effect of Exchange Rate Volatility on Stock Volatility?
6. How does Market Volatility moderate the effect of Return on Asset (ROA) on Stock Volatility?

#### **1.5 Research Objectives**

Based on the formulation of the research problem that has been presented above, the purpose of this study is as follows:

1. To analyze the effect of Controlling Ownership on Stock Volatility
2. To analyze the effect of Exchange Rate Volatility on Stock Volatility
3. To analyze the effect of Return on Asset on Stock Volatility

4. To analyze how Market Volatility moderate the effect of Controlling Ownership on Stock Volatility
5. To analyze how Market Volatility moderate the effect of Exchange Rate Volatility on Stock Volatility
6. To analyze how Market Volatility moderate the effect of Return on Asset (ROA)

## **1.6 Research Scope**

This study focuses on publicly listed companies that are permanent constituents of the Kompas 100 Index on the Indonesia Stock Exchange (IDX), covering a period from 2014 to 2024. These 37 multi-sector firms were selected because they represent Indonesia's most stable, liquid, and influential corporations, reflecting the backbone of the national economy and investor sentiment.

The Kompas 100 index serves as an ideal proxy for long-term market dynamics since its constituents consistently maintain high transparency and market capitalization. The research employs a quantitative approach, using secondary data sourced from Bloomberg, IDX, and company annual reports to ensure data accuracy and consistency.

By limiting the study to firms with complete financial disclosures across the decade, this research guarantees data reliability and minimizes survivorship bias, enabling a comprehensive analysis of how controlling ownership, exchange rate volatility, and profitability (ROA) influence stock price volatility, while also examining the moderating effect of market volatility within the Indonesian context.

## **1.7 Significance of Study**

This study holds significant importance for multiple stakeholders within Indonesia's capital market ecosystem, offering both practical and theoretical contributions at a time of heightened global and domestic uncertainty.

### **1. Investors:**

Understanding the factors that drive stock volatility is critical for constructing resilient investment portfolios. This study provides empirical evidence on how controlling ownership structures, exchange rate fluctuations, and firm profitability influence volatility in Indonesia's largest listed firms.

As recent years have witnessed rupiah depreciation pressures, global interest rate hikes, and rising concentration of corporate control, the findings offer investors a clearer view of how governance and macro-financial risks interact, helping them assess risk-adjusted returns more strategically.

### **2. Corporate Managers and Listed Firms:**

Managers and boards can leverage research insights to assess the impact of ownership structure and profitability on market risk perceptions. The findings indicate that controlling ownership can either stabilize or increase volatility, influencing corporate governance, financial disclosures, and investor communications.

Furthermore, the study underscores the effect of macro volatility such as, IHSG swings and exchange rate shocks, transmits to firm-level performance, guiding managers to adopt stronger risk management and hedging strategies.

### **3. Regulators and Policymakers (OJK and IDX):**

The study's results aid regulators in evaluating Indonesia's capital market governance framework, focusing on the balance between ownership concentration and transparency. It emphasizes the impact of controlling shareholders on market volatility, which is essential for market stability, fair valuations, and minority shareholder confidence.

### **4. Academics and Future Researchers:**

This study expands the literature on ownership concentration and market volatility by re-examining classical governance theories in the context of today's emerging markets.

It provides one of the first long-horizon empirical analyses in Indonesia that links controlling ownership with macroeconomic and market-wide volatility under a moderating framework.

Using multi-sector panel data from Kompas 100 firms, this study evaluates how governance structures interact with macroeconomic shocks to shape stock volatility. The results highlight how ownership concentration influences risk dynamics when external pressures intensify.

The Findings offer insights into cross-country comparisons, volatility transmission across sectors, and the impact of dominant shareholders during financial stress, enhancing understanding of ownership power's influence on market behavior in volatile economic contexts.

## **1.8 Research Outline**

This thesis is systematically organized into five distinct chapters, reflecting a logical progression of the research endeavor. An overview of each chapter's contribution is outlined below:

### **Chapter 1: Introduction**

This chapter introduces the study by outlining the background, research problem, questions, and objectives. It further delineates the research scope, significance, and the overall thesis structure.

### **Chapter 2: Literature review**

This section reviews relevant theories and prior empirical research, synthesizing existing knowledge in the field. It critically examines the literature to identify research gaps and establish the study's conceptual framework.

### **Chapter 3: Methodology**

This chapter details the overall methodological approach, including the research design, variable measurement, and data collection procedures. It also specifies the data analysis techniques employed to address the research questions.

### **Chapter 4: Finding, Analysis and Discussion**

This chapter presents the empirical findings resulting from the data analysis. It then offers a detailed analysis and discussion, interpreting these results in relation to the research questions and theoretical context.

### **Chapter 5: Conclusion and Recommendations**

The final chapter summarizes the key findings and draws overall conclusions, discussing the theoretical and practical implications. It also acknowledges limitations while providing recommendations for stakeholders and future research directions.

## CHAPTER II LITERATURE REVIEW

### 2.1 Theoretical Basis

This study draws on three core financial theories, Modern Portfolio Theory (Markowitz, 1952), the Capital Asset Pricing Model (Sharpe, 1964), and the corporate finance framework proposed by Berk and DeMarzo (2020), to explain how controlling ownership shapes stock volatility in Indonesia's capital market.

These views clarify how risk arises from deviations in expected returns, its pricing via market mechanisms, and the impact of firm governance on stock price uncertainty. A structural dummy variable for the COVID-19 period addresses shifts in risk perception and pricing during systemic shocks, facilitating the analysis of controlling ownership and firm traits under both normal and crisis market settings.

Modern Portfolio Theory explains that investors care about both expected returns and the variability of those returns, making volatility a central measure of risk. Markowitz shows that risk is not only about losses but also deviations from expected performance, which aligns directly with stock volatility in this study.

This theory distinguishes between systematic risk from the market and unsystematic risk from firm-specific factors. Diversification can reduce unsystematic risk, but this reduction depends on how predictable and transparent a firm is.

In Indonesia, concentrated ownership may keep unsystematic risk high because controlling shareholders influence disclosure quality and decision-making. This limits diversification benefits for investors and results in higher volatility for some firms. The theory helps explain why companies with similar fundamentals but different ownership structures show different volatility levels.

The Capital Asset Pricing Model (Sharpe, 1964) expands this view by formalizing how systematic risk is priced through beta, meaning firms that are more sensitive to market movements command higher expected returns. However, in emerging markets like Indonesia, weak governance and information asymmetry make unsystematic volatility more persistent.

Stock volatility becomes a reflection of both market-wide shocks (beta) and governance factors that influence firm-specific uncertainty. When ownership is concentrated, information disclosure may weaken, increasing idiosyncratic volatility beyond what CAPM predicts.

Berk & DeMarzo highlight how investor expectations, information quality, and governance shape firm-level risk in real markets. They argue that when insiders hold significant control, external investors face higher uncertainty due to limited transparency and potential private benefits.

This uncertainty increases pricing dispersion, making stock volatility a signal of governance quality rather than just market movements. Their framework shows that ownership concentration affects investor beliefs, discount rates, and perceived risk, directly influencing volatility.

Thus, Berk & DeMarzo provide the practical corporate finance logic linking controlling ownership to higher or lower stock volatility. Where downside movements carry more severe consequences than upside gains, and option-like risks, where managerial decisions can amplify volatility through leverage, investment choices, or strategic option.

Together, these theories show that volatility arises from deviations between expected and actual performance, shaped by both market shocks and governance quality. Controlling ownership can shift a firm along the risk–return trade-off, reducing volatility through strong oversight or increasing it through opacity.

## 2.2 Variable Explanation

### 2.2.1 Controlling Ownership

Ownership concentration has long been the centerpiece of corporate governance theory, and the foundational work of Shleifer and Vishny (1986) provides the central lens for understanding its economic consequences.

They argue that large shareholders, whether individuals, families, or business groups, serve a dual function: they reduce managerial agency problems through tighter monitoring, yet simultaneously introduce a second-layer agency conflict between controlling and minority shareholders.

This “*governance paradox*” becomes even more complex in markets like Indonesia, where ownership is not only concentrated but often embedded within extended family networks, pyramidal structures, and interlinked corporate groups.

In this context, distinguishing two forms of controlling ownership, KP (commissioner-level ownership) and DP (director-level ownership), is essential because the placement of control within the board hierarchy directly shapes governance behavior. Commissioners (KP) hold a supervisory role, tasked with oversight and preventing managerial excess.

Directors (DP), in contrast, are embedded in day-to-day operational decisions and therefore wield more immediate influence over strategic execution. When both KP and DP are held by related individuals, often family members, the monitoring function becomes intertwined with operational control, strengthening the cohesive power of the controlling group.

A common example of affiliated companies is the presence of family members or interconnected groups in key board positions, which fosters a unified control structure. This arrangement can enhance decision-making and reduce internal conflict but may also limit independent judgment and increase entrenchment without strong governance safeguards.

This framework shows such alignment can enhance monitoring effectiveness, reducing internal agency costs and providing stability. However, it can equally elevate the risk of entrenchment, as concentrated family control reduces checks and balances, allowing key decisions, from dividend policy to disclosure transparency, to be influenced by personal rather than market-driven considerations.

Regional evidence shows that concentrated ownership, especially in family-dominated or insider-controlled firms, delivers both governance benefits and expropriation risks, a pattern that remains visible in Indonesia despite regulatory improvements. Major business groups like Jardine (ASII) and Salim (INDF) continue to shape market behavior, reinforcing the influence of control structures.

In today's environment, however, investors interpret concentrated ownership with more nuance: strong control through KP, DP, or integrated family leadership can provide stability during macro shocks, yet it can also heighten opacity when decision-making is confined to a small circle.

Thus, the relevance of controlling ownership for stock volatility now extends beyond classical agency theory, reflecting broader questions about transparency, strategic responsiveness, and governance quality in a decade defined by digitalization, ESG pressures, and global uncertainty.

### **2.2.2 Exchange Rate Volatility**

The value of the Indonesian rupiah has long been a barometer of investor confidence and systemic risk. Following the 1998 Asian Financial Crisis, currency stability became synonymous with economic credibility. However, volatility has persisted through new channels, commodity cycles, U.S. monetary policy, and capital flow reversals.

Theories in international finance Adjasi et al (2019) and Korkmaz (2020) suggest that exchange rate volatility transmits directly into stock markets, especially in countries reliant on external capital and imported raw material like Indonesia.

In practical terms, when the rupiah weakens sharply, as during the 2015 taper tantrum or the 2020 COVID-19 shock, import-dependent firms face rising costs, profit margins tighten, and investor sentiment deteriorates. Yet, the degree to which firms absorb or amplify these effects depends on governance and control.

Firms with strong controlling shareholders may have the capacity and incentive to hedge currency exposure or diversify funding sources, thus moderating volatility. Conversely, firms with weaker governance often become channels for macroeconomic instability, where investors react not only to fundamentals but also to perceived uncertainty about managerial responses.

In this way, exchange rate volatility does not merely reflect macro instability, it becomes an external stress test for internal governance strength. How a firm navigates currency shocks tells investors whether its ownership structure fosters resilience or magnifies fragility, a key insight for both local and foreign capital allocators in today's globally connected market.

### **2.2.3 Return on Assets (ROA)**

Profitability remains the most visible indicator of managerial quality and strategic execution. Under the trade-off theory (Markowitz, 1952) of risk and return explains that firms earn profits by taking risks, higher profitability therefore reflects not only good performance but also the willingness to make riskier strategic choices.

In this view, ROA becomes a direct signal of how firms balance risk-taking with expected returns. When ROA is high, investors may interpret it as evidence of stability, but they also recognize that such outcomes often stem from bold investment decisions that can increase future volatility.

In emerging markets like Indonesia, where investor sentiment is highly reactive, this trade-off becomes more pronounced, making profitability both a stabilizing force and a potential volatility driver.

Thus, ROA in this study is treated not only as an efficiency indicator but also as a reflection of how firms manage the tension between risk and return within Indonesia's evolving capital market.

Well-established firms such as PT Astra International Tbk and PT Telkom Indonesia Tbk remain perceived as relatively stable because their profitability is backed by mature governance and consistent strategic discipline (Astra International AR 2020; Telkom Indonesia AR 2021).

However, recent market patterns show that newly listed digital and commodity-related firms display much higher volatility due to weaker controls, speculative investor behavior, and limited disclosures (IDX 2022; OJK 2023). In this environment, profitability alone cannot guarantee stability because the underlying risk-taking behavior varies widely.

What matters is whether controlling owners reinforce long-term performance or pursue strategies that amplify uncertainty. Therefore, in this research, ROA serves as a signal of both performance quality and underlying risk exposure, shaped by how ownership power influences corporate decision-making.

#### **2.2.4 Market Volatility (IHSG)**

The Jakarta Composite Index (IHSG) reflects how investors collectively process information, consistent with efficient market frontier principles (Markowitz, 1952). In such markets, investors continuously rebalance between risk and return, leading many to follow broad market trends, especially during uncertainty, because the index represents the “*average*” efficient position.

Historical shocks such as the 2015 rupiah plunge, the 2020 COVID-19 collapse, and the 2022 global tightening shifted the entire risk-return frontier, causing even fundamentally strong firms to experience heightened volatility.

As investors rush toward safer assets or reduce exposure, individual stock movements become more synchronized with market sentiment rather than firm performance.

Building on this logic, IHS volatility serves as a moderating force that influences the link between ownership structure and firm-level volatility. In stable periods, concentrated owners may strengthen investor confidence, providing predictable governance and reducing firm-specific risk.

However, when market-wide volatility spikes, systemic shocks overwhelm these internal advantages, pulling all firms toward the higher-risk end of the frontier. This is consistent with the idea that in volatile markets, even strong governance cannot fully shield firms from macro-driven repricing.

### **2.2.5 Stock Volatility**

Stock volatility reflects how markets collectively interpret a firm's governance quality, profitability, and sensitivity to broader economic forces. Volatility represents the dispersion of returns and serves as the core measure of risk within MPT (Markowitz, 1952) and the CAPM, where return variation embodies investors' required compensation for uncertainty (Sharpe, 1964).

In emerging markets such as Indonesia, volatility reflects more than firm fundamentals, it reveals the credibility of institutions and the maturity of investor behavior. The Kompas 100 permanent constituents, comprising 37 firms across sectors, provide a unique lens to measure this dynamic because they combine liquidity, longevity, and diverse ownership structures.

Yet, even these top-tier firms have faced sharp fluctuations amid global shocks like the 2020 pandemic and the 2022–2023 monetary tightening cycle. Unlike earlier decades, when volatility was primarily attributed to capital flight and weak regulation, today's fluctuations are increasingly linked to shifts in corporate transparency, ESG adoption, and digital transformation.

Therefore, in this study, stock volatility functions as more than a statistical output, it becomes a barometer of market maturity, reflecting how Indonesia's governance evolution interacts with investor trust during periods of structural transition.

### 2.3 List of Previous Studies

Research on controlling ownership, profitability, and firm risk has advanced rapidly in the last five years, reflecting a shift toward understanding how governance interacts with financial uncertainty in emerging markets like Indonesia. Recent work by Tamala and Lubis (2025) brings new insights by testing whether ownership concentration among top blockholders influences firm crash risk.

The findings indicate that concentrated ownership correlates with increased crash-risk indicators like NCSKEW (negative coefficient of skewness) and DUVOL (down-to-up volatility). However, this relationship is statistically insignificant. This implies that dominant shareholders do not necessarily cause excessive downside volatility.

The impact of ownership concentration on risk is nuanced and influenced by governance quality, sectoral structure, and disclosure practices, which is particularly relevant for Indonesia, where blockholders significantly influence corporate direction yet vary widely in governance discipline.

Building on this, Putri, Aulia, and Leon (2024) analyze Indonesia's listed firms using a rich set of variables, including concentrated ownership, stock price volatility, liquidity, cash holdings, and performance, applying panel-data regression.

Their study reveals that concentrated ownership does not significantly influence stock volatility once liquidity and performance are controlled for. This finding challenges the traditional assumption that dominant shareholders automatically stabilize or destabilize prices.

Instead, their evidence shows that liquidity and operational strength matter more for absorbing shocks. This is highly relevant to the Kompas 100 permanent constituents, which typically have deeper liquidity and stronger fundamentals, factors that may overshadow pure ownership effects.

The literature also examines how ownership concentration shapes financial reporting behavior. Bayu Kristiawan (2024) finds that concentrated ownership improves earnings quality through aligned interests between controlling and minority shareholders, particularly when oversight is adequate.

These findings reveal that ownership concentration can strengthen governance mechanisms instead of weakening them. It implies that when controlling shareholders have long-term incentives to maintain credibility, they may reduce information asymmetry and, indirectly, volatility, an argument that motivates exploring controlling ownership as a stabilizer in Indonesia's capital market.

Evidence from Wery Andriani & Hermawan (2023) reinforces this governance perspective by studying family ownership, professional CEOs, and earnings volatility. They conclude that family ownership reduces firm risk and that professional CEOs amplify this stabilizing effect.

This suggests that governance structure, not merely ownership concentration, shapes how firms respond to shocks and manage volatility. For a market heavily dominated by family-controlled and conglomerate-linked firms, these findings underscore the importance of leadership quality and governance professionalism when evaluating volatility outcomes.

In addition to domestic findings, Farhan and Kim (2023) highlight the significant impact of overseas institutional investors on stock price volatility in Indonesia. Their research indicates that these foreign investors tend to lower volatility due to their heightened concern regarding governance risk and their demand for greater transparency within the market.

This behavior introduces a market discipline effect, acting as a stabilizing force that complements the influence of controlling shareholders. The findings suggest that external scrutiny provided by foreign investors can effectively mitigate volatility, even in situations where internal governance mechanisms may be lacking or inconsistent.

A cross-country perspective is offered by Umar Butt and Chamberlain (2023), who examine UAE firms and find that blockholder ownership types, whether individual, corporate, or government, reduce stock return volatility without evidence of expropriation.

This challenges the notion that controlling shareholders always create instability or destroy minority value. Their findings suggest that under adequate oversight, controlling shareholders can serve as anchors during periods of uncertainty, a pattern that may extend to Indonesian firms with strong governance practices.

Earlier research, such as Nguyen & Nguyen (2020) from Vietnam, reinforce this view, demonstrating that ownership concentration reduces corporate risk-taking and enhances performance in circumstances with inadequate transparency. Although Vietnam differs from Indonesia, both markets have similar governance traits, such as family-owned businesses and evolving investor protection.

Their findings provide theoretical support for the hypothesis that ownership concentration may minimize volatility, especially when controlling shareholders internalize long-term performance incentives.

At the macro-financial level, volatility is influenced not only by governance but also by exchange rate dynamics and external shocks. Wasiaturrahma et al. (2025) identify strong asymmetry in Indonesia's exchange rate impact, rupiah depreciation triggers far higher stock market volatility than appreciation.

This highlights the sensitivity of Indonesian investors to negative macro shocks, and provides critical justification for incorporating exchange rate volatility as an independent variable in your model.

Al-Shattarat et al. (2022) explore the relationship between ownership concentration, return on assets (ROA), and stock volatility. They find that while higher profitability tends to lower volatility, this stabilizing effect diminishes in the context of weak governance.

The study supports the notion that ROA serves as an indicator of governance credibility rather than just a measure of operational performance. Their results illustrate the interplay between profitability and governance strength in influencing stock volatility.

Meanwhile, Zhou and Guo (2021) find that institutional and state ownership stabilize volatility during crises by reducing information asymmetry and increasing investor confidence. These results show that ownership type moderates market stress responses, supporting your use of IHSG volatility as a moderating variable in the Indonesian setting.

Finally, Fitriani & Desmiza (2023) use a VAR (vector autoregression) model to explore how inflation, interest rates, and exchange rate shocks transmit into IHSG volatility. They find strong evidence that macro shocks not only elevate market volatility but spill over into firm-level volatility, underscoring the importance of integrating IHSG volatility as a systemic force that shapes firm-level risk behavior.

Table 2.1 Summary of Previous Studies

| Author                   | Year | Variable                                                                                         | Method                                              | Finding                                                                                                                                                                   |
|--------------------------|------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tamala & Lubis           | 2025 | Ownership concentration (top 3 blockholders);<br>Firm crash risk (NCSKEW, DUVOL)                 | Panel Regression                                    | Ownership concentration has a positive but statistically insignificant effect on crash risk, suggesting blockholder control does not always increase downside volatility. |
| Putri, Aulia, & Leon     | 2024 | Concentrated ownership;<br>Stock price volatility;<br>Liquidity;<br>Cash holding;<br>Performance | Panel data regression                               | Concentrated ownership does not significantly influence stock price volatility; performance and liquidity matter more.                                                    |
| Bayu Kristiawan          | 2024 | Ownership concentration;<br>Earnings quality                                                     | Multiple regression                                 | Ownership concentration positively influences earnings quality, suggesting aligned interests between controlling and minority shareholders in certain contexts.           |
| Wery Andriani & Hermawan | 2023 | Family ownership<br>Professional CEO<br>Firm risk (earnings volatility)                          | Fixed-effect panel regression                       | Family ownership reduces firm risk, and professional CEOs further strengthen stability; governance structure shapes risk behavior.                                        |
| Farhan & Kim             | 2023 | Foreign institutional ownership;<br>Stock return volatility                                      | Panel regression                                    | Foreign institutional investors significantly reduce share price volatility, suggesting they bring stability to Indonesian markets.                                       |
| Umar Butt & Chamberlain  | 2023 | Blockholdings (type: individual, corporate, government);<br>Stock return volatility              | OLS (ordinary least squares) regression (UAE firms) | Blockholder ownership reduces stock return volatility, no strong evidence of expropriation via dividend policy.                                                           |

|                             |      |                                                          |                                         |                                                                                                    |
|-----------------------------|------|----------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------|
| Nguyen, T., & Nguyen, H.    | 2020 | Ownership concentration; Risk-taking & performance       | Multiple regression                     | Ownership concentration reduces corporate risk-taking, stabilizing firm performance.               |
| Wasiaturrahma, M., et al.   | 2025 | Exchange rate volatility; Stock return volatility        | EGARCH (exponential GARCH) model        | Rupiah depreciation causes stronger volatility than appreciation; confirms asymmetry in Indonesia. |
| Al-Shattarat, M., et al.    | 2022 | Ownership concentration, ROA; Stock volatility           | Panel regression                        | ROA reduces volatility, but effect weakens under poor governance.                                  |
| Zhou, Y., & Guo, L.         | 2021 | Institutional & state ownership; Volatility              | OLS (ordinary least squares) regression | Institutional and state ownership stabilize volatility during crises.                              |
| Fitriani, R., & Desmiza, N. | 2023 | Inflation, interest rate, exchange rate; IHSG volatility | VAR (vector autoregression) model       | Macro shocks increase IHSG volatility, transmitting to firm-level risk.                            |

This study offers a distinctive contribution by moving the focus from firm value to stock volatility, illustrating how controlling ownership has a direct impact on price stability in Indonesia's highly concentrated corporate environment. Unlike previous studies, which emphasized institutional or foreign ownership.

This study focuses on the conduct of controlling shareholders, who have the ability to influence decisions, disclosure, and risk-taking. By focusing on long-term volatility rather than performance, the study offers a more accurate and realistic assessment of how governance systems influence market movements in an emerging country.

## 2.4 Hypothesis Development

### 2.4.1 Effect of Controlling ownership on Stock Volatility

The relationship between controlling ownership and stock volatility is explained through agency theory and risk–return frameworks. Large shareholders can reduce managerial agency costs and stabilize stock returns by improving monitoring and aligning incentives.

However, excessive concentration of ownership can lead to entrenchment, reduced transparency, and increased information asymmetry for minority investors, resulting in higher governance risks and stock volatility. This interplay is particularly significant in emerging markets, where trust and disclosure standards differ widely.

Recent empirical evidence supports this stabilizing role studies such as, Jiang et al. (2023), Naufa et al. (2023), and Reyes et al. (2023) show that higher ownership concentration is associated with lower firm-level risk and improved market perception in emerging markets, particularly when governance structures are credible and disclosure quality improves.

In Indonesia's environment, where ownership concentration remains the dominant governance structure, the presence of a clear controlling shareholder often reduces information asymmetry and limits speculative pressure, leading to more stable price movements even during periods of moderate market uncertainty. Hence, the hypothesis can be formulated as follows:

H1: Controlling ownership has a negative effect on stock volatility.

### **2.4.2 Effect of Exchange Rate Volatility on Stock Volatility**

Exchange rate volatility reflects fundamental macro-financial shocks that affect firm performance, capital flows, and investor expectations. Under international finance theory, currency instability increases perceived systematic risk because firms face uncertainty in input costs, debt repayments, and export competitiveness (Adjasi et al., 2019).

In emerging markets, where investor behavior is more sensitive to global signals, exchange rate swings often escalate market-wide uncertainty. As information asymmetry rises, investors react defensively, widening spreads and amplifying volatility. Therefore, theory predicts that higher exchange rate volatility elevates stock volatility as risk pricing becomes more unstable.

Recent studies reaffirm this mechanism, showing that exchange rate fluctuations significantly magnify stock price instability in developing economies. Wasiaturrahma et al. (2025) find that rupiah depreciation triggers stronger volatility responses than appreciation, reflecting asymmetric investor reactions during stress periods.

Fitriani and Desmiza (2023) also show that exchange-rate-driven shocks spill over into IHSG volatility, reinforcing firm-level price swings. For Kompas 100 firms, with high exposure to global supply chains and foreign capital, this sensitivity becomes even stronger. Thus, empirical evidence supports the expectation that exchange rate volatility increases stock volatility in Indonesia.

H2: Exchange rate volatility has a positive effect on stock volatility.

### **2.4.3 Effect of Return on Asset (ROA) on Stock Volatility**

According to the Risk–Return Trade-Off Theory, investors expect higher returns only when firms take on higher levels of risk (Markowitz, 1952). Profitability, captured through ROA, reflects a firm’s ability to generate returns from its assets, and in theory, higher ROA may signal that the firm is engaging in value-creating but risk-taking activities to achieve superior performance.

ROA reflects both a firm's efficiency and its risk appetite, as profitable firms may pursue riskier investments to maintain performance. While profitability can stabilize stock movements by signaling operational resilience and reducing future cash flow uncertainty, ROA serves as a reward for risk-taking and a stability indicator, which helps the market price to reduce stock volatility.

Recent empirical studies support the stabilizing role of profitability in emerging markets. Al-Shattarat et al. (2022) found that higher ROA lowers volatility because it strengthens investor trust in a firm's financial resilience. Similarly, Zhou and Guo (2021) showed that profitability reduces sensitivity to systemic shocks when governance quality is strong.

These findings indicate that, in Indonesia's market, investors distinguish between speculative and fundamentally strong firms, favoring those with sustainable profits and resulting in lower stock volatility for profitable companies in the Kompas 100.

H3: Profitability (ROA) has a negative effect on stock volatility.

#### **2.4.4 Moderating Effect of Market Volatility on the impact between the Independent Variables on Stock Volatility**

Under the Efficient Market Hypothesis (Fama, 1970), market prices reflect available information. Strong monitoring from controlling shareholders mitigates uncertainty, fostering stable pricing. In stable market environments, effective governance signals enable concentrated ownership to minimize unsystematic risk by enhancing oversight and reducing agency issues.

However, EMH also states that when markets face high systemic shocks, noise trading and rapid information adjustment dominate investor behavior. During such periods, firm-specific governance signals become less influential because market-wide volatility masks internal strengths. Thus, EMH predicts that the stabilizing role of controlling ownership weakens when market volatility is elevated.

Recent studies confirm that controlling owners generally reduce firm-level volatility by improving monitoring efficiency and lowering information gaps, but this stabilizing effect is not constant across market conditions. Jiang et al. (2023) show that concentrated ownership reduces risk only in stable markets, while volatility spikes diminish its governance benefits.

Similarly, Pham and Nguyen (2021) discovered that during stormy times, investors emphasize liquidity and systemic risk, causing even well-managed enterprises to incur increased volatility. Lee et al. (2023) show that external shocks magnify price swings regardless of ownership structure, implying that macroeconomic uncertainty dominates firm-level governance signals.

H4: Market volatility moderates the effect of controlling ownership on stock volatility.

Exchange rate volatility affects financial instability by influencing import costs, financing stresses, and investor perceptions, particularly in emerging markets. Research by Adjasi et al. (2019) and Korkmaz (2020) indicates that such volatility shocks impact broader financial systems and market expectations. Lower market volatility helps investors differentiate between fluctuations and trends.

Recent evidence from emerging markets supports this theoretical mechanism. Studies such as Adjasi et al. (2019) and Wasiaturrahma et al. (2025) show that exchange rate volatility significantly increases stock market risk, especially when global sentiment deteriorates.

New findings from Fitriani & Desmiza (2023) indicate that in high-volatility environments, currency fluctuations are perceived by investors as indicators of macro-financial instability, leading to increased capital outflows and sector-wide contagion.

This effect is particularly pronounced for Indonesian companies, especially those in the Kompas 100 index that are linked to international supply chains, when the volatility of the IHSG rises.

H5: Market volatility moderates the effect of exchange rate volatility on stock volatility.

Risk-Return Trade-Off Theory (Markowitz, 1952), posits that higher profitability correlates with greater risk, with ROA indicating operational strength and risk. In stable markets, strong cash flows mitigate uncertainty for successful businesses. Volatile markets shift investor focus to systemic risk, leading to higher ROA volatility as investors pursue greater risk premiums or safer investments.

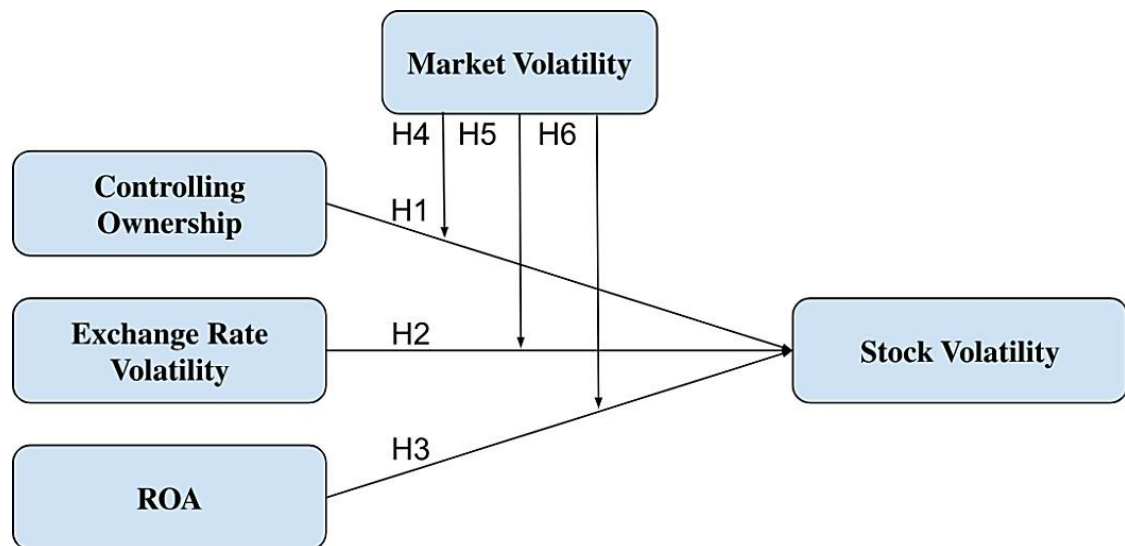
Recent studies indicate that profitability reduces stock volatility primarily in stable markets. Al-Shattarat et al. (2022) found that high-ROA firms have lower volatility due to attracting informed, long-term investors, while Zhou and Guo (2021) noted that profitability's protective effect diminishes during systemic shocks where market uncertainty prevails.

Instances of increased IHSG volatility in Indonesia, especially during global tightening cycles, illustrate how panic selling can overshadow strong fundamentals. Consequently, it is anticipated that market volatility will lessen the stabilizing effect of ROA on stock volatility.

H6: Market volatility moderates the effect of profitability (ROA) on stock volatility.

## 2.5 Research Framework

Figure 2.1 Research Framework



## CHAPTER III RESEARCH METHODOLOGY

### 3.1 Research Design

This research uses a quantitative research approach to examine the impacts of controlling ownership, exchange rate volatility, and profitability (ROA) on the stock volatility of Indonesia's Kompas 100 permanent constituents Index firms between 2014 and 2024.

Furthermore, the study investigates into the moderating role of market volatility (IHSG) on the links between these independent variables on stock volatility. The analysis will be carried out using panel data regression methods, allowing for a comprehensive examination of both firm-specific and systemic influences on volatility over time and across sectors in Indonesia's evolving capital market.

Indonesia's economy faces macro uncertainty, including global interest rate shocks and domestic currency pressures, which influence how investors interpret firm-specific signals. The interaction of factors such as ownership structures, profitability, and exchange rate movements is vital for understanding risk behavior in emerging markets.

This research examines the interplay of internal governance mechanisms and external financial forces in influencing stock volatility among leading Indonesian firms, integrating firm characteristics with market conditions to enhance understanding of capital market stability and investor confidence across various economic cycles.

### 3.2 Variable Measurement

#### 3.2.1 Independent Variables

Independent variables are those that influence the dependent variable, representing firm-specific and macroeconomic factors that shape stock volatility (Kumar, 2012), which can be listed as follows:

##### 1. Controlling Ownership (CTRL)

Controlling ownership reflects the share portion held by the dominant shareholder or group that has the practical ability to shape key corporate decisions. Building on Shleifer and Vishny (1986), concentrated ownership can strengthen oversight by reducing managerial discretion, yet it also raises the possibility of entrenchment when control becomes too centralized.

In the context of Indonesian firms, where ownership structures often involve family networks or interconnected board roles, control may extend beyond simple majority stakes and influence both supervisory and managerial layers.

Within this study, controlling ownership serves as an indicator of how much influence major shareholders exert over the firm's strategic and operational direction. Differences in control intensity can affect stock volatility through their impact on governance quality, information flow, and the degree of transparency perceived by the market. The measurement using the following formula:

$$\text{Controlling Ownership} = \left( \frac{\text{Controlling Shares Ownership}}{\text{Total Shares Outstanding}} \right) \times 100\% \quad (3.1)$$

##### 2. Exchange Rate Volatility (ER\_VOLA)

Exchange rate volatility measures fluctuations in the USD/IDR exchange rate, highlighting the macroeconomic uncertainty facing Indonesian firms due to external financial pressures. Increased volatility signifies more currency market instability, heightening transaction and translation risks for firms, which can negatively impact investor confidence and stock price stability.

1. In this study, exchange rate volatility is measured by the standard deviation of daily returns of the USD/IDR exchange rate on an annual basis. This approach follows the method commonly used in financial risk analysis to represent the magnitude of daily currency movements throughout the year. The daily return of the USD/IDR exchange rate is calculated as:

$$R_{USD,d} = \left( \frac{P_{USD,d} - P_{USD,d-1}}{P_{USD,d-1}} \right) \times 100\% \quad (3.2)$$

Where:

$R_{USD,d}$  : daily return of the USD/IDR exchange rate on day d

$P_{USD,d}$  : USD/IDR exchange rate on day d

$P_{USD,d-1}$  : USD/IDR exchange rate on day d-1

2. Calculate the standard deviation of the daily exchange rate returns over the years, which captures the volatility (risk) of the exchange rate, using the following formula:

$$\sigma_{USD,t} = \sqrt{\frac{1}{n} \sum_{d=1}^n (R_{USD,d} - \bar{R}_{USD})^2} \quad (3.3)$$

Where:

$\sigma_{USD,t}$  : standard deviation of daily USD/IDR return in year  $t$

$\bar{R}_{USD}$  : average daily return of the exchange rate throughout the year

$n$  : number of trading days

3. The standard deviation obtained in step 2 will be annualized by multiplying it with the square root of the number of trading days ( $\sqrt{n}$ ) to represent the firm's annual risk level.

### 3. Return on Assets (ROA)

Return on Assets (ROA) measures a firm's ability to generate profit from its total assets, serving as a key indicator of operational efficiency. Higher ROA suggests stronger profitability and potentially lower stock volatility due to improved investor behavior. Conversely, low ROA may indicate financial distress and higher perceived risk. ROA is calculated using the following formula:

$$ROA = \frac{\text{Net Income}}{\text{Average Total Assets}} \quad (3.4)$$

#### 3.2.2 Moderating Variable

According to Preacher & Hayes (2008), a moderating variable is one that indirectly influences a dependent variable through one or more mediators or intervening variables. A moderating variable reflects the impact of a preceding variable on a dependent variable, providing a more comprehensive understanding of the interaction between variables (Mackinnon & Fairchild, 2009).

The study identifies market volatility, represented by the Jakarta Composite Index (IHSG), as a mediator. It signifies the uncertainty of the Indonesian capital market, reflecting investor reactions to macroeconomic changes, global shocks, and liquidity. Increased market volatility heightens systemic risk, potentially affecting the linkage between firm-specific factors and stock volatility.

1. The volatility of IHSG is measured using the standard deviation of daily returns on an annual basis. This method, widely applied in financial market risk analysis, reflects the extent of daily price fluctuations that represent overall market uncertainty. The daily market return of the IHSG is calculated using the following formula:

$$R_{IHSG,d} = \left( \frac{P_{IHSG,d} - P_{IHSG,d-1}}{P_{IHSG,d-1}} \right) \times 100\% \quad (3.5)$$

Where:

$R_{IHSG,d}$  : daily return of Jakarta Composite Index (IHSG) on day d

$P_{IHSG,d}$  : Jakarta Composite Index (IHSG) on day d

$P_{IHSG,d-1}$  : Jakarta Composite Index (IHSG) on day d-1

2. Calculate the standard deviation of the daily returns of IHSG over the years, which captures the volatility (risk) of the IHSG, using the following formula:

$$\sigma_{IHSG,t} = \sqrt{\frac{1}{n} \sum_{d=1}^n (R_{IHSG,d} - \bar{R}_{IHSG})^2} \quad (3.6)$$

Where:

$\sigma_{IHSG,t}$  : standard deviation of daily IHSG return in year  $t$

$\bar{R}_{IHSG}$  : average daily return of the IHSG throughout the year

$n$  : number of trading days

3. The standard deviation obtained in step 2 will be annualized by multiplying it with the square root of the number of trading days ( $\sqrt{n}$ ) to represent the market risk in Indonesia's equity market for year  $t$ .

### 3.2.3 Dependent Variable

An interval variable that exhibits both a natural order and a significant range of values is called a dependent variable (Hurlin, 2013). In this study the dependent variables used is stock volatility from Indonesia's Kompas 100 permanent constituents Index firms with total of 37 multi-sector in between 2014 and 2024.

This indicator captures firm-specific risk or idiosyncratic volatility, reflecting how each company's stock price reacts to both internal performance and external market movements.

1. In this study, stock volatility is measured by the standard deviation of daily returns of the firm listed as consistent constituents of the Kompas 100 Index on an annual basis. The daily return of stock  $i$  in the Kompas 100 Index is calculated as follows:

$$R_{i,d} = \left( \frac{P_{i,d} - P_{i,d-1}}{P_{i,d-1}} \right) \times 100\% \quad (3.7)$$

Where:

$R_{i,d}$  : daily stock return of firms listed as consistent constituents of the Kompas 100 Index on day  $d$

$P_{i,d}$  : stock price of firms listed as consistent constituents of the Kompas 100 Index on day  $d$

$P_{i,d-1}$  : stock price of firms listed as consistent constituents of the Kompas 100 Index on day  $d-1$

2. Calculate the standard deviation of the daily exchange rate returns over the years, which captures the volatility (risk) of the firms's stock return, using the following formula:

$$\sigma_{i,t} = \sqrt{\frac{1}{n} \sum_{d=1}^n (R_{i,d} - \bar{R}_i)^2} \quad (3.8)$$

Where:

$\sigma_{i,t}$  : standard deviation of daily stock return for firms  $i$  in year  $t$

$\bar{R}_i$  : average daily return of the firms  $i$  throughout the year

$n$  : number of trading days

3. The standard deviation obtained in step 2 will be annualized by multiplying it with the square root of the number of trading days ( $\sqrt{n}$ ) to represent the Indonesia's Kompas 100 permanent constituents Index firms for year  $t$ .

To provide clarity and conciseness, the operational variables outlined above will be abbreviated and summarized in the table below.

Table 3.1 Summary of Variables Notation

| Variables                | Notation    | Source                               |
|--------------------------|-------------|--------------------------------------|
| Controlling Ownership    | CTRL        | Bloomberg & Company<br>Annual Report |
| Exchange Rate Volatility | ER_VOLA     | Investing.com                        |
| Return on Asset (ROA)    | ROA         | Bloomberg & Company<br>Annual Report |
| Market Volatility (IHSG) | MARKET_VOLA | Investing.com                        |
| Stock Volatility         | STOCK_VOLA  | Investing.com, IDX                   |

### 3.3 Sampling Method

This study employs purposive sampling method to validate data, concentrating on firms in the Kompas 100 Index of the Indonesia Stock Exchange, which includes liquid and fundamentally robust companies across different sectors, serving as a benchmark for investor sentiment and market performance. The company list was obtained from the official IDX publication.

This study examines 37 permanent constituent firms in the Kompas 100 from 2014 to 2024, differentiating controlling ownership (P) into two types: KP (commissioners) and DP (directors). This approach enhances the governance analysis by considering board oversight and executive authority, thus ensuring consistency and minimizing survivorship bias.

The selected firms demonstrate stable operations, sustained investor interest, and consistent trading activity essential for analyzing volatility behavior. The sampling process follows these criteria:

- The company must publish complete and audited financial reports throughout the observation period (2014–2024).
- The company must not change its core business activities during the period.
- The company must remain continuously listed on the IDX and included in the Kompas 100 Index during the study period.

This filtering process selects firms that yield reliable data for analyzing ownership concentration, macroeconomic, and profitability impacts on stock volatility. Using Kompas 100 constituents bolsters the study's integrity, highlighting Indonesia's corporate elite whose governance and market responses affect capital market dynamics (see appendix).

### **3.4 Data Collection Method**

This research applies a quantitative approach using secondary data to analyze the relationship between controlling ownership, profitability, exchange rate volatility, and stock volatility among the Kompas 100 permanent constituent companies during 2014–2024. Data were collected through documentation and literature review, ensuring reliability and alignment with the research objectives.

The main data sources include the Indonesia Stock Exchange (IDX) for firm listings and market performance, Bloomberg Terminal for detailed ownership structures (including controlling ownership by foreign institutions and retail), and company annual reports for financial performance indicators such as ROA.

Additionally, this study utilized data from Investing.com for daily USD/IDR and IHSG volatility calculations, supplemented by academic journals, news, books, and reports. This thorough data collection approach ensures accuracy and robustness, aiding in the understanding of volatility dynamics in Indonesia's capital market.

### **3.5 Data Analysis Method**

This study uses a panel data regression model to analyze the connections between controlling ownership, exchange rate volatility, ROA, and stock volatility, with market volatility (IHSG) serving as a moderating variable. The use of panel data analysis integrates time-series and cross-sectional dimensions to provide a deeper insight into both firm-specific and market-wide variations over time.

As explained by Hsiao (2014), panel data enhances the ability to detect and measure effects that are not observable in pure time-series or cross-sectional data, while improving the efficiency of econometric estimates by controlling for unobserved heterogeneity.

This study utilizes the EViews 13 software to process and analyze the data, applying a model that integrates firm-level and temporal dimensions to capture the dynamic behavior of Indonesia's top-listed firms over the 2014–2024 period. The general panel data regression equation for this research can be formulated as:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_n X_{nit} \dots + \beta_n Z_{it} + \beta_n (X_1 * Z)_{it} \\ + \beta_n (X_2 * Z)_{it} + \beta_n (X_n * Z)_{it} \dots + \varepsilon_{it} \quad (3.9)$$

Where:

$Y_{it}$  : The firm risk of company  $i$  on period  $t$

$X_1, X_2, X_n$  : Independent variables

$Z$  : Moderating variable

$\beta_0$  : Constant

$\beta_1, \beta_2, \beta_n$  : Coefficients Regressions

$i$  : Entity

$t$  : Time series

$\varepsilon_{it}$  : Component error of time period and cross-sectional data observation

### 3.5.1 Selection of Panel Data Regression Model

To identify the most suitable panel data estimation technique, this study utilizes various model selection tests, comparing the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM).

The Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test are sequentially applied to select the most efficient model that accurately reflects the heterogeneity across firms and time periods (Baltagi, 2021).

#### 1. Chow Test

The Chow Test is used to determine whether the Fixed Effect Model (FEM) provides a better fit than the Common Effect Model (CEM). It examines whether firm-specific intercepts are statistically significant, implying that differences across firms are not random.

- If the p-value is less than 0.05,  $H_0$  is rejected, indicating that the FEM should be used.
- If the p-value is greater than 0.05,  $H_0$  is not rejected, indicating that CEM is more applicable.

#### 2. Hausman Test

Once the Fixed Effect Model is found preferable to the Common Effect Model, the Hausman Test is conducted to choose between the Fixed Effect Model (FEM) and Random Effect Model (REM). This test evaluates whether individual effects are correlated with the independent variables (Hausman, 1978). The decision criteria are as follows:

- $H_0$ : the Random Effect Model is more suitable than the Fixed Effect Model
- $H_a$ : the Fixed Effect Model is more appropriate than the Random Effect Model.

The selection of the rule is based on the p-value. If the p-value is less than 0.05,  $H_0$  is rejected and the Fixed Effect Model is preferred. If the p-value is larger than 0.05,  $H_0$  is not rejected and the Random Effect Model is more applicable.

### 3. Lagrange Multiplier Test

The Lagrange Multiplier (LM) Test, developed by Breusch and Pagan (1980), is used to determine whether the Random Effect Model (REM) provides a better fit than the Common Effect Model (CEM). It tests whether the variance across firms is zero, meaning that cross-sectional differences are insignificant.

- $H_0$ : The Common Effect Model is more suitable than the Random Effect Model.
- $H_a$ : the Random Effect Model is more applicable than the Common Effect Model.

The selection of the rule is based on the p-value. If the p-value is less than 0.05,  $H_0$  is rejected and the Fixed Effect Model is favored. If the p-value is larger than 0.05,  $H_0$  is not rejected and the Random Effect Model is more applicable.

#### 3.5.2 Panel Data Regression Estimation Model

This study employs the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) to analyze how controlling ownership, exchange rate volatility, and profitability (ROA) influence stock volatility in Kompas 100 firms (2014–2024), allowing firm-specific and time-specific variations to be properly captured.

##### 1. Common Effect Model (CEM)

The Common Effect Model assumes that all firms and time periods share identical intercepts and slopes, effectively pooling the data without distinguishing cross-sectional or temporal differences. In this approach, the model treats the entire dataset as a single regression using the Ordinary Least Squares (OLS) estimation method.

Cao and Zhou (2022) note that the Common Effect Model suits datasets with limited firm-level variation or short-term dynamics. However, Indonesia's diverse governance structures and recurring macroeconomic shocks create substantial heterogeneity, making CEM oversimplify relationships and potentially distort empirical results.

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + \varepsilon_{it} \quad (3.10)$$

Where in this equation:

- $n$  : total number of cross-sectional units (entities)
- $i$  : specific individual or entity being observed
- $t$  : time period for each observation

## 2. Fixed Effect Model (FEM)

The Fixed Effect Model enhances the CEM by incorporating firm-specific differences through unique intercepts for each entity, while keeping a consistent slope across all firms. It assumes these intercepts reflect characteristics that are stable over time but vary among firms, including ownership structure, management style, or industry practices.

The Least Squares Dummy Variable (LSDV) technique estimates fixed effects using dummy variables (Greene, 2020), particularly useful in contexts with unobserved heterogeneity related to independent variables. It reveals the effects of controlling shareholders, like family or conglomerate ownership, on stock behavior in Indonesia's capital market.

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + \alpha_i + \varepsilon_{it} \quad (3.11)$$

Where in this equation:

- $\alpha_i$  : unabsorbed individual-specific effect that remains constant over time for each entity
- $\varepsilon_i$  : stochastic error term, capturing random fluctuations not explained by the model

### 3. Random Effect Model (REM)

In contrast, the Random Effect Model assumes that individual differences across firms are random and uncorrelated with the explanatory variables. Rather than introducing dummy variables, the REM incorporates the firm-specific effects into the error term, making it suitable for datasets where the sample represents a larger population.

The Random Effects Model (REM) by Wooldridge (2020) utilizes the Generalized Least Squares (GLS) method for efficient estimations that accommodate variations in cross-sectional and time-series data. It is frequently applied in studies of stock volatility, particularly when firm-specific factors are influenced by macroeconomic or global conditions.

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \cdots + \beta_n X_{nit} + \varepsilon_{it} + \mu_{it} \quad (3.12)$$

Where in this equation:

$\varepsilon_{it}$  : the idiosyncratic error term related to the time-series component

$\mu_{it}$  : the individual-specific random error component associated with each cross-sectional unit

#### 3.5.3 Classical Assumption Test

This study conducts a series of classical assumption tests to ensure the reliability of the regression estimates generated from panel data. These diagnostic checks help validate that the model meets the statistical requirements necessary for producing unbiased, consistent, and efficient estimators.

### 1. Multicollinearity Test

To ensure robust regression results, a multicollinearity test assesses the correlation among independent variables. Lafi and Kaneene (1992) state that multicollinearity arises when two or more explanatory variables are highly correlated, which can inflate standard errors and distort coefficient estimates.

This study utilizes Variance Inflation Factor (VIF) and Tolerance values to assess multicollinearity, identifying it as absent when VIF is below 10 and Tolerance exceeds 0.01, and present when VIF exceeds 10 or Tolerance is below 0.01. These tools enhance the accuracy and interpretability of regression results.

### 2. Normality Test

A normality test evaluates whether the residuals of the regression model follow a normal distribution, which is essential for ensuring the validity of statistical inference, particularly for t-tests and F-tests. As stated by Gujarati & Porter (2009), non-normal residuals can lead to biased hypothesis testing and unreliable confidence intervals.

This study utilizes the Jarque–Bera (JB) test to diagnose normality, confirming it when the JB probability value is above 0.05. A value below this threshold indicates non-normality of residuals. This testing supports the fulfilment of regression model assumptions, thereby strengthening the validity of the empirical results.

### 3. Heteroscedasticity Test

The heteroscedasticity test examines whether the variance of the regression residuals is constant across observations. According to Wooldridge (2010), heteroscedasticity leads to inefficient estimators and biased standard errors, which can distort hypothesis testing and undermine the reliability of coefficient interpretations.

This study uses the Breusch–Pagan and White tests to identify heteroscedasticity, indicating its absence when the p-value is above 0.05 and its presence when below.

Detecting heteroscedasticity necessitates applying robust standard errors to preserve the validity of regression results and improve inferential accuracy.

### 3.5.4 Hypothesis Testing

The hypothesis was tested using a panel data regression analysis model (FEM), with the equation produced is:

$$Y_{it} = \beta_0 + \beta_1 CTRL_{it} + \beta_2 ER\_VOLA_t + \beta_3 ROA_{it} + \beta_4 MARKET\_VOLA_t + \beta_5 (CTRL * MARKET\_VOLA)_{it} + \beta_6 (ER\_VOLA * MARKET\_VOLA)_{it} + \beta_7 (ROA * MARKET\_VOLA)_{it} + \alpha_{it} + \varepsilon_{it} \quad (3.13)$$

This employs t and F tests to predict the strength of independent variable influence on dependent variables.

#### 1. Model Feasibility Test (F-Test)

The F-test evaluates the collective impact of explanatory variables on a dependent variable in a regression model. According to Wooldridge (2020), it tests the hypothesis that all regression coefficients, except for the intercept, are zero.

A significant F-statistic (greater than the F-table value at a 5% level) leads to the rejection of the null hypothesis ( $H_0$ ), indicating the model's explanatory power. If the F-statistic is lower, the hypothesis cannot be rejected, implying that the explanatory variables do not significantly affect the dependent variable.

The F-test is important in econometric research for validating model structures before evaluating individual coefficients. A p-value below 0.05 indicates significant collective influence of predictors, while a higher value suggests insignificance (Greene, 2018), confirming the F-test's role in assessing regression model effectiveness in capturing variable relationships.

- $H_0$ : there is no significant simultaneous effect between the independent variables on the dependent variable
- $H_a$ : there is a significant simultaneous effect between the independent variables on the dependent variable

## 2. Partial Test (t-Test)

The t-test evaluates the individual impact of explanatory variables on the dependent variable, determining if a regression coefficient significantly differs from zero, which indicates the variable's independent contribution to explaining variations in the dependent variable (Gujarati & Porter, 2020).

At a 5% significance level, if the p-value is below 0.05, the null hypothesis ( $H_0$ ) is rejected, indicating that the variable has a significant individual effect. Conversely, if the p-value exceeds 0.05, the variable does not have a statistically meaningful partial influence.

This test enables researchers to pinpoint and analyze the individual contributions of different factors while controlling for others, enhancing the understanding of the model's dynamics. The t-test is crucial for validating theoretical expectations and confirming that observed relationships are not due to random variations or multicollinearity in the dataset.

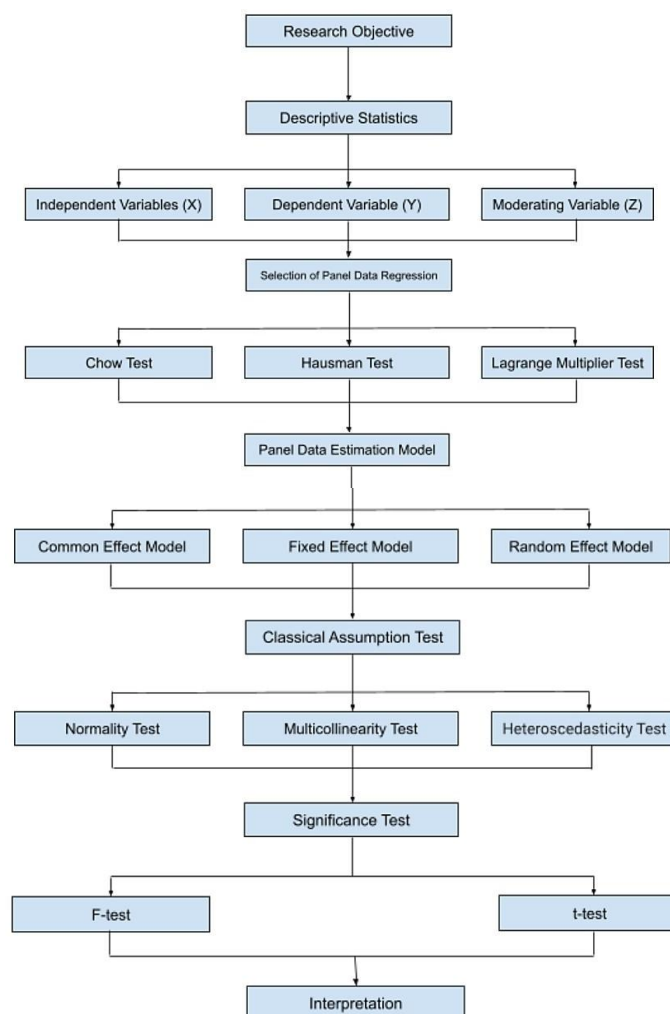
- $H_0: \beta = 0$  (The variable has no significant partial effect)
- $H_a: \beta \neq 0$  (The variable has a significant partial effect)

### 3.6 Research Process

The research process starts by identifying variables and collecting relevant data. A panel dataset is constructed to capture firm-specific and temporal variations. Model selection is performed using the Chow Test, Hausman Test, and Lagrange Multiplier Test to choose among Common Effect, Fixed Effect, and Random Effect models.

Diagnostic tests, including normality, multicollinearity, and heteroscedasticity checks, as well as significance tests like F-test and t-test, evaluate the model's robustness and coefficient significance. The final stage interprets results, aligning empirical findings with theoretical expectations, and discussing their implications for financial market behavior and governance research.

Figure 3.1 Research Process



## CHAPTER IV FINDINGS, ANALYSIS, AND DISCUSSION

### 4.1 Finding and Analysis

This chapter presents the empirical findings on the determinants of stock volatility, focusing on controlling ownership, exchange rate volatility, and profitability, with market-wide volatility as a moderating factor. The analysis uses panel data from 37 permanent Kompas 100 firms over the 2014–2024 period, capturing Indonesia’s most liquid and closely supervised companies.

To address market behavior changes during systemic stress, a structural break model including a COVID-19 dummy variable is utilized. The chapter presents descriptive statistics, followed by model selection and regression findings, and concludes with a discussion linking the results to pertinent theories and the dynamics of Indonesia's capital market.

#### 4.1.1 Descriptive Statistics

The initial phase in the analysis is to look at the descriptive statistics for every variable utilized in the study, which includes 407 firm-year observations from the 37 chosen companies across a ten-year period. Table 4.1 below displays the summary statistics.

| Effects Test                       | Mean   | Median | Max    | Min     | Std. Dev. |
|------------------------------------|--------|--------|--------|---------|-----------|
| Stock Volatility (VOLA)            | 37.973 | 35.837 | 97.902 | 15.583  | 12.352    |
| Controlling Ownership (CTRL)       | 50.532 | 55     | 100    | 0       | 20.966    |
| Exchange Rate Volatility (ER-VOLA) | 5.895  | 5.850  | 10.617 | 2.565   | 2.075     |
| Return On Asset (ROA)              | 8.337  | 5.765  | 55.734 | -15.659 | 8.954     |
| Market Volatility (MARKET-VOLA)    | 13.969 | 13.237 | 26.340 | 8.111   | 4.608     |

Table 4.1 Descriptive Statistics

The descriptive statistics indicate that stock volatility (VOLA) among Kompas 100 firms is high, with a mean of 37.973 and a wide range from 15.583 to 97.902, suggesting significant variation in market risk exposure and uneven responses of stock prices to firm-specific and macroeconomic factors.

The standard deviation of 12.352 reinforces the presence of pronounced volatility clustering, which is consistent with emerging market dynamics where shocks tend to amplify price movements.

Controlling ownership (CTRL) exhibits a high average of 50.532, with a median of 55 and a maximum of 100, indicating that ownership concentration remains a dominant governance structure in Indonesia. The wide range, spanning from 0 to 100, combined with a standard deviation of 20.966, implies meaningful variation in governance arrangements across firms.

This variation is analytically important, as it provides sufficient cross-sectional contrast to evaluate whether concentrated ownership stabilizes or amplifies stock volatility, as predicted by grand theories in this study.

Exchange rate volatility (ER\_VOLA) has a mean of 5.895 and a narrow range of 2.565 to 10.617. The standard deviation of 2.075 indicates that the currency risk is mostly systemic, influencing firms through macroeconomic channels rather than being firm-specific. This highlights its function as an external shock variable interacting with firm fundamentals.

Profitability, measured by ROA, presents notable variation, with a mean of 8.337, a maximum of 55.734, and a minimum of -15.659. The high standard deviation of 8.954 indicates significant differences in operational performance among firms, emphasizing ROA's role in predicting stock volatility, as investors differentiate between stable and financially distressed companies.

Market volatility (MARKET\_VOLA) has a mean of 13.969, ranging from 8.111 to 26.340, with a standard deviation of 4.608. This indicates periods of heightened market uncertainty, though not extremely crisis-like. The existence of

both moderate and high volatility regimes allows for analysis of the impact on firm-level governance and fundamentals amid increased market uncertainty.

#### 4.1.2 Panel Data Model Selection

A selection of tests occurred out in accordance with the approach to identify the best panel data regression model for this investigation. The ultimate model choice is determined by the outcomes of the Chow, Hausman, and Lagrange Multiplier tests.

##### 1. Chow Test (Redundant Fixed Effects Test)

The Chow test is applied to assess whether the panel data are better estimated using the Common Effect Model or the Fixed Effect Model. This procedure evaluates the relevance of firm-specific characteristics that may systematically influence the behavior of the variables across companies.

If the cross-section F probability value exceeds 0.05, the CEM model is preferred, if it is below 0.05, the FEM model is used. This reflects the findings of the Chow test in the study.

| Effects Test             | Statistic     |
|--------------------------|---------------|
| Cross-section F          | 4.925680***   |
| Cross-section Chi-square | 160.794863*** |

Significance Level: (- Not Significant, \* at 10%, \*\* at 5%, \*\*\* at 1%)

Table 4.2 Chow Test Results

The results of the Redundant Fixed Effects test show that the probability value for the Cross-section F is  $0.00 < 0.05$ , as shown in table above. As a result,  $H_0$  is rejected, and a more suitable model to used based on this test is Fixed Effect Model (FEM) than the Common Effect Model (CEM).

##### 2. Hausman Test (Correlated Random Effects Test)

The Hausman test assesses the effectiveness of fixed effect model (FEM) and random effect model (REM). It indicates that if the cross-section random probability value is greater than 0.05, the REM is preferred, if less than 0.05, the FEM is chosen. The Hausman test yielded the following findings.

| Test Summary         | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|----------------------|-------------------|--------------|-------|
| Cross-section random | 0.000000          | 4            | 10.00 |

Table 4.3 Hausman Test Results

The Hausman test indicates a probability of 10.000, exceeding the 0.05 significance level, leading to the conclusion that the null hypothesis is not rejected. This suggests that the individual effects are not correlated with the other regressors in the model, making the Random Effect Model (REM) the preferred choice over the Fixed Effect Model.

### 3. Lagrange Multiplier (LM) Test

The Lagrange Multiplier (LM) test is utilized to evaluate whether the common effect model (CEM) or the random effect model (REM) is more suitable. A probability value greater than 0.05 indicates the preference for CEM, while a value less than 0.05 suggests the use of REM. The study presents the results of the Lagrange Multiplier test.

Table 4.4 Breusch-Pagan LM Test Results

| Test Hypothesis | Cross-section | Time     | Both     |
|-----------------|---------------|----------|----------|
| Breusch-Pagan   | 1.120134      | 4.922360 | 1.169357 |
|                 | (0.0000)      | (0.0265) | (0.0000) |

The Lagrange Multiplier test indicates a probability of the cross-section of  $0.00 < 0.05$ , leading to the rejection of  $H_0$  and suggesting that the Random Effects Model (REM) is more appropriate.

Table 4.5 Summary of Panel Data Model Selection Tests

| Test                     | Compared Models           | Selected Model            |
|--------------------------|---------------------------|---------------------------|
| Chow Test                | Common-Effect Model (CEM) | Fixed-Effect Model (FEM)  |
|                          | Fixed-Effect Model (FEM)  |                           |
| Hausman Test             | Fixed-Effect Model (FEM)  | Random-Effect Model (REM) |
|                          | Random-Effect Model (REM) |                           |
| Lagrange Multiplier Test | Random-Effect Model (REM) | Random-Effect Model (REM) |
|                          | Common-Effect Model (CEM) |                           |

The Random Effect Model (REM) is found to be the most appropriate method for assessing the data in this study based on the findings of the Hausman test (REM is favored over FEM) and the Lagrange Multiplier test (REM is preferred over CEM). This model will thus be used for the ensuing regression analysis.

#### 4.1.3 Multicollinearity Test

The multicollinearity test is used to determine whether the independent variables in the regression model are related in any way. The Variance Inflation Factor (VIF) and Tolerance value can be used to determine whether multicollinearity was existent.

If the tolerance value is greater than 0.01 and the VIF is less than 10, multicollinearity is said to be absent. However, if the tolerance value is less than 0.01 and the VIF is more than 10, it is deemed to exist. The results of the multicollinearity test are as follows.

Table 4.6 Variance Inflation Factor (VIF) Test Results

| Variable                           | Centered VIF |
|------------------------------------|--------------|
| Controlling Ownership (CTRL)       | 1.00592      |
| Exchange Rate Volatility (ER_VOLA) | 1.010957     |
| Return on Asset (ROA)              | 1.006393     |

As shown in Table 4.6, the Centered VIF value for each independent variable is significantly below the critical threshold of 10. For the interest rate variable, the highest VIF value is just 1.010957. These findings offer compelling proof that multicollinearity is not an issue for this regression model.

As a result, the panel data analysis that follows can continue, and the calculated coefficients can be regarded as trustworthy and unaffected by problems with correlation between the predictors.

#### 4.1.4 Significance Test

The random effect model (REM) is the best model to apply in this investigation, according to the regression model selection results however, the significance test will be conducted using the fixed effect model (FEM). The fixed effect model is used to determine the coefficients ( $\beta_1$  through  $\beta_7$ ) in this equation.

In order to formally test each of the six research hypotheses developed in Chapter II, the analysis that follows focuses on the statistical significance and the direction (positive or negative) of these coefficients. Below is a presentation and discussion of the regression's findings.

#### 4.1.4.1 Regression Model Without Moderating Variables

To better understand the impact of core independent variables on stock volatility, a separate regression was conducted using the Fixed Effect Model without market volatility moderating variables. Isolating the direct relationships is made easier by this reduced approach. The outcomes are shown below.

Table 4.7 Regression Results Without Moderating Variables

| <b>Variables/Model</b>    | <b>Coefficient</b>                                                                              | <b>Std.Error</b> | <b>t-Statistic</b> | <b>Significance Level</b> |
|---------------------------|-------------------------------------------------------------------------------------------------|------------------|--------------------|---------------------------|
| <b>CTRL</b>               | -0.082349                                                                                       | 0.026685         | -3.086014          | ***                       |
| <b>ER-VOLA</b>            | -0.955715                                                                                       | 0.246402         | -3.878686          | ***                       |
| <b>ROA</b>                | -0.195892                                                                                       | 0.062142         | -3.152345          | ***                       |
| <b>Adjusted R-squared</b> | 0.759574                                                                                        |                  |                    |                           |
| <b>F-statistic</b>        | 3.306665                                                                                        |                  |                    |                           |
| <b>Estimation Model</b>   | FEM                                                                                             |                  |                    |                           |
| <b>Covariance Model</b>   | White Diagonal                                                                                  |                  |                    |                           |
| <b>Significance Level</b> | * at 10% level of significance, ** at 5% level of significance, *** at 1% level of significance |                  |                    |                           |

The regression analysis indicates that the model effectively explains stock volatility, with an adjusted R-squared of 0.759574, signifying that the independent variables account for about 75.96% of the variation in firm-level volatility. The statistically significant F-statistic validates the adequacy of the Fixed Effect Model in reflecting firm-specific dynamics within the Kompas 100 sample.

At the variable level, controlling ownership (CTRL) exhibits a negative and statistically significant coefficient (−0.082349), indicating that higher ownership control is associated with lower stock volatility, consistent with the monitoring and stabilization role predicted by governance theory and Shleifer and Vishny (1986).

Exchange rate volatility (ER\_VOLA) also shows a strong and significant negative coefficient ( $-0.955715$ ), suggesting that firms, particularly large and well-monitored ones, are able to mitigate currency risk, likely through hedging and operational diversification.

Profitability (ROA) similarly has a negative and significant effect ( $-0.195892$ ), implying that more profitable firms send stronger signals of financial stability, thereby reducing uncertainty and dampening stock price fluctuations.

#### 4.1.4.2 Regression Model With Moderating Variables

In order to test for moderating effects, the analysis now switches to the full regression model, which includes the market volatility moderating variable and its interaction with each of the independent variables. This model seeks to offer a more thorough understanding of how the link between the major variables and stock volatility may have changed as a result of market volatility. Table 4.8 displays the outcomes of this Fixed Effect Model.

Table 4.8 Regression Results with Moderating Variables

| Variables/Model            | Coefficient                                                                                     | Std.Error | t-Statistic | Significance Level |
|----------------------------|-------------------------------------------------------------------------------------------------|-----------|-------------|--------------------|
| <b>CTRL</b>                | -0.024795                                                                                       | 0.043161  | -0.574469   | -                  |
| <b>ER-VOLA</b>             | -1.040198                                                                                       | 0.470108  | -2.212679   | *                  |
| <b>ROA</b>                 | 0.515777                                                                                        | 0.149219  | 3.456522    | ***                |
| <b>MARKET_VOLA</b>         | 2.076725                                                                                        | 0.214797  | 9.668304    | ***                |
| <b>CTRL*MARKET_VOLA</b>    | -0.003610                                                                                       | 0.001391  | -2.594662   | **                 |
| <b>ER_VOLA*MARKET_VOLA</b> | 0.012130                                                                                        | 0.019484  | 0.622549    | -                  |
| <b>ROA*MARKET_VOLA</b>     | -0.047477                                                                                       | 0.005282  | -8.988485   | ***                |
| <b>Adjusted R-squared</b>  | 0.767040                                                                                        |           |             |                    |
| <b>F-statistic</b>         | 3.208815                                                                                        |           |             |                    |
| <b>Estimation Model</b>    | FEM                                                                                             |           |             |                    |
| <b>Covariance Model</b>    | White (period-cluster)                                                                          |           |             |                    |
| <b>Significance Level</b>  | * at 10% level of significance, ** at 5% level of significance, *** at 1% level of significance |           |             |                    |

The regression model with moderating variables shows strong explanatory power, with an adjusted R-squared of 0.767040, indicating that approximately 76.7% of the variation in stock volatility is explained by the model.

The F-statistic of 3.208815 confirms that the variables are jointly significant, validating the use of the Fixed Effect Model to capture firm-specific heterogeneity under varying market conditions.

Controlling ownership (CTRL) shows a negative but statistically insignificant coefficient of  $-0.024795$  with a t-statistic of  $-0.574469$ . This implies that once market-wide volatility is explicitly considered, the direct stabilizing role of controlling shareholders weakens.

In the current Indonesian market, this finding is consistent with the view that heightened transparency requirements, tighter disclosure rules, and increased market scrutiny limit the unilateral influence of controlling owners, even in firms with concentrated ownership structures.

Exchange rate volatility (ER\_VOLA) remains significant at the 10% level, with a negative coefficient of  $-1.040198$  and a t-statistic of  $-2.212679$ . This result suggests that, in practice, rupiah fluctuations no longer uniformly amplify firm-level volatility.

Many large Indonesian firms, particularly within the Kompas 100, actively hedge currency exposure and diversify funding sources, allowing exchange rate risk to be partially absorbed rather than transmitted directly into stock prices.

Profitability, measured by ROA, significantly stabilizes perceived risk and investor expectations, as indicated by a positive coefficient of 0.515777 (t-statistic 3.456522) at the 1% level. This suggests that firms with better operating performance experience lower risk and aligns with risk-return theory, where consistent profitability mitigates extreme market responses.

Market volatility (MARKET\_VOLA) is the most influential variable in the model, with a large positive coefficient of 2.076725 and a very high t-statistic of 9.668304, significant at the 1% level.

This confirms that stock volatility in Indonesia is strongly driven by market-wide conditions, where systemic shocks amplify firm-level price movements regardless of individual fundamentals.

The interaction effects further refine these insights. The interaction between controlling ownership and market volatility is negative and significant at the 5% level, with a coefficient of  $-0.003610$ , indicating that strong control structures help dampen volatility when market risk rises.

The positive but insignificant interaction between exchange rate volatility and market volatility (coefficient  $0.012130$ ) indicates limited amplification during market stress. Conversely, the negative and significant interaction between profitability and market volatility (coefficient  $-0.047477$ ) reveals that profitability effectively mitigates volatility in deteriorating market conditions.

#### 4.1.4.3 Panel Regression Model Summary Result

Table 4.9 Summary Comparison of Regression Models

| Variables/Model                                                        | Model 1<br>(Without Moderation) | Model 2<br>(With Moderation) |
|------------------------------------------------------------------------|---------------------------------|------------------------------|
|                                                                        | Coefficient (Significance)      | Coefficient (Significance)   |
| CTRL                                                                   | -0.082349 (***)                 | -0.024795 (-)                |
| ER_VOLA                                                                | -0.955715 (***)                 | -1.040198 (*)                |
| ROA                                                                    | -0.195892 (***)                 | 0.515777 (***)               |
| MARKET_VOLA                                                            | -                               | 2.076725 (***)               |
| CTRL*<br>MARKET_VOLA                                                   | -                               | -0.003610 (**)               |
| ER_VOLA*<br>MARKET_VOLA                                                | -                               | 0.012130 (-)                 |
| ROA*<br>MARKET_VOLA                                                    | -                               | -0.047477 (***)              |
| R-squared                                                              | 0.783261                        | 0.791713                     |
| Adjusted R-squared                                                     | 0.759574                        | 0.767040                     |
| F-statistic                                                            | 3.306665                        | 3.208815                     |
| Estimation Model                                                       | FEM                             | FEM                          |
| Covariance Model                                                       | White Diagonal                  | White (period-cluster)       |
| Significance Level: (- Not significant, * at 10%, ** at 5%, *** at 1%) |                                 |                              |

To provide clarity, this section summarizes and compares two panel regression models: the simplified model without moderating variables and the full model that includes them. This comparison underscores the key findings and illustrates the effects of incorporating market volatility interaction terms.

The side-by-side estimation highlights how the inclusion of market volatility reshapes the relevance of firm-level factors. In Model 1, controlling ownership shows a negative and highly significant coefficient ( $-0.082349$ , at the 1% level), indicating that concentrated control is associated with lower stock volatility under normal market conditions.

Exchange rate volatility also carries a negative and significant effect ( $-0.955715$ , at the 1% level), while ROA consistently reduces volatility ( $-0.195892$ , at the 1% level), suggesting that governance discipline and profitability act as stabilizing signals when systemic pressure is limited.

Once market volatility is introduced in Model 2, the structure of risk transmission changes noticeably. Market volatility itself emerges as the dominant driver of stock volatility with a large positive coefficient ( $2.076725$ , at the 1% level), confirming that broad market sentiment outweighs firm-specific fundamentals during turbulent periods.

At the same time, the direct effect of controlling ownership becomes statistically insignificant ( $-0.024795$ ), implying that investors no longer price ownership structure independently when market-wide uncertainty intensifies.

The interaction terms reveal more nuanced governance dynamics. The interaction between controlling ownership and market volatility is negative and significant ( $-0.003610$ , at the 5% level), indicating that controlling shareholders regain relevance precisely when markets are unstable.

This suggests that concentrated owners function as a stabilizing mechanism under stress, consistent with governance theory, by reinforcing monitoring and limiting excessive managerial risk-taking when volatility spikes.

In contrast, the interaction between exchange rate volatility and market volatility is positive but insignificant (0.012130), implying that currency shocks do not materially amplify stock volatility once overall market risk is high.

This likely reflects current industry practices, where large Indonesian firms, particularly Kompas 100 constituents, actively hedge foreign exchange exposure, reducing the marginal impact of currency movements during periods of systemic turbulence.

Profitability displays a structurally different pattern. While ROA turns positive and significant in Model 2 (0.515777, at the 1% level), its interaction with market volatility is strongly negative and significant ( $-0.047477$ , at the 1% level). This indicates that profitability stabilizes prices only when market conditions deteriorate, acting as a buffer against panic-driven repricing.

Overall, the comparison demonstrates that the model is most robust in capturing how market volatility reallocates the importance of governance, macro risk, and firm performance in explaining stock volatility.

## 4.1.5 Panel Regression Model Summary Results With Controlling Variables

| Variables/<br>Model                                                           | Without Moderating &<br>Dummy |             | With Moderating Without<br>Dummy |             | With Dummy Without<br>Moderating |             |
|-------------------------------------------------------------------------------|-------------------------------|-------------|----------------------------------|-------------|----------------------------------|-------------|
|                                                                               | Coefficient<br>(Significance) | t-Statistic | Coefficient<br>(Significance)    | t-Statistic | Coefficient<br>(Significance)    | t-Statistic |
| <b>Independent Variables</b>                                                  |                               |             |                                  |             |                                  |             |
| CTRL                                                                          | -0.082349 (***)               | -3.086014   | -0.024795 (-)                    | -0.574469   | -0,057246 (*)                    | -1,79317    |
| ER_VOLA                                                                       | -0.955715 (***)               | -3.878686   | -1.040198 (*)                    | -2.212679   | 1.945599 (***)                   | 8.540342    |
| ROA                                                                           | -0.195892 (***)               | -3.152345   | 0.515777 (***)                   | 3.456522    | -0.153488 (**)                   | -2.06672    |
| MARKET_VOLA                                                                   | -                             | -           | 2.076725 (***)                   | 9.668304    | -                                | -           |
| <b>Interaction Variables</b>                                                  |                               |             |                                  |             |                                  |             |
| CTRL*MARKET VOLA                                                              | -                             | -           | -0.003610 (**)                   | -2.594662   | -                                | -           |
| ER_VOLA*MARKET_VOLA                                                           | -                             | -           | 0.012130 (-)                     | 0.622549    | -                                | -           |
| ROA*MARKET_VOLA                                                               | -                             | -           | -0.047477 (***)                  | -8.988485   | -                                | -           |
| <b>Controlling Variables</b>                                                  |                               |             |                                  |             |                                  |             |
| Dcovid19                                                                      |                               |             |                                  |             | 3.30206 (***)                    | 2.989343    |
| Dpost-covid19                                                                 |                               |             |                                  |             | -6.374246 (***)                  | -4.87653    |
|                                                                               |                               |             |                                  |             |                                  |             |
| <b>R-squared</b>                                                              | 0.783261                      |             | 0.791713                         |             | 0.272964                         |             |
| <b>Adjusted R-squared</b>                                                     | 0.759574                      |             | 0.767040                         |             | 0.263899                         |             |
| <b>F-statistic</b>                                                            | 3.306665**                    |             | 3.208815**                       |             | 30.11092***                      |             |
| <b>Estimation Model</b>                                                       | FEM                           |             | FEM                              |             | REM                              |             |
| <b>Covariance Method</b>                                                      | White Diagonal                |             | White (period-cluster)           |             | Swamy and Arora                  |             |
| <b>Significance Level:</b> (- Not significant, * at 10%, ** at 5%, *** at 1%) |                               |             |                                  |             |                                  |             |

Table 4.10 Panel Regression Model With Controlling Variables

The inclusion of COVID-19 and post-COVID dummy variables tests the stability of main results amid an extreme structural break. The COVID-19 dummy reveals a significant positive coefficient (3.30206, at the 1% level), indicating a sharp rise in stock volatility during the pandemic, driven by collapsed investor expectations, liquidity stress, and uncertainty in Indonesian capital markets.

In the post-COVID period, a significant decline in market volatility is observed, indicated by a coefficient of –6.374246 at the 1% level. This decline reflects rapid policy responses, monetary easing, and increased investor confidence, implying a structural change in market behavior rather than being driven by specific firm fundamentals.

The model's explanatory power is significantly reduced with only dummy variables, yielding an Adjusted R-square of around 0.264, compared to over 0.75 for baseline and moderating models. This indicates that the pandemic shock, while increasing volatility, does not replace critical drivers like governance, macro-financial, and profitability factors, serving instead as a temporary risk amplifier.

## **4.2 Discussion**

The panel data regression analyses results are examined in relation to the research hypotheses and theoretical framework from Chapter II. The discussion starts with the significant direct relationships identified in the simplified regression model, followed by an analysis of the moderating effects in the full model, providing a thorough interpretation of the empirical findings outlined in section 4.1.

### **4.2.1 The Effect of Controlling Ownership on Stock Volatility**

The first hypothesis (H1) proposed that concentrated ownership mitigates managerial agency problems by enhancing monitoring, as per Shleifer and Vishny (1986). This alignment of managerial actions with shareholder interests decreases firm-specific uncertainty, stabilizing investor expectations and reducing idiosyncratic risk, evidenced by lower stock price volatility.

The empirical results support this theoretical prediction, as controlling ownership shows a negative and statistically significant relationship with stock volatility.

This finding aligns with recent studies indicating that in emerging markets, concentrated ownership can bolster credibility and mitigate speculative actions, contingent on clear governance structures and improved disclosure quality (Jiang et al., 2023; Naufa et al., 2023; Reyes et al., 2023). Investors view dominant shareholders as effective monitors rather than as additional risks.

In Indonesia, where concentrated ownership is the prevailing governance structure, this stabilizing role becomes especially relevant. Family-controlled and group-affiliated firms often provide clearer strategic direction and tighter oversight, which helps limit information asymmetry and excessive price fluctuations.

Overall, the results confirm H1 and reinforce the view that controlling ownership can serve as a governance mechanism that moderates stock volatility in emerging markets (Shleifer & Vishny, 1986).

#### **4.2.2 The Effect of Exchange Rate Volatility on Stock Volatility**

The second hypothesis (H2) is grounded in international finance theory, which views exchange rate volatility as a core source of macro-financial risk affecting firm cash flows and investor expectations (Adjasi et al., 2019).

In principle, unstable currency movements raise uncertainty over input costs, foreign debt servicing, and trade competitiveness, leading investors to demand higher risk premiums. In emerging markets, where global capital flows are highly sensitive to external signals, this mechanism is expected to translate directly into higher stock price volatility.

However, the empirical results of this study reveal a deviation from this conventional prediction. While exchange rate volatility remains statistically significant, its effect on stock volatility is negative rather than positive.

This outcome reflects a structural shift in how large Indonesian firms, particularly Kompas 100 constituents, manage currency risk. Many of these firms have adopted extensive hedging strategies, diversified revenue streams, and foreign currency matching policies, which reduce their exposure to exchange rate shocks.

In the current market environment, exchange rate movements may therefore act less as a destabilizing force and more as a signal of macro adjustment that firms are already prepared to absorb. For globally integrated and well-governed firms, currency volatility is increasingly internalized through risk management rather than transmitted directly into stock prices.

As a result, although the finding diverges from classical theory, it highlights how institutional maturity and corporate risk management can alter the risk-pricing channel in emerging markets, offering a more nuanced interpretation of exchange rate volatility in Indonesia.

#### **4.2.3 The Effect of Return On Asset (ROA) on Stock Volatility**

The third hypothesis (H3) aligns with Markowitz's (1952) risk–return trade-off, suggesting that returns compensate for risk. Profitability, measured by ROA, indicates how effectively firms convert assets into earnings while managing risk. While high returns derive from risk-taking, consistent profitability demonstrates disciplined investments and reliable cash flows, reducing investor uncertainty.

The study's empirical findings reveal a negative and significant relationship between Return on Assets (ROA) and stock volatility, suggesting that more profitable firms tend to have more stable price movements. This indicates that investors perceive strong profitability as a sign of financial resilience rather than increased risk, particularly when such performance is consistent over time.

These findings support previous studies from emerging markets, indicating that profitability lessens volatility by boosting investor confidence and diminishing responses to macroeconomic disturbances (Al-Shattarat et al., 2022; Zhou & Guo, 2021).

In Indonesia, within the Kompas 100 firms, ROA serves as a credibility indicator, distinguishing robust companies from speculative ones, thus confirming that increased profitability results in lower stock volatility.

#### **4.2.4 The Effect of Market Volatility as Moderating Variable on Controlling Ownership**

The interaction term between controlling ownership and market volatility (H4) is negative and statistically significant at the 5% level, indicating that governance remains relevant even under heightened uncertainty.

This result is consistent with governance theory and Shleifer and Vishny (1986), which emphasize the monitoring role of dominant shareholders.

In periods of market stress, controlling owners cannot fully offset systemic shocks, but they help restrain excessive price fluctuations by anchoring investor expectations. In the current Indonesian market, this suggests that concentrated ownership provides partial stability when volatility rises, rather than losing its relevance entirely.

#### **4.2.5 The Effect of Market Volatility as Moderating Variable on Exchange Rate Volatility**

The interaction between exchange rate volatility and market volatility (H5) shows a positive but statistically insignificant effect on stock volatility. This implies that rising market-wide uncertainty does not meaningfully intensify the impact of currency fluctuations at the firm level. This result, reinforces the conclusion that exchange rate volatility were not a primary of stock volatility in this study.

In today's context, many large Indonesian firms have adopted hedging strategies and diversified funding structures, reducing their sensitivity to exchange rate shocks. As a result, systemic market volatility does not substantially amplify exchange-rate-driven risk, reflecting a shift toward more resilient corporate risk management.

#### **4.2.6 The Effect of Market Volatility as Moderating Variable On Return on Asset (ROA)**

The interaction between ROA and market volatility is negative and highly significant at the 1% level, confirming that profitability continues to play a stabilizing role during turbulent periods.

This aligns with the risk–return framework posited by Markowitz (1952), emphasizing that robust cash flows lower perceived uncertainty. In volatile markets, investors prefer profitable firms, which stabilizes stock prices. This indicates that profitability serves as a critical buffer against market volatility in the context of global tightening and shocks.

## CHAPTER V CONCLUSION AND RECOMMENDATION

### 5.1 Conclusion

This study analyzes the impact of controlling ownership, exchange rate volatility, and profitability (ROA) on stock volatility in Indonesia, considering market-wide volatility as a moderating factor. It uses panel data from 37 firms in the Kompas 100 Index between 2014 and 2024 to integrate firm-level governance features with macro-financial dynamics.

The empirical results show that all main variables play meaningful roles, but in different directions and magnitudes. Controlling ownership has negative effect on stock volatility, suggesting that concentrated ownership strengthens monitoring and reduces uncertainty, thereby stabilizing stock prices.

Exchange rate volatility negatively affects stock volatility, indicating that currency fluctuations are linked to reduced firm-level volatility. Large Kompas 100 firms can mitigate exchange rate risk through strategies like hedging, diversification, or foreign currency revenues.

Additionally, investor anticipation of currency movements may lessen market overreactions, suggesting that exchange rate risk does not inherently lead to instability among Indonesia's major listed firms.

Profitability (ROA) also shows a negative relationship with stock volatility, implying that stronger firm performance provides credible signals to investors and reduces speculative fluctuations.

Importantly, the findings demonstrate that stock volatility is not driven by governance or fundamentals alone. The moderating analysis reveals that market-wide volatility conditions these relationships. When overall market uncertainty increases, the stabilizing effects of controlling ownership and profitability become weaker, while the influence of exchange rate volatility becomes more pronounced.

This suggests that systemic shocks can overshadow firm-specific strengths, limiting the protective role of good governance and solid performance during turbulent periods.

Overall, the results highlight that stock volatility in Indonesia is shaped by a dynamic interaction between ownership structure, macroeconomic exposure, firm performance, and market sentiment. Governance and profitability contribute to stability under normal conditions, but their effectiveness depends on the broader risk environment.

This provides a more critical insight: in emerging markets, firm-level quality matters, but it cannot fully insulate companies from macroeconomic and systemic market pressures.

## **5.2 Limitations & Recommendation**

This study faces several limitations that suggest directions for further inquiry. The analysis centers on governance and selected macro-financial variables, which may not fully capture other structural determinants of stock volatility such as leverage, liquidity positions, debt maturity, and operating risk.

In addition, focusing on firms with high trading activity introduces a liquidity bias, limiting the applicability of findings to less actively traded stocks. The use of a binary COVID-19 dummy also captures only broad structural shifts, while overlooking nonlinear investor behavior and varying crisis intensity.

Future research can enhance this framework by incorporating firm-level risk measures, including leverage, liquidity buffers, cash-flow volatility, and the Degree of Operating Leverage to better reflect earnings sensitivity. Examining EBIT growth thresholds and the responsiveness of EBIT and net income to sales changes would deepen understanding of operational and financial risk transmission.

Methodologically, applying nonlinear or regime-dependent models and expanding samples across firm sizes or ASEAN markets would strengthen external validity and align governance insights more closely with real-market dynamics.

### **5.3 Implications of the Study**

The results of this study have a number of theoretical and practical implications for the many parties involved in the Indonesian capital market with multi sector companies.

#### **For Investors**

The findings suggest that investors should look beyond short-term price movements and pay closer attention to ownership structure and profitability when assessing risk. Controlling ownership and strong ROA are shown to reduce stock volatility, particularly under normal market conditions, signaling governance credibility and financial resilience.

However, during periods of heightened market volatility, firm-level strengths are partially overshadowed, implying that portfolio strategies should balance governance quality with macro-risk awareness.

#### **For Corporate Managers and Listed Firms**

For managers and boards, the results highlight the importance of credible control and transparent decision-making in stabilizing investor expectations. Firms with clear controlling shareholders and sustainable profitability are better positioned to dampen volatility, especially outside crisis periods.

At the same time, the weakening of firm-level effects during market stress underscores the need for proactive risk management, including currency hedging and communication strategies, to maintain market confidence.

#### **For Regulators and Policymakers (OJK and IDX)**

The evidence underscores the relevance of ownership structure in shaping market stability, supporting ongoing regulatory efforts to improve transparency and minority shareholder protection. Policies such as free-float requirements and enhanced disclosure standards can complement the stabilizing role of controlling owners without undermining market liquidity.

During systemic shocks, the findings also emphasize the importance of timely policy intervention to contain market-wide volatility that overwhelms firm fundamentals.

#### **For Academics and Future Researchers**

This study enhances the governance and volatility literature by demonstrating the interaction between ownership concentration, macro-financial risk, and market conditions.

Future research should consider adding structural variables or using nonlinear and regime-switching models to better capture evolving risk dynamics, especially in emerging markets influenced by governance structures and external shocks.

## APPENDIX

Table 3.2 List of Kompas 100 permanent constituents Index firms

| Sector                   | Ticker | Company's Name                         | Controlling Ownership                                                                                                                            |
|--------------------------|--------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Energy                   | ADRO   | PT Alamtri Resources Indonesia Tbk     | P: Adaro strategic<br>KP: Thohir Garibaldi                                                                                                       |
|                          | AKRA   | PT AKR Corporindo Tbk                  | P: PT Arthakencana Rayatama<br>DP: Adikoesoemo Haryanto<br>KP: Adikoesoemo Soegiarto                                                             |
|                          | ITMG   | PT Indo Tambangraya Megah Tbk          | P: Banpu Minerals Singapore Pte Ltd                                                                                                              |
|                          | PTBA   | PT Bukit Asam Tbk                      | P: Republic of Indonesia<br>P: PT Mineral Industri                                                                                               |
|                          | PGAS   | PT Perusahaan Gas Negara Tbk           | P: Pertamina Persero Tbk<br>P: Republic of Indonesia                                                                                             |
| Materials                | ANTM   | PT Aneka Tambang Tbk                   | P: PT Mineral Industri<br>P: Republic of Indonesia                                                                                               |
|                          | INCO   | PT Vale Indonesia Tbk                  | P: PT Mineral Industri                                                                                                                           |
|                          | INTP   | PT Indocement Tunggal Prakarsa Tbk     | P: Heidelberg Materials AG                                                                                                                       |
|                          | SMGR   | PT Semen Indonesia (Persero) Tbk       | P: Republic of Indonesia                                                                                                                         |
| Industrials              | UNTR   | PT United Tractors Tbk                 | P: Astra International                                                                                                                           |
|                          | PTPP   | PT PP (Persero) Tbk                    | P: Danantara AM (Persero)                                                                                                                        |
|                          | JSMR   | PT Jasa Marga (Persero) Tbk            | P: Republic of Indonesia                                                                                                                         |
|                          | ASII   | PT Astra International Tbk             | P: Jardine Cycle & Carriage Ltd                                                                                                                  |
| Consumer Non-Cyclicals   | ICBP   | PT Indofood CBP Sukses Makmur Tbk      | P: First Pacific Co Ltd                                                                                                                          |
|                          | INDF   | PT Indofood Sukses Makmur Tbk          | P: First Pacific Co Ltd                                                                                                                          |
|                          | KLBF   | PT Kalbe Farma Tbk                     | P: Ladang Ira Panen<br>P: Gira Sole Prima<br>P: Santa Seha Sanadi<br>P: Lucasta Murni Cemerlang<br>P: Diptanala Bahana<br>P: Bina Artha Charisma |
|                          | CPIN   | PT Charoen Pokphand Indonesia Tbk      | P: Charoen Pokphand Indo group                                                                                                                   |
|                          | JPFA   | PT Japfa Comfeed Indonesia Tbk         | P: Japfa Ltd                                                                                                                                     |
|                          | GGRM   | PT Gudang Garam Tbk                    | P: Suryaduta Investama                                                                                                                           |
|                          | UNVR   | PT Unilever Indonesia Tbk              | P: Unilever Indo holding BV                                                                                                                      |
| Consumer Cyclicals       | ACES   | PT Aspirasi Hidup Indonesia Tbk        | P: Kawan Lama Sejahtera                                                                                                                          |
|                          | LPPF   | PT Matahari Department Store Tbk       | P: Auric Digital                                                                                                                                 |
|                          | MAPI   | PT Mitra Adiperkasa Tbk                | P: Satya Mulia Gema Gemilang                                                                                                                     |
| Financials               | BBCA   | PT Bank Central Asia Tbk               | P: Dwimuria Investama Andalan<br>P: Hartono R budi<br>P: Hartono Michael Bambang                                                                 |
|                          | BBRI   | PT Bank Rakyat Indonesia (Persero) Tbk | P: Danantara AM (persero)                                                                                                                        |
|                          | BMRI   | PT Bank Mandiri (Persero) Tbk          | P: Indo Investment authority                                                                                                                     |
|                          | BBNI   | PT Bank Negara Indonesia (Persero) Tbk | P: PT Danantara AM (Persero)                                                                                                                     |
|                          | BBTN   | PT Bank Tabungan Negara (Persero) Tbk  | P: Republic of Indonesia                                                                                                                         |
| Properties & Real Estate | BSDE   | PT Bumi Serpong Damai Tbk              | P: Paraga Artamida<br>P: Ekacentra Usahamaju                                                                                                     |
|                          | CTRA   | PT Ciputra Development Tbk             | P: PT Sang Pelopor                                                                                                                               |
|                          | PWON   | PT Pakuwon Jati                        | P: Pakuwon Arthaniaga                                                                                                                            |
|                          | SMRA   | PT Summarecon Agung Tbk                | P: Semarop Agung                                                                                                                                 |
| Infrastructure           | TBIG   | PT Tower Bersama Infrastructure Tbk    | P: Bersama Digital Infra                                                                                                                         |
|                          | TLKM   | PT Telkom Indonesia (Persero) Tbk      | P: Republic of Indonesia                                                                                                                         |
|                          | EXCL   | PT XL Smart Telecom Sejahtera Tbk      | P: Axiata Investments Siangapore Ltd<br>P: Bali Media Telekomunika<br>P: Global Nusa Data<br>P: Wahana Inti Nusantara                            |
| Communication & Media    | MNCN   | PT Media Nusantara Citra Tbk           | P: Global Mediacom Tbk                                                                                                                           |
|                          | SCMA   | PT Surya Citra Media Tbk               | P: Elang Mahkota Teknologi                                                                                                                       |

Source: IDX publication 2014 – 2024, Annual Report, Bloomberg.

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