

**THE IMPACT OF DOMESTIC INVESTOR FUND FLOWS
INTO CONGLOMERATE AND NON-CONGLOMERATE STOCKS
ON THE RETURN OF THE COMPOSITE STOCK PRICE INDEX**



THESIS

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MASTER OF BUSINESS ADMINISTRATION

IPMI INSTITUTE

JAKARTA

2026

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**A THESIS
Submitted in a partial fulfillment of the requirements for the
degree of Master of Business Administration**

Certificate of Approval

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Topic : The Impact of Domestic Investor Fund Flows into
Conglomerate and Non-Conglomerate Stocks on the Return
of the Composite Stock Price Index

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

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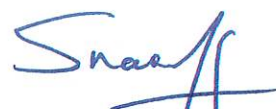
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Also, this work is being submitted in partial fulfillment of the requirements for the Master of Business Administration degree and has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for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

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Wahyu Madyo Basuki

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List of Abbreviations

ADF	Augmented Dickey–Fuller
ARDL	Autoregressive Distributed Lag
BEJ	Jakarta Stock Exchange
BES	Surabaya Stock Exchange
BI	Bank Indonesia
BPS	Central Statistics Agency
C-BEST	The Central Depository and Book-Entry Settlement System
CDS	Credit Default Swap
DBK	Domestic Buy Conglomerate
DBNK	Domestic Buy Non-Conglomerate
DFK	Domestic Flow Conglomerate Stocks
DFNK	Domestic Flow Non-Conglomerate Stocks
DSK	Domestic Sell Conglomerate
DSNK	Domestic Sell Non-Conglomerate
DW	Durbin–Watson Statistic
EMH	Efficient Market Hypothesis
FlowRatioK	Domestic Investor Flow Ratio in Conglomerate Stocks
FlowRatioNK	Domestic Investor Flow Ratio in Non-Conglomerate Stocks
GDP	Gross Domestic Product
GLS	Generalized Least Squares
HAC	Heteroscedasticity and Autocorrelation Consistent

HC1	Heteroscedasticity-Consistent Type 1
ID10Y	Indonesian 10-Year Government Bond Yield
IDR	Indonesian Rupiah
IDX	Indonesia Stock Exchange
IHSG	Composite Stock Price Index
IPO	Initial Public Offering
IPS	Indo Premier Sekuritas
JATS-NextG	Jakarta Automated Trading System Next Generation
JCI	Jakarta Composite Index
KBBI	Kamus Besar Bahasa Indonesia
KSEI	Indonesia Central Securities Depository
LQ45	Liquid 45 Index
NDFK	Net Domestic Flow Conglomerate Stocks
NDFNK	Net Domestic Flow Non-Conglomerate Stocks
OJK	Financial Services Authority
OLS	Ordinary Least Squares
RHS	Right-Hand Side
RIHSG	Return Ratio of the Composite Stock Price Index
RUSDIDR	Return Ratio of the Indonesian Rupiah Exchange Rate against the US Dollar
R _{XAU}	Return Ratio of Gold Spot Price
SIC	Schwarz Information Criterion
SID	Single Investor Identification
SOE	State-Owned Enterprise

TDF	Total Domestic Flow
TSR	Time-series Regression
USD	United States Dollar
USDIDR	Indonesian Rupiah Exchange Rate against the US Dollar
VAR	Vector Autoregression
VIF	Variance Inflation Factor
VIX	Volatility Index
XAU	Gold Spot Price
Δ ID10Y	Change in Indonesian 10-Year Government Bond Yield

Acknowledgements

The author expresses gratitude to Allah SWT, God Almighty, for His abundant grace and blessings, which have enabled the author to complete this thesis entitled *The Impact of Domestic Investor Fund Flows into Conglomerate and Non-Conglomerate Stocks on the Return of the Composite Stock Price Index (IHSG)*. This thesis is submitted as a partial fulfilment of the requirements for the degree of Master of Business Administration and to contribute to the understanding of the role of domestic investor fund flows, both either classified as Conglomerate Stocks and Non-Conglomerate Stocks, in the Indonesia Stock Exchange (IDX). The author hopes that this thesis will provide readers with insight into the theoretical and practical implications of domestic investor fund flows into conglomerate and non-conglomerate stocks on the IDX, particularly their effect on the IHSG.

The author would like to express sincere gratitude to the following parties for their support and assistance in completing this thesis.

1. My beloved Parents and Family, who have provided me with doa, emotional support, and financial support so that I could obtain a master's degree in business administration.
2. Prof. Ir. H. M. Roy Sembel, MBA, Ph.D., CSA, CIB, CIIM and Dr. Melinda Malau, S.E., MM, CBV, CFRM, CFA, CPA, who served as thesis advisors and provided valuable guidance and input throughout the thesis writing process, as well as guided the author in completing this final project.
3. Examiners, Lecturers, and teaching staff of the Master of Business Administration Program at IPMI Institute who provided academic examine, guidance, and administrative support so that the author could obtain a master's degree in business administration.
4. Fellow students of the Master of Business Administration program, Class of September 2024, for their companionship and support throughout the program.

5. Friends and various parties who contributed to the completion of this thesis.

The author acknowledges that this thesis may contain shortcomings and welcomes constructive feedback for future improvement. The author welcomes suggestions and criticism from readers for future evaluation and improvement.

Jakarta, July 10, 2026

Wahyu Madyo Basuki

Abstract

The increasing dominance of domestic investors and the rising concentration of market capitalization in conglomerate-affiliated firms have raised questions regarding their role in shaping stock market performance in Indonesia. Despite this structural shift, empirical studies have largely focused on foreign capital flows and have rarely distinguished domestic investor activity between conglomerate and non-conglomerate stocks. This study aims to obtain and analyze empirical evidence on the effect of domestic investor fund flows into conglomerate and non-conglomerate stocks, as well as selected macroeconomic and financial market indicators, on the return ratio of the IHSG. This study employs a quantitative approach using monthly time-series data from January 2009 to December 2025, consisting of 204 observations. The model is estimated using ordinary least squares. Since White's heteroscedasticity test indicates the presence of heteroscedasticity, the final statistical inference is based on White heteroscedasticity-consistent robust standard errors using the Huber-White-Hinkley covariance method. The results show that domestic investor fund flows into conglomerate stocks have a negative but statistically insignificant relationship with return ratio of IHSG. Meanwhile, domestic investor fund flows into non-conglomerate stocks have a negative and statistically significant relationship with IHSG returns. In addition, increases in the Indonesian 10-year government bond yield and rupiah depreciation against the US dollar are found to have significant negative relationships with return ratio of IHSG, while gold price returns do not show a statistically significant relationship. These findings suggest that domestic investor activity, particularly in non-conglomerate stocks, and macroeconomic conditions play an important role in explaining stock market dynamics in Indonesia.

Keywords: Domestic Investor Fund Flows, Conglomerate Stocks, Composite Stock Price Index, Macroeconomic Variables, Time-series Regression

CHAPTER I

INTRODUCTION

1.1 Background

Stock index movements reflect investors' expectations and perceptions of a country's economic conditions. On the Indonesia Stock Exchange (IDX), the Composite Stock Price Index (IHSG) serves as an indicator of overall stock movements. The IHSG was launched by the Jakarta Stock Exchange (BEJ) on April 1, 1983. The IHSG uses August 10, 1982, as its base date, which included 13 stocks with a base value of 100 (Hartono, 2019). Developments on the IDX caused the IHSG to grow, ranging from listing and delisting activities to the merger of the BEJ and the Surabaya Stock Exchange (BES) into the IDX on December 1, 2007 (Deviyana, 2023). In December 2025, the IHSG was recorded at 8,647, indicating that it had appreciated 86.5 times over 43 years, equivalent to an average annual growth rate of approximately 11.0%, as shown in Figure 1.1 IHSG Movements from 1983 to December 2025.

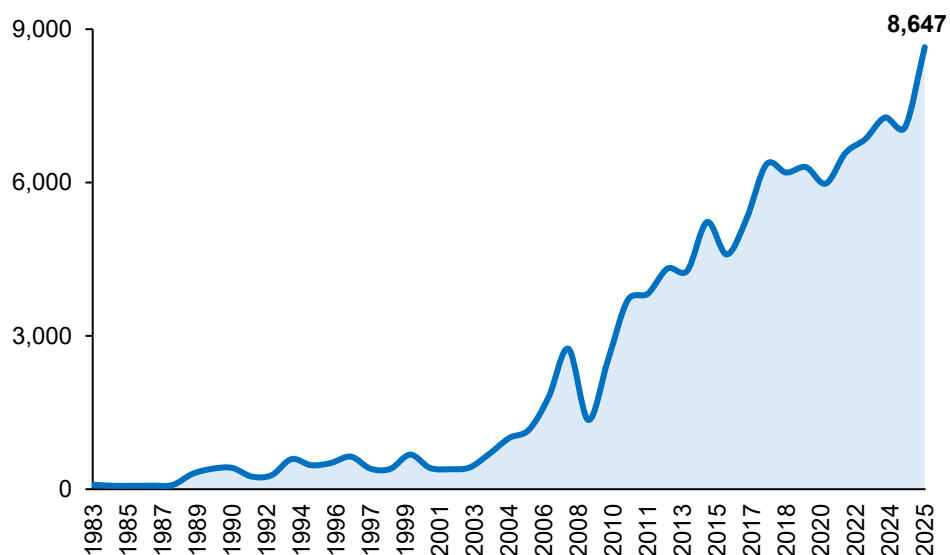


Figure 1.1 IHSG Movements from 1983 to December 2025

Source: Bloomberg 2025

Index movements are inseparable from the price appreciation and depreciation of their constituent stocks. Investor fund flows generated through buy and sell transactions drive stock prices. According to a release on the IDX website, investors registered with the Indonesia Central Securities Depository (KSEI) reached 20,347,147 single investor identification (SID) accounts at the end of December 2025 (Nurahmad, 2025). Investors trading stocks underlying the IHSG can be grouped into foreign and domestic investors. Based on KSEI statistics, the number of capital market investors reached 20,347,147 by the end of December 2025. In terms of asset ownership in C-BEST, local investors accounted for 60.4% in December 2025, indicating the increasing importance of domestic investors in the Indonesian capital market, as shown in Figure 1.2 (Natalia, 2025a).

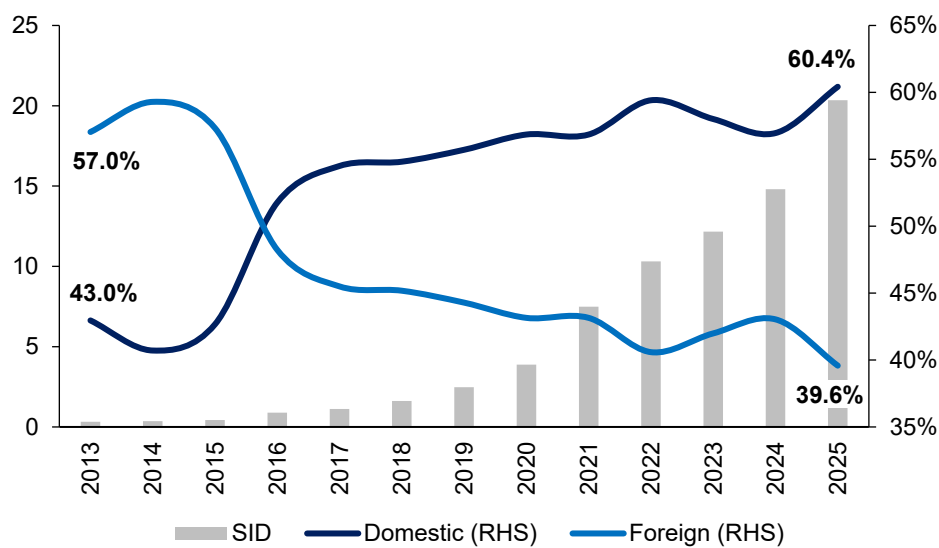


Figure 1.2 Number of Capital Market Investors and Local vs Foreign C-BEST Asset Ownership on the IDX from 2013 to December 2025
(In trillion Rupiah and percentage)

Source: KSEI 2025

As the number of SIDs increases, the transaction value, or turnover, on the IDX has also grown significantly. The transaction value is calculated from accumulated buy and sell transactions over a certain period, whether daily, monthly, or annually. Based on data from the Central Statistics Agency (BPS), the IDX's

monthly turnover increased from IDR 31.4 trillion in January 2009 to IDR 544.8 trillion in December 2025, or a 17.4-fold increase over a period of 16 years, with an average monthly transaction value of IDR 175.9 trillion, as shown in Figure 1.3 (Badan Pusat Statistik, 2025).

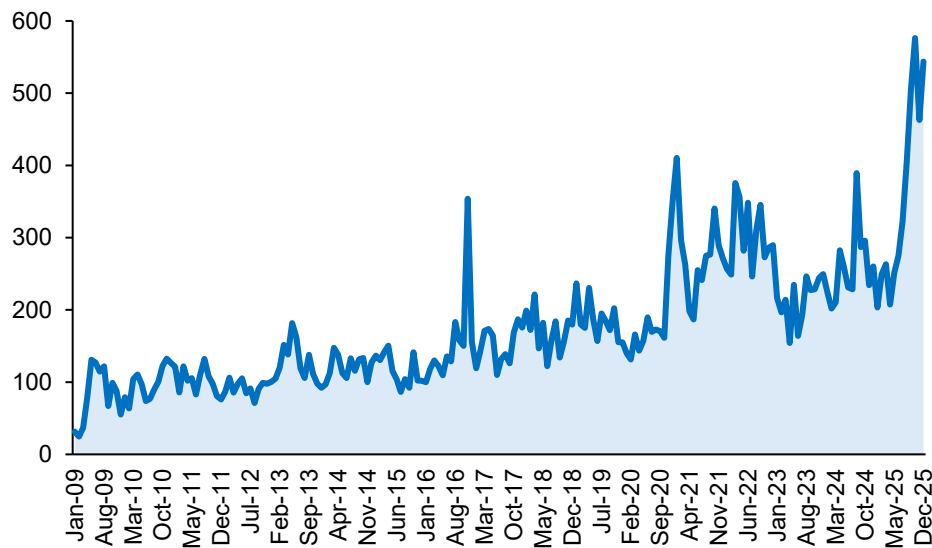


Figure 1.3 Transaction Values per Month from January 2009 to December 2025
(In trillion Rupiah)

Source: BPS 2025

Stock exchange transactions may occur among domestic investors, among foreign investors, or between domestic and foreign investors. In addition, investors can also be classified by type, namely individual investors, often referred to as retail investors, and institutional investors (Otoritas Jasa Keuangan, 2025). Institutional investors can be financial institutions, such as banks, pension funds, insurance companies, or investment funds.

In terms of the information available to the public, the identification of investors is generally limited to domestic and foreign categories. The trading mechanism currently using the Jakarta Automated Trading System Next Generation (JATS-NextG) since March 2, 2009, generally provides transaction information

based on investor nationality (domestic or foreign), transaction market type (regular, cash, or negotiated), and details at the stock or broker level (Arifenie, 2009).

In the last ten years, based on SID accounts, domestic investors have dominated the IDX, accounting for more than 50.0% of total investor accounts, or more precisely 60.4% in December 2025 (Natalia, 2025b). The COVID-19 pandemic in 2020 also became an important turning point when foreign investors sold shares while domestic investors absorbed the selling pressure (Kontan, 2020). This raises the question of whether domestic investors significantly influence IHSG movements. Several studies mention that domestic investors often follow foreign fund movements, both inflows and outflows (Frensidy, 2008; J. Wang, 2007). However, this view should be interpreted with caution because net transactions between domestic and foreign investors on the IDX can be identified as a market clearing mechanism, which is a condition that always matches buy orders from domestic investors with sell orders from foreign investors or vice versa, so that the aggregate net transactions of both parties cancel each other out, as shown in Figure 1.4 (Harris, 2002).

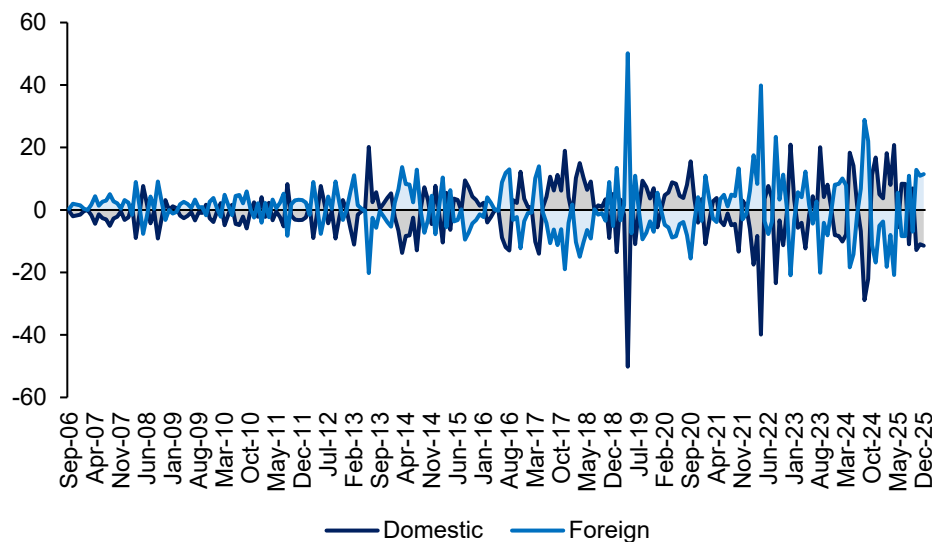


Figure 1.4 Net Funds Flow Domestic vs Foreign Investor from September 2006 to December 2025
(In trillion Rupiah)

Source: Indo Premier Sekuritas 2025

The pattern of foreign and domestic investor flows also indicates the possibility of contrarian behavior among investors. In market microstructure, every executed sell order must be matched with a corresponding buy order, implying that net selling by one investor group is mechanically offset by net buying from another group at the aggregate transaction level (Harris, 2002; Otoritas Jasa Keuangan, 2020). Therefore, when foreign investors record large net selling in the Indonesian equity market, domestic investors may act as counterparties by absorbing the selling pressure rather than acting purely as independent buyers. In this context, high domestic net buying does not necessarily represent an independent buying pressure that directly causes IHSG appreciation. Instead, it may reflect a liquidity-absorbing role, in which domestic investors enter the market when foreign investors reduce their exposure. This interpretation is supported by the OJK Capital Market Fact Book 2020, which reported that foreign investors recorded a net sell of IDR 47.88 trillion in 2020, while stock trading until the end of 2020 was still dominated by local investors at 68.51% (Otoritas Jasa Keuangan, 2020).

Prior empirical studies also support the view that domestic investor flows should be interpreted carefully. Arroisi and Koesrindartoto found that domestic investors reverse-herd to foreign investors in the short term and that both domestic and foreign investors tend to apply contrarian strategies in big- and medium-cap portfolios (Arroisi & Koesrindartoto, 2019). Similarly, Subagyo found that foreign portfolio flows influence the Jakarta Composite Index and that domestic investors tend to observe foreign investor behavior in forming their trading decisions (Subagyo et al., 2024). However, the relationship between domestic inflow, foreign outflow, and IHSG movement is not always linear. For example, Kontan reported that the IHSG reached a new all-time high in December 2025 despite foreign net sell of IDR 29.97 trillion on a year-to-date basis, supported by strong domestic investor participation (Kontan, 2025). Conversely, IDNFinancials reported that a large single-day foreign net sell of IDR 4.5 trillion in September 2025 was associated with continued IHSG weakness, particularly due to selling pressure in large-cap banking stocks (Hannany et al., 2025). Therefore, domestic investor inflow should be understood not only as a potential source of demand, but also as a

counterparty response to foreign selling pressure and changing market liquidity conditions.

In line with the dominance of domestic investors mentioned above, the structure of issuers on the IDX is currently increasingly concentrated in large business groups or conglomerates. Based on the *Unboxing Konglomerasi Indonesia* report published by Stockbit in 2023, there are ten business groups with a total of 101 publicly listed companies that are classified as conglomerates in Indonesia (Kurniawan, 2023). Referring to Table 1.1 Weight Based on Market Capitalization of the 20 Largest Stocks on the IDX 2021-August 2025, 13 stocks are identified as large business groups or conglomerates, 5 stocks are identified as state-owned enterprises (SOEs), and the remaining two are neither conglomerates nor SOEs (Natalia, 2025b).

Based on Table 1.1, it can be seen that the Prajogo Pangestu business group is also represented among the 20 largest stocks by market capitalization on the IDX, therefore, it should be considered in completing the conglomerate classification as stated in the Stockbit report above. This consideration is important because the data range used in the Stockbit report is up to May 2023, whereas the increase in market capitalization of the Prajogo Pangestu group began to increase significantly from 2023 onward.

Table 1.1 Weight Based on Market Capitalization of the 20 Largest Stocks on the IDX 2021 to August 2025

2021	Weight (%)	2022	Weight (%)	2023	Weight (%)	2024	Weight (%)	Aug25	Weight (%)
BBCA	12.1	BBRI	10.3	BBRI	9.2	BBCA	8.9	BREN	8.6
BBRI	7.5	BBCA	9.6	BBCA	8.9	BBRI	8.1	BBCA	7.8
TLKM	4.8	BMRI	6.7	BMRI	7.6	BMRI	7.1	TPIA	5.6
BMRI	4.3	TLKM	6.6	TLKM	6.4	BREN	4.9	DCII	5.1
UNVR	4.1	BYAN	5.8	BYAN	4.4	AMMN	4.9	DSSA	4.8
ASII	3.6	ASII	3.8	BREN	4.0	TLKM	4.3	AMMN	4.4
HMSP	2.6	GOTO	2.6	ASII	3.5	BYAN	4.2	BBRI	4.4
TPIA	2.4	BBNI	2.5	AMMN	3.0	TPIA	3.8	BYAN	4.3
BBNI	1.7	AMRT	1.9	BBNI	2.7	ASII	3.0	BMRI	3.2
ICBP	1.6	ADRO	1.8	GOTO	2.5	GOTO	2.2	TLKM	2.3
CPIN	1.6	MDKA	1.7	TPIA	2.3	BBNI	2.2	PANI	1.9
BRPT	1.5	KLBF	1.7	AMRT	1.9	DSSA	2.1	BRPT	1.5
UNTR	1.5	UNTR	1.4	SMMA	1.4	AMRT	1.8	ASII	1.5
EMTK	1.2	CPIN	1.4	ADRO	1.2	SMMA	1.4	CDIA	1.5
GGRM	1.2	TPIA	1.4	BRPT	1.2	UNTR	1.3	CUAN	1.3
SMGR	1.1	INDF	1.0	CPIN	1.1	PANI	1.1	BBNI	1.2
SMMA	1.1	SMMA	1.0	UNTR	1.1	INDF	1.1	DNET	0.9
KLBF	1.0	UNVR	1.0	KLBF	1.1	ADRO	1.0	BRIS	0.9
MYOR	0.9	MEGA	1.0	MDKA	1.1	CPIN	0.9	MLPT	0.9
INDF	0.9	TOWR	0.9	INDF	1.0	ICBP	0.9	BNLI	0.8
Total	56.7	Total	64.10	Total	65.6	Total	65.2	Total	62.7

Source: CNBC Indonesia 2025

Moreover, the initial public offering (IPO) trend of companies affiliated with conglomerates, such as Prajogo Pangestu's Barito Group and Hermanto Tanoko's Tancorp Group, has also contributed to the growth of market capitalization of large business groups or conglomerates on the IDX. Due to their large index weights, small price movements in conglomerate stocks can drive the movement of the IHSG compared with hundreds of non-conglomerate stocks with medium-to-small market capitalization.

Furthermore, stocks affiliated with conglomerates often move in tandem. When one of the stocks in the group experiences buying flows, whether from domestic or foreign investors, the stocks of other companies in the group may also experience buying flows, and vice versa. This synchronized movement also tends to focus only on information about the conglomerate group, which may result in emotional reactions and market speculation even though not all companies in the group necessarily experience positive or negative fundamental changes. This differs from non-conglomerate stocks.

The IHSG is formed through stock trading activities carried out by various investor groups, including domestic investors investing in conglomerate and non-conglomerate stocks, and foreign investors. In making investment decisions, investors consider the potential return and risk levels of stocks, then compare them with the return and risk characteristics offered by other investment instruments.

In the framework of determining stock prices, the risk-free rate is generally proxied using government bond yields, particularly 10-year government bonds. In addition, gold and the US dollar are also often perceived as safe-haven assets. Therefore, when negative sentiment or market turmoil occurs, investors tend to engage in a flight-to-quality behavior by shifting funds to more defensive instruments such as government bonds, gold, or the US dollar. Thus, the movements of these three instruments are thought to influence the dynamics of the IHSG.

This is consistent with previous studies showing that the IHSG is influenced by the Indonesian Rupiah exchange rate against the US dollar (USDIDR), gold prices (XAU), and oil prices (Brent) (Ningrum and Mustafa, 2023; Nirmalasari and Soekarno, 2012). In addition, movements in the yield of 10-year Indonesian government bonds (ID10Y) may also affect IHSG performance (Hadi and Amzul, 2022). Accordingly, it is important to examine whether domestic investor transaction flows, particularly in conglomerate and non-conglomerate stocks as proxied by the relative trading of domestic investors, along with selected macroeconomic and financial market indicators, have a significant effect on movements in the IHSG. Despite the growing dominance of domestic investors and the increasing concentration of conglomerate firms on the IDX, empirical studies

have rarely distinguished between domestic fund flows into conglomerate and non-conglomerate stocks when analyzing their effect on the IHSG.

1.2 Problem Statement

Over the past decade, domestic investors have become increasingly important in the Indonesian capital market, as reflected in the growth of capital market investors and the substantial share of local ownership in C-BEST assets. KSEI recorded 20,347,147 capital market investors by the end of December 2025, while local investors accounted for 60.4% of C-BEST asset ownership in December 2025. This increasing role of domestic investors raises questions regarding the relationship between domestic investor trading activity and IHSG movements. However, domestic investor flows should not be interpreted solely as independent buying or selling pressure. In the context of market clearing, domestic investors may also act as counterparties to foreign investors, particularly when foreign investors record large net selling. Therefore, high domestic inflows may reflect contrarian behavior or a liquidity-absorbing role rather than purely positive demand that directly drives IHSG appreciation.

At the same time, the structure of the IDX has become increasingly concentrated in companies affiliated with large business groups or conglomerates. A significant portion of the market capitalization of the largest listed companies on the IDX is represented by conglomerate-affiliated firms, meaning that relatively small price movements in these stocks can exert a substantial influence on the overall movement of the IHSG. In addition, stocks within the same conglomerate group often move in a synchronized manner due to shared ownership structures, investor sentiment, and market perceptions regarding the group's overall performance.

Despite the growing dominance of domestic investors and the increasing importance of conglomerate-affiliated stocks, most empirical studies on the IDX primarily focus on the role of foreign capital flows in influencing stock market movements. As a result, the role of domestic investor trading activity, particularly

when interpreted within the context of contrarian behavior and market-clearing mechanisms, has received relatively limited attention. Moreover, previous studies generally treat the stock market as a homogeneous structure and do not differentiate between conglomerate and non-conglomerate stocks, even though these two groups may have different levels of influence on the overall index.

In addition to investor trading activity, macroeconomic variables such as government bond yields, exchange rates, and gold prices may also affect stock market movements. These variables reflect broader financial market conditions and may influence investor portfolio allocation decisions, particularly during periods of uncertainty. Changes in these macroeconomic indicators may therefore interact with domestic investor trading behavior in shaping the movement of the IHSG. Therefore, this study seeks to analyze whether domestic investor trading in conglomerate and non-conglomerate stocks has a significant impact on the return ratio of the IHSG, while also considering the role of key macroeconomic variables such as ID10Y, USDIDR, and XAU.

1.3 Research Questions

1. How does domestic investor fund flows into conglomerate and non-conglomerate stocks affect the return ratio of the IHSG?
2. How do macroeconomic variables, particularly selected safe-haven assets (ID10Y, USDIDR, and XAU), affect the return ratio of the IHSG?

1.4 Research Objectives

The objectives of this study are as follows.

1. To obtain and analyse empirical evidence of the effect of domestic investor fund flows, in both conglomerate and non-conglomerate stocks, on the return ratio of the IHSG.

2. To obtain and analyse empirical evidence of the effect of macroeconomic variables, particularly selected safe-haven assets (ID10Y, USDIDR, and XAU), on the return ratio of the IHSG.

1.5 Research Motivation

Analysing the relationship between domestic investor fund flows, particularly in conglomerate and non-conglomerate stocks, and IHSG movements is important to support investment decision-making and to better understand the changing structure of the Indonesian capital market. The increasing role of domestic investors, as reflected in the growth of capital market investors and the substantial share of local ownership in C-BEST assets, as well as the growing concentration of market capitalization in conglomerate stocks, makes this phenomenon relevant to study. However, domestic investor fund flows should not be interpreted only as independent buying or selling pressure, because they may also reflect contrarian behavior or a liquidity-absorbing role when foreign investors reduce their exposure. Therefore, understanding whether domestic investor flows are associated with stock market returns as price-driving demand or as a counterparty response to foreign selling pressure is important for interpreting IHSG movements more accurately.

In addition, macroeconomic and financial market indicators, such as ID10Y, USDIDR, and XAU, may strengthen, weaken, or offset the role of domestic investors in influencing the IHSG. By understanding the relationship between domestic investor fund flows, market-clearing behavior, conglomerate and non-conglomerate stock classifications, and selected macroeconomic variables, investors and prospective investors can make more informed investment decisions and better evaluate market opportunities and risks.

1.6 Research Benefits

1. For investors and investment managers, this research can be used as a reference in making investment decisions on the IDX by considering the influence of domestic investor fund flows, particularly in conglomerate and non-conglomerate stocks, as well as macroeconomic and financial market indicators on the IHSG. This study also helps investors interpret domestic inflows more carefully, as such flows may represent not only buying pressure but also a counterparty response to foreign selling pressure.
2. For researchers and academics, this research can serve as a basis for applying and developing theories regarding investor behavior, market clearing mechanisms, contrarian behavior, and the influence of macroeconomic indicators on the IHSG. The study contributes to the literature by examining domestic investor fund flows through the distinction between conglomerate and non-conglomerate stocks.
3. For the general public, this study is expected to provide an understanding of the role of domestic investors in the Indonesian stock market, particularly in conglomerate and non-conglomerate stocks, as well as the role of selected macroeconomic indicators in influencing IHSG movements. This understanding can help the public interpret market news, such as domestic net buying or foreign net selling, more carefully before making investment decisions.

1.7 Research Novelty

Most previous studies focus on the relationship between foreign investor fund flows and movements in the IHSG. Such approaches tend to provide only a general overview of market dynamics, as they do not offer a deeper analysis of the role of domestic investor fund flows, especially when divided into conglomerate and non-conglomerate stock groups. In addition, prior studies have been relatively limited in examining how domestic investor flows should be interpreted within the context of market clearing and contrarian behavior, where domestic inflows may represent

a counterparty response to foreign selling pressure rather than purely independent buying demand.

Therefore, this study aims to address this gap by analyzing the relationship between domestic investor trading in conglomerate and non-conglomerate stocks and the return ratio of the IHSG, while also considering selected macroeconomic and financial market indicators. The novelty of this study lies in its focus on domestic investor fund flows, the classification of stocks into conglomerate and non-conglomerate groups, and the interpretation of domestic trading activity through the perspectives of market clearing and contrarian investor behavior.

1.8 Research Contributions

Based on the discussion above, the research contributions of this study are as follows:

1.8.1 Practical Contributions

This research provides practical contributions to investors, prospective investors, and investment managers in understanding the role of domestic investor trading in conglomerate and non-conglomerate stocks, as well as selected macroeconomic and financial market variables, in explaining movements in the IHSG. The results of this study are expected to serve as a reference for developing investment strategies that are more responsive to market dynamics on the IDX.

This study also provides practical insight that domestic inflows should not always be interpreted as a direct positive signal for IHSG appreciation. In certain periods, domestic net buying may reflect contrarian behavior or a liquidity-absorbing role when foreign investors record net selling. Therefore, investors should evaluate domestic investor fund flows together with foreign investor activity, macroeconomic indicators, and the composition of stocks receiving the flows.

1.8.2 Theoretical Contribution

This study develops an empirical analysis of the influence of domestic investors and macroeconomic factors on stock index movements in Indonesia. By combining the perspectives of market clearing, contrarian behavior, and conglomerate dominance, this study enriches the literature on the relationship between investor behavior, market microstructure, ownership concentration, and external financial market factors that influence the IHSG.

The theoretical contribution of this study also lies in its distinction between domestic investor fund flows into conglomerate and non-conglomerate stocks. This distinction allows the study to examine whether domestic trading activity has different implications across stock groups with different market structures, index weights, and investor attention. Therefore, this study contributes to a more specific understanding of how domestic investor behavior may affect aggregate stock market movements in an emerging market context.

1.8.3 Policy Contribution

This study is expected to be useful for capital market regulators in formulating policies that support the stability and attractiveness of the Indonesian capital market. The findings of this study can provide input for designing policies that are more adaptive to the increasing role of domestic investors, the dominance of conglomerate-affiliated stocks, and the dynamics of macroeconomic and financial market variables.

In addition, by highlighting the possibility that domestic investors may act as liquidity absorbers during periods of foreign selling pressure, this study may help regulators and market institutions improve investor education and market communication. A better understanding of domestic investor behavior can support more effective policies aimed at maintaining market resilience, reducing excessive herding, and strengthening the role of domestic investors in the Indonesian capital market.

1.9 Scope and Limitations of Research

This study analyzes the effect of domestic investor fund flows on the return ratio of the IHSG by separating fund flows in conglomerate and non-conglomerate stocks. The determination of large business groups or conglomerates refers to the *Unboxing Konglomerasi Indonesia* report published by Stockbit, with the addition of one conglomerate group owned by Prajogo Pangestu, as it has been included in the list of the 20 largest stocks based on market capitalization since 2023. Additionally, this study also examines the impact of selected macroeconomic and financial market indicators (ID10Y, USDIDR, and XAU).

The dataset consists of monthly time-series observations covering the period from January 2009 to December 2025. This study uses secondary data, including domestic investor fund flow data obtained from Indo Premier Sekuritas (IPS), macroeconomic data obtained from Bloomberg, and turnover data obtained from BPS.

1.10 Writing Systematics

This research consists of five chapters, with each chapter containing subchapters that provide a comprehensive description as follows.

- Chapter I Introduction

This chapter serves as an introduction to explain the reasons for conducting this research. It describes the background of the problem, problem formulation, research questions, research objectives, research motivation, research benefits, research novelty, research contributions, research scope and limitations, and research writing procedures.

- Chapter II Literature Review

This chapter reviews the relevant literature for this research, which covers the capital market, efficient market hypothesis, domestic and foreign investor behavior, contrarian behavior, market clearing mechanisms, the role of conglomerate stocks, herding behavior, and the influence of selected

macroeconomic and financial market indicators on the IHSG. This chapter also contains the research framework and hypotheses.

- Chapter III Methodology

This chapter explains the research methods used, including the research type and approach, sources, and techniques of data collection, operational definitions of variables, data treatment, and data analysis techniques using time-series regression, with the return ratio of the IHSG as the dependent variable.

- Chapter IV Findings, Analysis, and Discussion

This chapter describes in detail the influence of domestic investor fund flows, both in conglomerate and non-conglomerate stocks, as well as selected macroeconomic and financial market indicators, on the IHSG. The discussion is conducted in depth by linking empirical results with previous theories and research.

- Chapter V Conclusions and Recommendations

This chapter presents the final conclusions of the research, including conclusions, research limitations, and implications for future research.

CHAPTER II

LITERATURE REVIEW

2.1 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) is one of the fundamental theories in modern finance that explains how information is reflected in asset prices in the capital market (Brown, 2020; Fama, 1970). This concept was first introduced by Eugene Fama, who stated that a market is considered efficient if stock prices fully reflect all available information, so that investors cannot consistently obtain abnormal returns by utilizing publicly known information. In an efficient market, any new information will be immediately incorporated into prices by market participants and directly reflected in changes in stock prices, making price movements difficult to predict systematically. Thus, returns above the market average can only be obtained by taking additional risk or through luck, not through analysis of information already available in the market.

Conceptually, EMH is divided into three forms of market efficiency, namely weak-form, semi-strong-form, and strong-form efficiency (Butet and Kesuma, 2025). Weak-form efficiency states that stock prices reflect all historical information such as past prices and trading volumes, so that technical analysis cannot consistently generate abnormal returns. Semi-strong-form efficiency states that stock prices reflect not only historical information but also all public information such as financial reports, dividend announcements, and economic news (Tîţan, 2015). Meanwhile, strong-form efficiency states that stock prices reflect all available information, both public and private, so that even insiders cannot consistently obtain abnormal returns. This division forms the basis for various empirical studies to test the level of market efficiency in different countries and market conditions.

However, the presence of investor behavioral patterns, such as herding and contrarian behavior, may create deviations from market efficiency, particularly in emerging markets where information asymmetry, investor sentiment, and market

concentration are more pronounced. Therefore, although the Efficient Market Hypothesis provides a theoretical foundation for understanding how information should be reflected in stock prices, actual market movements may also be influenced by behavioral factors and transaction-flow dynamics.

2.2 Fund Flows and Stock Prices

Stock prices in the capital market are determined by the supply of and demand for those stocks (Sartono, 2011). In the context of the capital market, the flow of investor capital, both domestic and foreign, can shift the demand or supply curve for stocks. Large capital inflows into the Indonesian stock market will increase liquidity and demand for stocks, thereby driving aggregate price increases (market boom). Conversely, significant capital outflows can trigger selling and a decline in stock prices (market downturn) due to reduced liquidity in the market.

In the absence of fundamental changes, large capital flows can cause short-term stock price fluctuations due to market imbalances. Empirical research in emerging markets, such as Indonesia, shows a strong correlation between capital flows and stock market returns. Froot, O'Connell, and Seasholes found that international portfolio flows have a positive relationship with market returns in various developing countries, indicating that foreign capital inflows are often accompanied by rising stock prices and vice versa (Froot et al., 2001). On the IDX, a similar phenomenon is observed through daily reports of foreign investors' "net buy," which is often followed by IHSG strengthening, while foreign investors' "net sell" is associated with IHSG weakening. This is in line with the view that large foreign inflows can trigger price increases and rallies, while foreign outflows can cause price corrections and market volatility.

However, the relationship between fund flows and stock returns may differ depending on whether the flows represent independent demand pressure or a counterparty response to selling pressure from another investor group. In the context of domestic and foreign investor transactions, domestic net buying may occur not only because domestic investors are independently increasing demand,

but also because they are absorbing shares sold by foreign investors. Therefore, fund flows need to be interpreted together with market-clearing mechanisms and investor behavior.

2.3 The Role of Domestic Investors and Foreign Investors

The structure of Indonesia's capital market participants can generally be divided into two groups, namely domestic investors and foreign investors (Otoritas Jasa Keuangan, 2025). Foreign investors generally include foreign institutions, such as companies, trusts, or other legal entities, which invest on the IDX as part of their global portfolio diversification (CFA Institute, 2025). Meanwhile, domestic investors include local institutions, such as mutual funds, pension funds, and insurance companies, as well as individual retail investors within the country (Bursa Efek Indonesia, 2025). Differences in profiles, information access, risk preferences, investment horizons, and trading strategies between these two investor groups may affect market dynamics differently.

One of the main questions in the Indonesian capital market is which investor group has a more dominant influence on stock price movements as reflected in the IHSG. Historically, foreign investors have played an important role in the IDX through their ownership participation and transaction activity (Natalia, 2025a). Foreign investor buying is often interpreted by the market as a signal of confidence in Indonesian equities, while foreign investor selling is often associated with weaker market sentiment and downward pressure on stock prices (Gultom, 2024). However, the increasing role of domestic investors has gradually changed this perspective, as domestic investors have become more active and more influential in market transactions.

Empirical findings show that the relationship between domestic and foreign investors is more complex than the simple assumption that foreign investors always lead market movements. Using high-frequency transaction data from the Indonesia Stock Exchange during 2008–2017, Arroisi and Koesrindartoto found that domestic investor transactions had a greater impact on prices than foreign investor

transactions. Specifically, domestic investor fund flows were negatively correlated with stock returns and significantly affected stock prices, while foreign investor fund flows did not show a significant effect on short-term return movements (Arroisi and Koesrindartoto, 2019). This indicates that domestic investor activity can play an important role in short-term price formation on the IDX.

Previous studies also suggest that domestic investors may have specific advantages and behavioral characteristics that distinguish them from foreign investors. Dvorak provides evidence that domestic investors in Indonesia have an information advantage over foreign investors (Dvorak, 2005). Similarly, Coval and Moskowitz show that local investors may earn higher returns due to better access to local information or more precise timing (Coval and Moskowitz, 2001). On the other hand, foreign institutional investors in several markets are often associated with momentum trading, in which they buy stocks that have recently performed well and sell stocks that have recently performed poorly (Bradrania & Wu, 2023; Choe, 1999; W. Kim & Wei, 2002). However, empirical evidence on the relative informational advantage of domestic and foreign investors is mixed. While some studies suggest that domestic investors may benefit from local information advantages, other studies find no significant difference between domestic and foreign investors in terms of informational advantage and investor behavior.

Therefore, the interaction between domestic and foreign investors is important in explaining stock market dynamics in Indonesia. Domestic investors may not only follow foreign investor movements, but may also respond differently depending on market conditions, information availability, and investor sentiment. This opens the possibility that domestic investors may take positions opposite to foreign investors or prevailing market trends under certain conditions. Such behavior is closely related to contrarian behavior, which is discussed in the following section.

2.4 Contrarian Behavior in the Indonesian Capital Market

Contrarian behavior refers to an investment behavior or trading strategy in which investors take positions opposite to past market trends or to the actions of other market participants. In investment literature, contrarian strategies are commonly associated with buying past loser stocks and selling past winner stocks based on the expectation that prices will reverse after periods of market overreaction. This differs from momentum trading, where investors follow existing price trends by buying stocks with rising prices and selling stocks with declining prices. Therefore, contrarian behavior is closely related to behavioral finance, market inefficiency, overreaction, and the winner-loser anomaly, in which past loser stocks may outperform in the subsequent period while past winner stocks may experience weaker future returns.

The theoretical foundation of contrarian behavior is based on the overreaction hypothesis. When investors overreact to positive or negative information, stock prices may deviate from their fundamental values in the short term. As market participants reassess the information, prices may reverse toward a more reasonable valuation. Under this condition, contrarian investors attempt to benefit from price reversal by buying stocks that have declined excessively and selling stocks that have increased excessively. Empirical evidence from the Indonesia Stock Exchange shows that winner and loser stock portfolios experienced price reversal after the formation period, indicating the presence of a winner-loser anomaly and supporting the relevance of contrarian strategies in the Indonesian capital market (Kusmayadi et al., 2024).

In the context of investor groups, contrarian behavior can also occur when one investor group takes positions opposite to another group. This is particularly relevant in emerging markets where domestic and foreign investors may differ in information access, risk preferences, investment horizons, and responses to market sentiment. Arroisi and Koesrindartoto found that domestic investors reverse-herd to foreign investors in the short term and that both domestic and foreign investors tend to apply contrarian strategies in big and medium-cap portfolios (Arroisi & Koesrindartoto, 2019). Similarly, Sakir and Zainul found that investors on the

Indonesia Stock Exchange tend to use contrarian strategies rather than momentum strategies (Sakir & Zainul, 2019). These findings suggest that domestic investors do not merely follow foreign investors but may also take opposite positions under certain market conditions.

Evidence from other emerging markets also supports the relevance of contrarian behavior. Chen et al. show that contrarian investors tend to act differently from the majority and may exploit short-term emotional trading by other market participants (Chen et al., 2019). Wen et al. find that institutional investors in China generally adopt contrarian strategies, especially in up-market conditions, while Yu et al. find that contrarian strategies can perform better than momentum strategies due to short-horizon return reversal. In this study, this perspective is important because high domestic inflows into conglomerate and non-conglomerate stocks do not necessarily indicate independent buying pressure that directly increases the IHSG (Wen et al., 2021; Yu et al., 2019). Instead, such inflows may reflect a counterparty response to foreign selling pressure, where domestic investors absorb shares sold by foreign investors. Therefore, domestic investor fund flows should be interpreted not only as potential price-driving demand, but also as a possible manifestation of contrarian behavior and liquidity absorption, which provides a bridge to the market clearing mechanism discussed in the following section.

However, the presence of a negative relationship between domestic investor fund flows and IHSG returns should not be interpreted as direct proof of contrarian behavior. The regression model in this study does not directly observe investor motivation or trading intention. Therefore, contrarian behavior is used as an interpretive framework to explain why domestic inflows may occur during weak market conditions, particularly when domestic investors act as counterparties to selling pressure from other investor groups.

2.5 Market Clearing

The concept of market clearing stems from the basic theory of supply and demand in microeconomics, which states that the price of a good or asset will move toward

equilibrium when the quantity demanded by consumers equals the quantity supplied by producers (Pintu, 2023). Wang and Yang define market clearing as the process of determining the equilibrium price in the market based on the interaction between supply and demand so that all transactions reach equilibrium without surplus or shortage in the market (Y. Wang and Yang, 2026). When there is no surplus or deficit, the market can be said to be cleared. In a liquid market, the market clearing process takes place quickly because the transaction volume is high and price information is updated in real time, whereas in an illiquid market, price determination tends to be slower and prone to volatility.

On the stock exchange, the phenomenon of market clearing can be seen in transactions between domestic and foreign investors who balance the demand and supply of shares. When domestic investors buy and foreign investors sell, the market will be cleared and there will be no remaining orders due to mismatched prices. Conversely, when domestic investors sell and foreign investors absorb the supply, selling pressure can be absorbed. Thus, market equilibrium can be achieved because at the aggregate level, net buying by one investor group must be matched by net selling from another group, although transactions may also occur within the same investor category, so that transactions are matched through the trading mechanism.

2.6 Conglomerate

A conglomerate is a business expansion strategy whereby a company expands its ownership into various unrelated sectors to diversify its sources of income and reduce business risk (Lathifah et al., 2024). A conglomerate can also be defined as a corporate structure in which a single parent entity owns and controls several different businesses that operate independently. The Big Indonesian Dictionary (KBBI) defines a conglomerate as a large company consisting of various companies engaged in various fields of business (KBBI VI Daring, 2025). Therefore, a conglomerate can be understood as a strategy of a parent company that controls

various businesses through subsidiaries or companies in different business sectors to expand revenue and reduce risk.

In this study, the identification of conglomerate companies refers to the *Unboxing Konglomerasi Indonesia* report published by Stockbit in 2023. The report presents a mapping of ten conglomerate groups with a total of 101 issuers listed on the IDX (Kurniawan, 2023). However, as market structure evolved through 2025, new conglomerate groups have emerged and entered the list of the 20 companies with the largest market capitalization on the IDX, particularly the Barito Group owned by Prajogo Pangestu, with its seven publicly listed companies. Therefore, this study identifies eleven conglomerate groups comprising a total of 108 issuers, representing approximately 11.3% of the 958 issuers listed on the IDX as of December 30, 2025 (Indo Premier Sekuritas, 2025; Natalia, 2025b). The remaining 850 issuers, representing approximately 88.7% of all IDX-listed issuers, are classified as non-conglomerate companies in this study. The complete list of conglomerate groups in this study is included in Appendix A.

The conglomerate classification in this study is used as an operational classification for empirical analysis. It is based on publicly available business-group mapping and market-capitalization relevance, rather than a legal determination of ultimate ownership or control. This approach is considered appropriate because the objective of this study is to distinguish stocks that are commonly associated with major business groups from other listed stocks in analyzing domestic investor fund flows. Nevertheless, the classification may not fully capture changes in business-group affiliation, indirect ownership, or cross-shareholding structures over the entire observation period.

2.7 Herding Behavior in the Indonesian Capital Market

Herding behavior is generally understood as the tendency of investors to follow the decisions or actions of other investors, especially when market uncertainty is increasing (Gleason et al., 2004). Bikhchandani and Sharma state that an investor can be said to be engaging in herding if their investment decisions change

drastically after learning of other investors' decisions. For example, an investor who initially wanted to buy shares decides to cancel because they see that most investors are not buying (Bikhchandani and Sharma, 2000). This phenomenon reflects a loss of independence in investment decision-making because market participants rely more on the actions of the majority than on fundamental analysis or personal information. In unstable market conditions, herding behavior tends to increase because investors feel safer following collective behavior than taking risks with their own decisions (Bintoro, 2022).

In general, herding behavior has a negative impact on market stability and efficiency (Yuwana et al., 2025). This is because herding behavior implies that investment decisions are made by following others rather than relying on fundamental information, making the market less efficient and increasing stock price volatility. In addition, herding behavior can trigger bubbles and market crashes because many investors move together emotionally. For example, when a pandemic strikes, domestic herding concentration can increase dramatically, thereby amplifying market fluctuations (Afif et al., 2025; Mubarok, 2020). This results in stock prices no longer fully reflecting fundamental values, with price movements driven by mass behavior.

On the IDX, stocks in conglomerate groups tend to be the focus of investor attention due to the interconnection of share ownership between companies, which often leads to synchronized movements (Amalia and Sumantri, 2024; Setiawati, 2025). When a stock within a conglomerate group appreciates due to outstanding performance, corporate actions, or becoming the target of investors, other stocks affiliated with the conglomerate group may also experience a positive spillover effect. Conversely, when one of the company's shares depreciates due to poor performance, legal issues, or investor avoidance, other shares in the group also weaken.

This situation makes conglomerate stocks an important market indicator. Financial media often cover the movements of large conglomerate-affiliated stocks, and investors may interpret these movements as market signals. In addition, diversification of business lines within a conglomerate group can foster collective

trust toward the overall business group (Aqmal, 2019). If one line of business receives positive sentiment, investors may generalize this sentiment to other companies within the same group. Although studies examining herding behavior specifically in conglomerate stocks remain limited, media attention and the perception that conglomerate-affiliated firms are more resilient to economic shocks may create conditions that increase the possibility of herding-like behavior among investors.

2.8 Previous Research

The theory of capital market integration suggests that as financial globalization advances, domestic stock markets become increasingly exposed to sentiment and developments originating from global markets (J. Halim and Marcories, 2011). In principle, greater integration should increase the sensitivity of domestic equity markets to foreign capital movements and external shocks. However, empirical evidence in the Indonesian context indicates that the performance of the Composite Stock Price Index (IHSG) may be more strongly influenced by domestic market dynamics and macroeconomic conditions than by foreign capital flows alone. Danila, Bunyamin, Djalaluddin, and Fathony found that during the 2014–2019 period, the IHSG was more sensitive to exchange rate movements and oil prices than to foreign capital flows, despite foreign ownership accounting for around 52% of the market (Danila et al., 2023). Similarly, Arroisi and Koesrindartoto showed that imbalances in domestic investor transactions had a significant effect on stock returns, whereas foreign investor transactions did not, suggesting that short-term price formation on the Indonesia Stock Exchange (IDX) was driven more by domestic investor activity (Arroisi and Koesrindartoto, 2019).

In addition to investor transaction dynamics, a substantial body of literature has emphasized the importance of macroeconomic factors in explaining stock market performance in Indonesia. Gunarto and Sembel found that macroeconomic conditions, including exchange rates, inflation, interest rates, and economic growth, significantly influenced the performance of stocks included in the LQ45 index on

the IDX (Gunarto and Sembel, 2019). Likewise, Ratnaningrum, Hutapea, and Malau reported that interest rates, inflation, exchange rates, gross domestic product (GDP) growth, and global market indicators such as the Dow Jones Index significantly affected movements in the IHSG (Ratnaningrum et al., 2022). These findings indicate that macroeconomic fluctuations and global financial sentiment may directly influence stock valuations, investor behavior, and overall market performance in Indonesia.

Beyond macroeconomic conditions, IHSG movements may also be associated with the structural characteristics of the Indonesian stock market, particularly the prominence of large conglomerate-affiliated firms. In markets where large business groups account for a substantial proportion of market capitalization, price movements in affiliated firms may have a stronger influence on aggregate index performance. Business-group affiliation may also increase co-movement among affiliated firms, as investors may respond not only to firm-specific information but also to group-level sentiment and ownership structures. Therefore, distinguishing between conglomerate and non-conglomerate stocks is relevant when examining how domestic investor fund flows affect IHSG movements.

Moreover, IHSG performance may also be affected by financial variables that influence stock valuation and market sentiment, including government bond yields as a proxy for interest rates and the risk-free rate, the Indonesian Rupiah exchange rate, which affects inflation and corporate profitability, and gold prices as an indicator of risk-off sentiment and hedging demand (Mahardika et al., 2024; Puryandani et al., 2019; Zakiyah, 2018).

This argument is consistent with previous studies showing that the IHSG is influenced by the Indonesian Rupiah exchange rate against the United States dollar (USDIDR), gold prices (XAU), and oil prices (Brent) (Ningrum and Mustafa, 2023; Nirmalasari and Soekarno, 2012). In addition, movements in the yield of 10-year Indonesian government bonds (ID10Y) may also affect IHSG performance (Hadi and Amzul, 2022). Taken together, these studies suggest that both investor

transaction behavior and macroeconomic variables are relevant in explaining movements in the IHSG.

Nevertheless, most existing studies treat the stock market as a homogeneous structure and do not explicitly distinguish between conglomerate and non-conglomerate firms. This is a material limitation, considering the growing dominance of domestic investors and the increasing concentration of conglomerate firms on the IDX. Empirical studies rarely differentiated domestic fund flows into these two groups when examining their effects on the IHSG. Therefore, the present study seeks to address this gap by investigating whether domestic fund flows into conglomerate and non-conglomerate stocks produce different effects on IHSG movements.

Table 2.1 List of Previous Studies

No	Authors	Year	Title	Variables	Result	Gap
1.	Krisna Darmawan, Vitriyani Purwaningsih, and Muhammad Hudani	2026	<i>Analisis Perbandingan Efek Arus Modal Investor Domestik dan Asing terhadap Perubahan IHSG</i>	Domestic capital flows, foreign capital flows, IHSG changes	Domestic and foreign investor capital flows are statistically associated with IHSG changes, indicating that trading activity contributes to aggregate market movement.	The study compares domestic and foreign investor flows, but does not classify domestic flows into conglomerate and non-conglomerate stocks or incorporate broader macroeconomic control variables.
2.	Aulia Larasati and Sondang Simamora	2025	<i>Dampak Fed Rate, Nilai Tukar Rupiah, Yield SUN 10 Tahun terhadap IHSG Periode Tahun 2021–2023</i>	Fed rate, exchange rate, 10-year government bond yield, IHSG	The exchange rate and 10-year government bond yield are relevant macroeconomic determinants of IHSG movement.	The study focuses on macroeconomic variables only and does not include investor fund flow variables, particularly domestic flows into conglomerate and non-conglomerate stocks.
3.	Tasya Garini and Agus Priyono	2025	<i>Exchange Rate Volatility and Stock Market Performance: Evidence from Indonesia</i>	Exchange rate volatility, stock market performance	Exchange rate movements affect stock market performance in Indonesia, indicating USDIDR is an important	The study doesn't incorporate investor trading activity and doesn't distinguish whether stock market effects differ across

					explanatory variable for equity returns.	conglomerate and non-conglomerate segments.
4.	Teguh Waluyo	2025	<i>Macroeconomic Variables and Stock Market Performance in Indonesia: Evidence from the IHSG</i>	Macroeconomic variables, IHSG	Macroeconomic variables such as exchange rate and gold price are relevant in explaining IHSG behavior.	The study emphasizes macroeconomic determinants, but does not include domestic investor fund flows, market microstructure mechanisms, or differences between conglomerate and non-conglomerate stocks.
5.	Iwan Kusmayadi, Djoko Suprayetno, Laila Wardani, Zainal Abidin, and Muhammad Ahyar	2024	Contrarian Strategy: Evidence of Price Reversal on Winner-Loser Portfolios	Winner portfolio, loser portfolio, abnormal return, cumulative abnormal return, price reversal	Winner and loser stock portfolios on the IDX experience price reversal after the formation period. The results provide evidence of the winner-loser anomaly and support the relevance of contrarian strategies in the Indonesian capital market.	The study examines contrarian strategy through winner-loser portfolios, but does not analyze domestic investor fund flows, market-clearing behavior, or the different effects of conglomerate and non-conglomerate stock flows on IHSG returns.
6.	Hendry Subagyo, Hersugondo, Wijaya Candra, Kardison Batu, and Dwi Waluyo	2024	Foreign investor portfolio flow and monetary policy response in the Indonesian stock market considering the COVID-19 pandemic	Foreign portfolio flows, BI 7-day repo rate, JCI, USDIDR, VIX, CDS spread, COVID-19 dummy	Foreign investor portfolio flows influence the Jakarta Composite Index. The study also indicates that domestic investors tend to observe foreign investor behavior, while monetary policy is not proven to affect the JCI and USDIDR has an impact on the Indonesian stock market.	The study focuses on foreign portfolio flows and monetary policy during the COVID-19 period, but does not examine domestic investor fund flows or distinguish domestic flows between conglomerate and non-conglomerate stocks.
7.	Nisfula Danila, Dindin Bunyamin, Abdul Djalaluddin,	2023	<i>Do Foreign Fund Flows Influence the Stock Market Index? Evidence</i>	Foreign fund flows, stock market index	Foreign fund flows significantly influence the stock market index in Indonesia, confirming that	The study focuses on foreign flows, while the role of domestic investor fund flows, especially by

	and Yanto Fathony		<i>From Indonesia</i>		portfolio flows matter for market performance.	conгло versus non-conгло, remains underexplored.
8.	Maya Ningrum and Husein Mustafa	2023	<i>Stability Analysis of Macroeconomic Effect on The Jakarta Composite Index (JCI) During 2006–2021</i>	Exchange rate, gold price, oil price, IHSG	The Indonesian stock market index is influenced by major macroeconomic variables, including exchange rate, gold price, and oil price.	The study focuses on macroeconomic stability analysis and does not examine investor transaction behavior or differences between conglomerate and non-conglomerate stock groups.
9.	Eko Hadi and Teuku Amzul	2022	<i>Analisis Pengaruh Inflasi, 10y-Yield Government Bond, Nilai Tukar dan HSI Index Terhadap IHSG Periode Tahun 2008–2017</i>	Inflation, 10-year government bond yield, exchange rate, HSI Index, IHSG	Movements in the 10-year government bond yield significantly affect IHSG performance, showing the relevance of bond-market conditions to stock market valuation.	The study emphasizes macroeconomic variables only and does not include investor fund flow behavior or stock-group classification.
10.	Ari Mahendra, Marisa Amalia, and Heru Leon	2022	<i>Analisis Pengaruh Suku Bunga, Harga Minyak Dunia, Harga Emas Dunia terhadap IHSG dengan Inflasi sebagai Variabel Moderating di Indonesia</i>	Interest rate, oil price, gold price, inflation, IHSG	Gold price is relevant in explaining IHSG movement and may reflect safe-haven behavior during uncertainty.	The study does not examine direct trading-flow effects and does not integrate domestic investor behavior or stock group classification into the model.
11.	Rizka Qisthina, Andi Rahman, and Hendra Setiawan	2022	<i>Macroeconomic Determinants of Government Bond Yields in Indonesia</i>	Macroeconomic variables, Indonesian government bond yield	Macroeconomic conditions significantly affect Indonesian government bond yields, confirming that bond yields are an important financial market indicator.	The study focuses on determinants of bond yields rather than their implications for equity market returns, and it does not connect bond yield movements to domestic investor flows or IHSG return ratio.

12.	Ratnaningrum, Grace Hutapea, and Melinda Malau	2022	<i>The Effect of Interest Rate, Inflation, Exchange Rate, Gross Domestic Product, Dow Jones Index and COVID-19 on Composite Stock Price Index in Indonesia Stock Exchange Period of 2015–2020</i>	Interest rate, inflation, exchange rate, GDP, Dow Jones Index, COVID-19, IHSG	Interest rates, inflation, exchange rates, GDP, and global market indicators significantly affect IHSG movement.	The study highlights macroeconomic and global determinants of IHSG but does not incorporate domestic investor fund flows or structural distinctions between conglomerate and non-conglomerate firms.
13.	Mara Faccio, Randall Morck, and M. Deniz Yavuz	2021	<i>Business Groups and the Incorporation of Firm-Specific Shocks into Stock Prices</i>	Business-group affiliation, firm-specific shocks, stock price informativeness	Business-group affiliation reduces the incorporation of firm-specific information into stock prices and increases co-movement among affiliated firms.	The study explains stock-price behavior within business groups, but does not examine how domestic investor fund flows into conglomerate stocks affect aggregate stock market returns such as IHSG.
14.	Puguh Santosa	2021	<i>Macroeconomic Factors Affecting Indonesian Government Bond Yields</i>	Inflation, exchange rate, macroeconomic factors, government bond yields	Indonesian government bond yields are significantly influenced by macroeconomic variables and are relevant in capital market analysis.	The study does not examine the transmission of bond yield changes to stock market returns and does not integrate yield movements into a broader model including domestic investor fund flows.
15.	Fenghua Wen, Qian Zou, and Xiong Wang	2021	The contrarian strategy of institutional investors in Chinese stock market	Institutional ownership changes, past stock returns, market states, future stock returns	Institutional investors in China generally adopt contrarian strategies, especially in up-market conditions. Their trading activities also have predictive power for future stock returns.	The study focuses on institutional investors in China and firm-level stock returns, but does not examine domestic investor fund flows in Indonesia or their impact on aggregate IHSG returns.

16.	Riska Anggriana and Raden Paramita	2020	<i>Analisis Pengaruh BI Rate, Kurs, Inflasi, Harga Minyak, dan Harga Emas Dunia terhadap IHSG Periode 2016–2019</i>	BI rate, exchange rate, inflation, oil price, gold price, IHSG	Exchange rate and gold price jointly affect IHSG dynamics, supporting the relevance of macroeconomic indicators in stock market analysis.	The study is limited to macroeconomic variables and does not analyze investor flow behavior, especially domestic trading in different stock group structures.
17.	Doddy Koesrindartoto, Ari Aaron, Indra Yusgiantoro, Wimo Dharma, and Achmad Arroisi	2020	<i>Who Moves the Stock Market in an Emerging Country – Institutional or Retail Investors?</i>	Investor category, trading imbalance, stock market movement	Investor trading imbalances significantly affect stock price formation and market movement in Indonesia, showing that order flow matters in explaining return dynamics.	The study focuses on investor categories generally and does not distinguish domestic fund flows between conglomerate and non-conglomerate stocks or link them specifically to IHSG return ratio.
18.	A. Sakir and Zaida Zainul	2019	<i>Are Foreign Investors Smarter than Domestic Investors? Empirical Evidence from Indonesia</i>	Foreign investors, domestic investors, informational advantage, investor behavior, stock trading performance	The study finds no significant difference between foreign and domestic investors in terms of informational advantage and investor behavior but finds a significant difference in trading performance. The findings also suggest limited herding bias and indicate that both groups tend to use contrarian strategies.	The study compares foreign and domestic investor behavior and performance but does not estimate the effect of domestic investor fund flows on IHSG returns or classify domestic trading activity into conglomerate and non-conglomerate stock groups.
19.	Achmad Arroisi and Doddy Koesrindartoto	2019	<i>Domestic and Foreign Investor Dynamics in Indonesian Stock Exchange: Evidence from 10 Years High-Frequency Data</i>	Domestic investor dynamics, foreign investor dynamics, stock exchange trading activity	Domestic and foreign investors exhibit different trading dynamics in the Indonesian market, suggesting heterogeneity in how investor groups influence prices.	The study does not extend the analysis to IHSG return ratio using monthly aggregate fund flows, nor does it classify domestic activity by conglomerate versus non-conglomerate stocks.

20.	Yue Chen, Xiaojian Niu, and Yan Zhang	2019	Exploring Contrarian Degree in the Trading Behavior of China's Stock Market	Contrarian timers, passive followers, trading behavior, stock returns, contrarian degree, CSI300 Index	Contrarians account for approximately 12–14% of trading volume in China's stock market. The study finds that followers mainly drive the return sequence, while contrarians capture profitable reversal opportunities and help prices move back toward intrinsic value.	The study provides behavioral evidence of contrarian trading in an emerging market, but it focuses on China and does not examine Indonesian domestic investor flows, IHSG returns, or conglomerate and non-conglomerate stock classifications.
21.	Siska Puryandani, Robiyanto and Windriya Suryandani	2019	<i>Gold: Hedge, Safe Haven or Diversifier for Indonesian Capital Market</i>	Gold, Indonesian capital market, hedge/safe haven role	Gold can serve as a hedge, safe haven, or diversifier in the Indonesian capital market, especially during periods of uncertainty.	The study examines the role of gold in portfolio management but does not test its direct relationship with IHSG returns alongside domestic investor flows and stock-group structure.
22.	Lin Yu, Hung-Gay Fung, and Wai Leung	2019	Momentum or contrarian trading strategy: Which one works better in the Chinese stock market	Winner-minus-loser portfolios, weekly returns, sorting period, holding period, turnover ratio	The study finds significant short-horizon return reversals across Chinese stock markets, indicating that contrarian strategies generally work better than momentum strategies. The reversal effect is stronger in speculative and high-turnover stocks.	The study examines trading strategy performance in China, but does not analyze investor fund flow behavior, domestic investor activity, or the distinction between conglomerate and non-conglomerate stocks in explaining IHSG returns.
23.	Alvin Gunarto and Roy Sembel	2019	<i>The Effect of Macroeconomy on Stock Performance of LQ45 Companies at IDX</i>	Exchange rate, inflation, interest rate, economic growth, stock performance	Macroeconomic conditions significantly influence the performance of LQ45, indicating that macrovariables are relevant in explaining Indonesian equity performance.	The study focuses on LQ45 stock performance rather than IHSG specifically and does not include investor fund flow variables or distinguish between conglom and non-conglom stocks.

24.	Khairunnisa Zakiyah	2018	<i>Pengaruh IHSG, Tingkat Suku Bunga, Nilai Tukar, dan Inflasi terhadap Yield Obligasi Perusahaan Telekomunikasi di BEI 2015–2017</i>	IHSG, interest rate, exchange rate, inflation, bond yield	Exchange rate, interest rate, inflation, and IHSG are linked to bond yield dynamics, supporting the interaction between stock and bond markets.	The study focuses on bond yield rather than IHSG return and does not integrate domestic investor fund flows or stock classification into the analysis.
25.	Euis Nirmalasari and Soenandar Soekarno	2012	<i>Analysis of Macroeconomic Factors on JCI Stock Returns for the Period of 2001–2009</i>	Macroeconomic factors, JCI stock returns	Macroeconomic variables significantly affect JCI stock returns, confirming that IHSG performance is sensitive to broad financial and economic conditions.	The study does not examine investor fund flow behavior and does not distinguish market structure based on conglomerate versus non-conglomerate firms.

Based on the previous studies summarized in Table 2.1, existing research on IHSG movements can generally be grouped into three areas: studies on investor fund flows, studies on macroeconomic determinants, and studies on investor behavior or market-structure effects. However, most prior studies either focus on foreign fund flows, examine macroeconomic variables separately, or analyse investor behavior without distinguishing the stock universe based on conglomerate affiliation. Therefore, there remains a research gap in examining whether domestic investor fund flows into conglomerate and non-conglomerate stocks have different effects on the return ratio of the IHSG, while also controlling for selected macroeconomic and financial market indicators. This study addresses that gap by integrating domestic investor flow segmentation, conglomerate classification, market-clearing interpretation, contrarian behavior, and macroeconomic control variables within a time-series regression framework.

2.9 Hypothesis

Domestic investor fund flows into conglomerate stocks are expected to affect the return ratio of the IHSG because transaction imbalances can influence price formation through market microstructure mechanisms in the Indonesian equity market (Koesrindartoto et al., 2020). In standard demand-side theory, investor inflows may increase stock prices by increasing demand. However, in the context of the Indonesian capital market, domestic investor fund flows should also be interpreted through the interaction between domestic and foreign investors. As discussed in the previous sections, domestic investors may act as counterparties to foreign investors through the market clearing mechanism. When foreign investors sell Indonesian equities during periods of market pressure, domestic investors may absorb the selling pressure. Therefore, positive domestic net flows may occur during weak market conditions and may be negatively associated with IHSG returns. This interpretation is consistent with prior evidence showing that domestic investor transactions have a significant relationship with stock price movements in Indonesia (Koesrindartoto et al., 2020).

Recent evidence from Indonesia also shows that investor trading imbalances and transaction flows are statistically associated with stock return dynamics and changes in the IHSG, indicating that domestic trading activity can contribute to aggregate market movements (Darmawan et al., 2026). In conglomerate stocks, this relationship may become more relevant because many conglomerate-affiliated firms are large-cap stocks with substantial market weights. In addition, business-group affiliation is associated with stronger co-movement across affiliated firms and lower incorporation of firm-specific information into stock prices (Faccio et al., 2021). Therefore, domestic investor fund flows into conglomerate stocks are expected to have a negative effect on the return ratio of the IHSG.

H1a: Domestic investor fund flows in conglomerate stocks (FlowRatioK) have a negative effect on the return ratio of the IHSG.

Domestic investor fund flows into non-conglomerate stocks are also expected to affect IHSG movements because persistent buy–sell imbalances can influence stock prices through liquidity and order-flow channels (Koesrindartoto et al., 2020). Although non-conglomerate firms are generally more influenced by firm-specific information than by group-level factors, domestic investor transactions can still contribute to market-wide movements when such flows occur across many listed stocks simultaneously (Darmawan et al., 2026). Since non-conglomerate stocks represent a broader stock universe on the IDX, domestic investor activity in this segment may capture wider market participation and liquidity absorption during periods of market pressure.

Similar to conglomerate stocks, domestic net inflows into non-conglomerate stocks may not always represent independent buying pressure. Instead, such inflows may reflect a counterparty response when foreign investors reduce their exposure to Indonesian equities. Under this condition, domestic investor fund flows may be associated with weaker IHSG returns because domestic investors absorb selling pressure in a declining market. Therefore, domestic investor fund flows into non-conglomerate stocks are expected to have a negative effect on the return ratio of the IHSG.

H1b: Domestic investor fund flows in non-conglomerate stocks (FlowRatioNK) have a negative effect on the return ratio of the IHSG.

Movements in the 10-year Indonesian government bond yield are expected to affect the IHSG because bond yields influence equity valuation through the discount-rate channel and cross-asset portfolio reallocation (Larasati and Simamora, 2025). When long-term government bond yields increase, equities become relatively less attractive because investors may shift their portfolios toward fixed-income instruments that offer higher returns with lower risk. Higher bond yields may also increase the discount rate used in valuing future corporate cash flows, thereby reducing equity valuations and putting downward pressure on the broader stock market. Previous studies also show that bond-market conditions are relevant in

explaining stock market movements in Indonesia (Hadi & Amzul, 2022; Qisthina et al., 2022; Santosa, 2021). Therefore, increases in the Indonesian 10-year government bond yield are expected to have a negative effect on the return ratio of the IHSG.

H2a: Movements in the yield of Indonesian government bonds with a 10-year maturity ($\Delta ID10Y$) have a negative effect on the return ratio of the IHSG.

Movements in the USDIDR exchange rate are expected to affect the IHSG because exchange-rate changes influence investor sentiment, foreign capital allocation, imported input costs, and the burden of foreign-currency liabilities (Nour Halisa and Annisa, 2020). Since stocks listed on the IDX are priced in Indonesian rupiah, rupiah depreciation may reduce the value of Indonesian equity holdings when measured in foreign-currency terms, particularly from the perspective of foreign investors or investors using the US dollar as a benchmark (Waluyo, 2025). As a result, rupiah depreciation may reduce the attractiveness of Indonesian equities, trigger selling pressure, and contribute to potential capital outflows from the IDX (Garini and Priyono, 2025). In addition, rupiah depreciation may reduce expected profitability for firms exposed to imported inputs or US dollar-denominated debt. Therefore, increases in USDIDR, which indicate rupiah depreciation against the US dollar, are expected to have a negative effect on the return ratio of the IHSG.

H2b: Movements in the USDIDR exchange rate (R_{USDIDR}) have a negative effect on the return ratio of the IHSG.

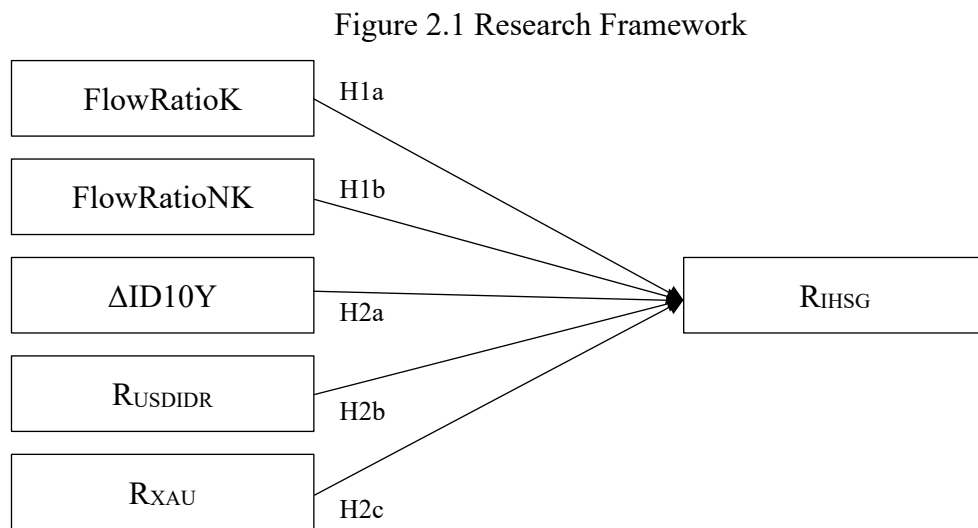
Gold prices are expected to affect IHSG movements because gold is commonly viewed as a safe-haven asset and a signal of uncertainty, inflation expectations, and portfolio reallocation (Mahendra et al., 2022). When market uncertainty rises, investors may shift part of their portfolios from equities to gold, which can reduce demand for stocks and weaken stock market performance. Empirical studies in Indonesia show that world gold prices are relevant in explaining stock-index

behavior, either directly in models of IHSG performance or in broader market-hedging analysis involving Indonesian equities (Puryandani et al., 2019; Waluyo, 2025). Additional Indonesia-based evidence also reports that gold prices and exchange-rate variables can jointly affect IHSG dynamics, reinforcing the role of gold as a relevant explanatory variable in macroeconomic stock market analysis (Anggriana and Paramita, 2020). Therefore, increases in gold spot price returns are expected to have a negative effect on the return ratio of the IHSG.

H2c: Movements in gold spot prices (R_{XAU}) have a negative effect on the return ratio of the IHSG.

2.10 Research Framework

Based on the discussion presented above, the research framework of this study is formulated as follows:



Where:

- FlowRatioK: Domestic investor flow ratio in conglomerate stocks
- FlowRatioNK: Domestic investor flow ratio in non-conglomerate stocks
- $\Delta ID10Y$: Change in Indonesian 10-year government bond yield
- R_{USDIDR} : Return ratio of Indonesian Rupiah exchange rate against the USD
- R_{XAU} : Return ratio of gold spot price
- $RIHSG$: Return ratio of Composite Stock Price Index

CHAPTER III

METHODOLOGY

3.1 Research Design

This study employs a quantitative approach with an explanatory research design to empirically examine the influence of independent variables on the dependent variable. The independent variables consist of domestic investor flow ratios in conglomerate stocks (FlowRatioK) and non-conglomerate stocks (FlowRatioNK), as well as three selected macroeconomic and financial market indicators, namely the change in the Indonesian 10-year government bond yield ($\Delta ID10Y$), the return ratio of the Indonesian rupiah exchange rate against the US dollar (R_{USDIDR}), and the return ratio of gold spot price (R_{XAU}). The dependent variable in this study is the return ratio of the Composite Stock Price Index (R_{IHSG}), which serves as the primary indicator of Indonesian stock market performance. This study aims to explain the relationship between these variables using monthly time-series data from January 2009 to December 2025 and to test their statistical significance using time-series regression based on the ordinary least squares method.

3.2 Operational Definition of Variables

This study applies two types of variable transformation. First, several variables are defined in ratio or return form by construction to ensure economic interpretability and comparability across time. Specifically, FlowRatioK and FlowRatioNK are expressed as flow ratios to normalize trading activity relative to market turnover, while USDIDR, XAU, and IHSG are expressed as monthly returns to capture relative price changes rather than absolute levels.

Second, statistical transformations are applied to ensure that the variables are suitable for time-series regression and consistent with the short-term return-based framework of this study. Variables that are found to be non-stationary at the level based on the Augmented Dickey–Fuller (ADF) test are transformed using first

differencing or return transformation. In addition, ID10Y is expressed in first-difference form to capture changes in bond yield movements rather than the yield level.

Table 3.1 Summary of Variables and Measurements

Variable	Definition	Measurement
FlowRatioK	Domestic investor flow ratio in conglomerate stocks	NDFK / Total Turnover
FlowRatioNK	Domestic investor flow ratio in non-conglomerate stocks	NDFNK / Total Turnover
Δ ID10Y	Change in Indonesian 10-year government bond yield	First difference
RUSDIDR	Return ratio of Indonesian rupiah exchange rate against the US dollar	% of change
RXAU	Return ratio of gold spot price	% of change
RIHSG	Return ratio of Composite Stock Price Index (market)	% of change

3.2.1 Net Domestic Flow Ratio of Conglomerate Stocks (FlowRatioK)

Net Domestic Flow of Conglomerate Stocks (NDFK) refers to the net capital flow originating from domestic investors into stocks classified as conglomerate companies based on the classification criteria used in this study on the Indonesia Stock Exchange (IDX). NDFK is first calculated as the difference between the total value of domestic buy transactions and the total value of domestic sell transactions in conglomerate stocks during a given period. A positive NDFK indicates net buying from domestic investors, while a negative NDFK indicates net selling. This measure reflects the direction of domestic investor sentiment toward conglomerate companies, which generally have large market capitalizations and substantial influence on overall market movements.

However, the nominal value of net domestic flow may not be directly comparable across periods because transaction values can vary considerably over time. Therefore, to ensure comparability and avoid scale differences in the regression model, this study employs a flow ratio measure rather than the nominal net flow value. The flow ratio is calculated as the ratio between net domestic flow and the total monthly transaction value on the IDX during the same period. Consequently, the regression model uses FlowRatioK as the explanatory variable rather than the nominal net flow variable (NDFK). This transformation allows the model to capture the relative trading of domestic investors rather than the absolute value of capital flows. Domestic investor fund flow data are obtained from Indo Premier Sekuritas, while total turnover data are obtained from BPS. The list of conglomerate stocks included in this study is provided in Appendix A.

Equation 3.1 TDF Formula

$$TDF_t = DFK_t + DFNK_t$$

TDF : Total value of capital from domestic fund flow at time t

DFK : Total value of capital from domestic fund flow to conglomerate stocks at time t

DFNK : Total value of capital from domestic fund flow to non-conglomerate stocks at time t

Equation 3.2 NDFK Formula

$$NDFK_t = DBK_t - DSK_t$$

DBK : Total value of capital from domestic buy transactions in conglomerate stocks at time t

DSK : Total value of capital from domestic sell transactions in conglomerate stocks at time t

Equation 3.3 NDFK Flow Ratio Formula

$$FlowRatioK_t = \frac{NDFK_t}{Total\ Turnover_t}$$

Total Turnover : Total monthly transaction value stocks listed in the IHSG during period t

3.2.2 Net Domestic Flow Ratio of Non-Conglomerate Stocks (FlowRatioNK)

Net Domestic Flow of Non-Conglomerate Stocks (NDFNK) refers to the net capital flow originating from domestic investors into stocks that are not classified as conglomerate companies according to the classification criteria used in this study. NDFNK is first calculated as the difference between the total value of domestic buy transactions and the total value of domestic sell transactions in non-conglomerate stocks during a given period. A positive NDFNK indicates net buying from domestic investors, while a negative NDFNK indicates net selling. This measure reflects the direction of domestic investor sentiment toward non-conglomerate stocks in the Indonesian capital market.

Similar to conglomerate stocks, the nominal value of net domestic flow in non-conglomerate stocks may not be directly comparable across periods due to differences in transaction scale over time. Therefore, to maintain comparability across variables and avoid scale differences in the regression model, this study also employs a flow ratio measure rather than the nominal net flow value. The flow ratio is calculated as the ratio between net domestic flow and the total monthly transaction value on the IDX during the same period. Consequently, the regression model uses FlowRatioNK as the explanatory variable rather than the nominal net flow variable (NDFNK). This transformation captures the relative strength of domestic trading instead of the absolute value of capital flows. Domestic investor fund flow data are obtained from Indo Premier Sekuritas, while total turnover data are obtained from BPS.

Equation 3.4 NDFNK Formula

$$NDFNK_t = DBNK_t - DSNK_t$$

DBNK : total value of capital from domestic buy transactions in non-conglomerate stocks at time t

DSNK : total value of capital from domestic sell transactions in non-conglomerate stocks at time t

Equation 3.5 NDFNK Flow Ratio Formula

$$FlowRatioNK_t = \frac{NDFNK_t}{Total\ Turnover_t}$$

Total Turnover : Total monthly transaction value stocks listed in the IHSG during period t

3.2.3 Changes in the Indonesian 10-Year Government Bond Yield ($\Delta ID10Y$)

Indonesian 10-Year Government Bond Yield ($ID10Y$) refers to the yield of Indonesian government bonds with a maturity of ten years. This variable serves as an indicator of long-term interest rate expectations and risk conditions in the capital market. In financial theory, government bond yields are often used as a proxy for the risk-free rate, which influences stock valuation through the discount rate used in asset pricing models. An increase in bond yields may raise the cost of capital and reduce the attractiveness of equities, thereby exerting downward pressure on stock prices. Conversely, a decline in bond yields may support equity valuations and contribute to stock market growth (Zakiyah, 2018). In this study, $ID10Y$ is measured as the monthly change in the 10-year government bond yield ($\Delta ID10Y$) rather than the level of the yield. Although the level of $ID10Y$ is found to be stationary, this study uses the first difference of $ID10Y$ because the research focuses on the effect of changes in bond yields on stock market returns. This specification is also consistent with the short-term return-based framework used in the regression model.

Equation 3.6 $\Delta ID10Y$ Formula

$$\Delta ID10Y = ID10Y_t - ID10Y_{t-1}$$

$\Delta ID10Y$: Change in ID10Y yield

$ID10Y_t$: Current ID10Y period yield

$ID10Y_{t-1}$: Previous ID10Y period yield

3.2.4 Return Ratio of the Indonesian Rupiah Exchange Rate Against the US Dollar (R_{USDIDR})

The Indonesian rupiah exchange rate against the US dollar ($USDIDR$) reflects the number of Indonesian rupiah required to obtain one US dollar. This variable is an important macroeconomic indicator because exchange rate movements can influence corporate profitability, capital flows, and investor sentiment in the capital market (Istamar et al., 2019). A depreciation of the rupiah tends to increase import costs and may reduce the profitability of firms that rely on imported inputs, thereby exerting downward pressure on stock prices (Mahardika et al., 2024). In addition, because stocks listed on the IDX are priced in Indonesian rupiah, rupiah depreciation may reduce the foreign-currency value of investors' equity holdings, particularly for foreign investors or investors who evaluate returns in US dollar terms. This may weaken investor appetite for Indonesian equities and contribute to selling pressure in the stock market. Conversely, an appreciation of the rupiah may lower production costs and support certain sectors, although it can also reduce export competitiveness. To analyze the short-term relationship between exchange rate movements and the stock market, this study uses the monthly percentage change in $USDIDR$ (R_{USDIDR}) rather than the exchange rate level. The data for this variable are obtained from the Bloomberg Terminal.

Equation 3.7 Return Ratio of USDIDR Formula

$$R_{USDIDR,t} = \frac{(USDIDR_t - USDIDR_{t-1})}{USDIDR_{t-1}}$$

$R_{USDIDR,t}$: % of change of USDIDR exchange rate

$USDIDR_t$: Current USDIDR exchange rate

$USDIDR_{t-1}$: Previous USDIDR exchange rate

3.2.5 Return Ratio of Gold Spot Price (R_{XAU})

Gold Spot Price (XAU) refers to the international spot price of gold, which is widely considered a safe-haven asset during periods of financial market uncertainty (Istamar et al., 2019; Yunus et al., 2025). Investors often shift their funds from equities to gold when market volatility increases, leading to portfolio reallocation behavior. An increase in gold prices may reflect heightened global uncertainty and risk-off sentiment, which can be associated with declining stock market performance (Puryandani et al., 2019). However, under stable market conditions, the relationship between gold and stock prices may not always be negative. In this study, the gold price is measured using the monthly percentage change in the gold spot price (R_{XAU}) to capture price movements rather than the absolute price level. The data for this variable are obtained from the Bloomberg Terminal.

Equation 3.8 Return Ratio of XAU Formula

$$R_{XAU,t} = \frac{(XAU_t - XAU_{t-1})}{XAU_{t-1}}$$

$R_{XAU,t}$: % of change of XAU price

XAU_t : Current XAU price

XAU_{t-1} : Previous XAU price

3.2.6 Return Ratio of the Composite Stock Price Index ($R_{IHS\text{G}}$)

The Composite Stock Price Index (IHSG) is an index that measures the price performance of all stocks listed on the main board and development board of the IDX (Bursa Efek Indonesia, 2021). The IHSG serves as an important indicator of the overall performance of the Indonesian capital market and is widely used as a benchmark for investment performance. In this study, the IHSG is used as the dependent variable, following previous studies examining the relationship between macroeconomic factors and stock market performance (Andriyani and Pimada, 2025; Danila et al., 2023; Hadi and Amzul, 2022; Muntasir, 2015; Sopiya et al., 2025). To capture market movements rather than the absolute level of the index, the IHSG is transformed into a monthly percentage change ($R_{IHS\text{G}}$), which is commonly used in financial time-series analysis. The data for this variable are obtained from the Bloomberg Terminal.

Equation 3.9 Return Ratio of the IHSG Formula

$$R_{IHS\text{G},t} = \frac{(IHS\text{G}_t - IHS\text{G}_{t-1})}{IHS\text{G}_{t-1}}$$

$R_{IHS\text{G},t}$: % of change of IHSG

$IHS\text{G}_t$: Current IHSG

$IHS\text{G}_{t-1}$: Previous IHSG

3.3 Population and Data Sample

The population in this study includes domestic investor fund flows on the IDX and selected macroeconomic and financial market indicators that may influence the IHSG during the period 2009–2025 (Natalia, 2025a; Refadebby, 2025). This population consists of domestic investor fund flows across stocks listed on the IDX, including both conglomerate and non-conglomerate stocks, as well as historical data on relevant macroeconomic and financial market variables, namely ID10Y, USDIDR, and XAU. With this coverage, the research population represents

aggregate Indonesian capital market activity along with external financial market factors that may shape stock index dynamics.

The research sample was selected purposively based on the ability of the variables to capture fund flow dynamics and macroeconomic influences. The fund flow sample is limited to monthly net domestic flows for NDFK and NDFNK based on domestic investor transaction data during the period January 2009 to December 2025. Meanwhile, the macroeconomic data sample consists of monthly historical series of ID10Y, USDIDR, and XAU. The period January 2009 to December 2025 was chosen due to the availability of consistent data following the implementation of JATS-NextG and amid the increasing participation of domestic investors, allowing the sample to represent the modern trading phase of the IDX and the structural shift in market participants.

Although the empirical observation period covers January 2009 to December 2025, the raw level data include the preceding monthly values required to calculate the first return and first-difference observations. Therefore, the transformed dataset used in the empirical analysis contains 204 monthly observations. This adjustment ensures that the return ratio variables and the first-difference variable can be calculated consistently from the beginning of the observation period.

3.4 Research Instruments

The research instruments used in this study consist of secondary quantitative datasets obtained from reliable and verifiable sources. The primary instruments include domestic investor fund flow data for NDFK and NDFNK obtained from Indo Premier Sekuritas (IPS), monthly stock transaction value data obtained from BPS, and financial market data obtained from the Bloomberg Terminal, including ID10Y, USDIDR, XAU, and IHSG. All data instruments were selected due to their reliability and widespread use in capital market analysis.

This study also utilizes econometric software, namely EViews, as the analytical instrument. EViews is widely used for time-series data processing and

econometric analysis, particularly for testing the statistical significance of relationships between variables. Data transformations such as percentage changes, differencing, and stationarity testing were conducted to ensure that the variables are suitable for regression analysis. The time-series regression model was selected because the dataset consists of variables observed sequentially over time, allowing the study to examine contemporaneous relationships between domestic fund flows, macroeconomic variables, and R_{IHSG} throughout the observation period. Therefore, the combination of EViews software and the time-series regression approach provides an appropriate analytical framework to empirically examine the effects of domestic fund flows, both conglomerate and non-conglomerate, as well as macroeconomic variables on the return ratio of the IHSG.

3.5 Data Collection Techniques

This study uses secondary data obtained from reliable and verifiable quantitative sources, including:

- a. Historical data on domestic investor fund flows for each stock listed on the IDX on a monthly basis for the past 17 years (January 2009 – December 2025) obtained from the online trading platform of Indo Premier Sekuritas.
- b. Historical data on stock transaction values on the IDX on a monthly basis for the past 17 years (January 2009 – December 2025) obtained from BPS.
- c. Historical monthly data on ID10Y yield movements for the past 17 years (January 2009 – December 2025) obtained from Bloomberg Terminal.
- d. Historical monthly data on USDIDR exchange rate movements for the past 17 years (January 2009 – December 2025) obtained from Bloomberg Terminal.
- e. Historical monthly data on XAU for the past 17 years (January 2009 – December 2025) obtained from Bloomberg Terminal.
- f. Historical monthly data on IHSG for the past 17 years (January 2009 – December 2025) obtained from Bloomberg Terminal.

- g. Additional supporting data such as books, journals, websites, and other relevant sources obtained online.

The original datasets obtained from Indo Premier Sekuritas, BPS, and Bloomberg Terminal, and included in this study are provided in Appendix B.

3.6 Data Analysis Techniques

Time-series regression based on the ordinary least squares method is employed to estimate the relationship between domestic investor fund flows, macroeconomic variables, and the return of the IHSG. The model is specified to capture the contemporaneous relationship between the explanatory variables and stock market returns using monthly time-series data.

The use of this approach is motivated by the primary objective of the study, which is to examine the direct and interpretable effect of selected independent variables on IHSG returns rather than to model complex dynamic interactions. Ordinary least squares (OLS) time-series regression (TSR) provides a transparent framework in which the estimated coefficients can be directly interpreted as marginal effects, allowing clear economic interpretation of how changes in investor flows and macroeconomic conditions are associated with stock market performance.

Compared with more advanced models such as Vector Autoregression (VAR) or Autoregressive Distributed Lag (ARDL), this study adopts a more parsimonious specification to avoid over-parameterization, given the sample size and the number of explanatory variables. While VAR is suitable for capturing bidirectional and dynamic relationships among multiple endogenous variables, it requires a larger number of observations and may reduce interpretability due to the inclusion of multiple lag structures. Similarly, ARDL models are more appropriate when the focus is on long-run equilibrium relationships and cointegration among non-stationary variables.

In contrast, the variables in this study have been transformed into stationary forms, and the research focuses on short-term return dynamics rather than long-run equilibrium relationships. Therefore, a contemporaneous time-series

regression framework is considered appropriate and sufficient to address the research objectives. The regression results are evaluated based on the sign, magnitude, statistical significance, and economic interpretation of the estimated coefficients. If the estimated coefficients are not statistically significant or exhibit signs inconsistent with theoretical expectations, the results are interpreted with caution, and possible model limitations, such as omitted variables, endogeneity, or structural changes, are acknowledged.

It should be noted that the regression model estimates contemporaneous statistical relationships between the explanatory variables and R_{IHSG} . Therefore, the results should not be interpreted as strict causal evidence. Potential simultaneity and reverse causality may still exist because investor fund flows may influence market returns, while market returns may also influence investor trading behavior within the same period. Consequently, the findings are interpreted as empirical associations within the scope of the regression model.

3.6.1 Descriptive Statistics

Descriptive statistics are used to summarize and present the basic characteristics of the variables prior to econometric analysis. The primary objective is to provide an initial understanding of the distribution, central tendency, and variability of the data, allowing the researcher to identify patterns, detect anomalies, and assess the overall behavior of each variable over the observation period.

The use of descriptive statistics is essential in time-series analysis because it serves as a preliminary diagnostic step before applying regression models. By examining measures such as the mean, minimum, maximum, and standard deviation, the researcher can evaluate whether the data exhibit unusual characteristics, such as extreme values, high volatility, or instability, which may affect the reliability and interpretation of subsequent econometric results. This step also helps ensure that the dataset is suitable for further analysis and provides an initial indication of potential relationships among variables.

If the descriptive statistics reveal irregular patterns, such as extreme outliers, excessive volatility, or abnormal distributions, additional data treatment

may be required. This may include data transformation (such as returns or differencing), outlier handling, or further diagnostic testing to ensure that the assumptions underlying the econometric model are not violated. Without this preliminary assessment, the regression results may be misleading or difficult to interpret (Kvålseth, 1985).

3.6.2 Stationarity Test

Before estimating a time-series regression model, it is necessary to test whether the data are stationary. A stationary time series has a constant mean and variance over time and stable statistical properties across periods. Non-stationary data may produce spurious regression results, where variables appear to have statistically significant relationships even though no true relationship exists (Shrestha and Bhatta, 2018). Therefore, this study employs the Augmented Dickey–Fuller (ADF) test to examine whether each variable contains a unit root.

In the ADF test, the initial assumption is that the data contain a unit root, meaning that the data are non-stationary. If the ADF test result is statistically significant, this initial assumption is rejected and the data are considered stationary. In this study, stationarity is evaluated using both the ADF statistic and the probability value. A variable is considered stationary when the ADF statistic is more negative than the 5% critical value and the probability value is less than or equal to 0.05.

Equation 3.10 ADF Formula

$$\Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum_{i=1}^p \delta_i \Delta Y_{t-i} + \varepsilon_t$$

ΔY_t : First difference of the variable at time t

α : Constant term

βt : Deterministic time trend

Y_{t-1} : Lagged value of the variable in the previous period

γ	: Coefficient used to test the presence of a unit root
p	: Number of lagged difference terms included in the model
δ_i	: Coefficient of the lagged first differences
ε_t	: Error term

Decision rule:

If p-value $\leq 0.05 \rightarrow$ the data are stationary

If p-value $> 0.05 \rightarrow$ the data are non-stationary

If a variable is not stationary at the level, the data will be transformed using first differencing or return transformation until stationarity is achieved.

3.6.3 Correlation Matrix

After ensuring the stationarity of the variables, a correlation matrix is constructed to examine the pairwise relationships among the variables included in the model. The correlation matrix measures the strength and direction of the linear association between two variables, with values ranging from -1 to $+1$. A positive correlation indicates that the variables move in the same direction, while a negative correlation indicates that they move in opposite directions.

The purpose of this analysis is to provide a preliminary understanding of the relationships among the independent variables and the dependent variable before conducting regression analysis. Additionally, correlation analysis helps identify potential multicollinearity issues when two or more independent variables exhibit very high correlations.

Although correlation does not imply causality, it provides useful initial insights into the structure of relationships among variables and helps researchers anticipate potential econometric problems before estimating the regression model (Gujarati and Porter, 2010).

3.6.4 Multicollinearity Test

Multicollinearity occurs when two or more independent variables in a regression model are highly correlated with each other. When multicollinearity is present, it becomes difficult to distinguish the individual contribution of each explanatory variable to the dependent variable. As a result, the estimated coefficients may become unstable and statistically insignificant even when the variables are theoretically relevant.

To detect multicollinearity, this study uses the Variance Inflation Factor (VIF). The VIF measures how much the variance of an estimated regression coefficient increases due to multicollinearity among the explanatory variables. A commonly used rule of thumb states that a VIF value greater than 10 indicates a serious multicollinearity problem, while values below 10 suggest that multicollinearity is not a significant concern (Akinwande et al., 2015).

Equation 3.11 VIF Formula

$$VIF_j = \frac{1}{1 - R_j^2}$$

R_j^2 is the coefficient of determination obtained by regressing the independent variable X_j on the other independent variables. In general, the regression model is considered free from multicollinearity if $VIF < 10$.

If multicollinearity is detected, the researcher will identify the highly correlated explanatory variables and evaluate them based on theoretical relevance. Variables that capture overlapping information may be excluded, or the model may be re-specified to reduce redundancy. However, if the variables remain theoretically important, they may still be retained with careful interpretation, as multicollinearity mainly affects the precision of individual coefficient estimates by inflating their standard errors (Vatcheva and Lee, 2016).

3.6.5 Time-series Regression

After confirming that the data are stationary and free from severe multicollinearity, the relationship between the variables is estimated using time-series regression (TSR) based on the ordinary least squares (OLS) method. OLS is one of the most widely used estimation techniques in econometrics because it provides unbiased and efficient estimates when classical assumptions are satisfied (Gujarati and Porter, 2010; Shrestha and Bhatta, 2018).

Equation 3.12 Regression Formula

$$R_{IHSG,t} = \beta_0 + \beta_1 FlowRatioK_t + \beta_2 FlowRatioNK_t + \beta_3 \Delta ID10Y_t + \beta_4 R_{USDIDR,t} + \beta_5 R_{XAU,t} + \varepsilon_t$$

$R_{IHSG,t}$	: Return ratio of the IHSG
$FlowRatioK_t$	: Domestic flow ratio in conglomerate stocks
$FlowRatioNK_t$	: Domestic flow ratio in non-conglomerate stocks
$\Delta ID10Y_t$	: Change in the Indonesian 10-year government bond yield
$R_{USDIDR,t}$	: Return ratio of USDIDR
$R_{XAU,t}$	: Return ratio of XAU price
$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$	: Regression coefficients
ε_t	: Error term

3.6.6 Autocorrelation Test

The autocorrelation test is used to determine whether the residuals in the regression model are correlated across time periods. In time-series data, autocorrelation frequently occurs because observations in a particular period may be influenced by values in previous periods (Durbin and Watson, 1950).

Equation 3.13 Durbin-Watson Formula

$$d = \frac{\sum_{t=2}^T (e_t - e_{t-1})^2}{\sum_{t=1}^T e_t^2}$$

e_t : Residual at time t

T : Number of observations

The DW statistic ranges from 0 to 4.

Interpretation:

$DW \approx 2 \rightarrow$ no autocorrelation

$DW < 2 \rightarrow$ indication of positive autocorrelation

$DW > 2 \rightarrow$ indication of negative autocorrelation

The hypotheses are:

H0: No autocorrelation exists

H1: Autocorrelation exists

The DW value is compared with the lower bound (dL) and upper bound (dU) from the Durbin–Watson table to determine the final decision.

If autocorrelation is detected, it indicates that the residuals are correlated across time and that the model may not yet adequately capture the dynamic structure of the data. As a result, the coefficient estimates may become inefficient and the standard errors may be unreliable. To address this issue, the model may be re-specified by including lagged variables or by applying appropriate correction methods, such as generalized least squares (GLS), lagged-variable specification, or Newey-West heteroskedasticity and autocorrelation consistent (HAC) standard errors (Gujarati and Porter, 2010; Newey and West, 1987).

3.6.7 Heteroscedasticity Test

The heteroscedasticity test is conducted to determine whether the variance of the regression residuals is constant across observations. In the classical OLS framework, one of the key assumptions is homoscedasticity, meaning that the error term has constant variance. If heteroscedasticity is present, the OLS coefficient estimates remain unbiased and consistent, but the estimated standard errors may become biased, leading to unreliable t-statistics, F-statistics, and statistical inference (White, 1980). In this study, heteroscedasticity is examined using White's heteroscedasticity test, which is widely used in econometric analysis because it does not require a specific functional form of heteroscedasticity.

Hypotheses:

H0: The residuals are homoscedastic, meaning that the error variance is constant.

H1: The residuals are heteroscedastic, meaning that the error variance is not constant.

Decision rule:

If $p\text{-value} \leq 0.05$, reject H0 and conclude that heteroscedasticity exists.

If $p\text{-value} > 0.05$, fail to reject H0 and conclude that heteroscedasticity does not exist.

If heteroscedasticity is detected, the regression model is still estimated using the ordinary least squares method. Therefore, the OLS coefficient estimator remains as follows:

Equation 3.14 OLS Coefficient Estimator

$$\hat{\beta}_{OLS} = (X'X)^{-1}X'y$$

$\hat{\beta}_{OLS}$: Estimated OLS coefficient
 X : Matrix of explanatory variables
 y : Dependent variable

However, when heteroscedasticity is detected, the conventional OLS variance-covariance matrix may no longer provide reliable standard errors. Therefore, this study applies the White heteroscedasticity-consistent covariance estimator with the HC1 correction. The robust variance-covariance matrix is expressed as follows:

Equation 3.15 HC1 Robust Variance-Covariance Matrix

$$\widehat{Var}_{HC1}(\widehat{\beta}) = \frac{n}{n-k} (X'X)^{-1} \left(\sum_{t=1}^n \hat{\varepsilon}_t^2 x_t x_t' \right) (X'X)^{-1}$$

n	: Number of observations
k	: Number of estimated parameters
$\hat{\varepsilon}_t$	: OLS residual at time t
x_t	: Vector of explanatory variables for observation t

This adjustment does not change the OLS coefficient estimates, but it modifies the estimated standard errors, t-statistics, and probability values.

3.6.8 Hypothesis Testing

After estimating the regression model, hypothesis testing is conducted to evaluate the statistical significance of the explanatory variables.

a. t-Statistic Test

The t-test evaluates whether each individual regression coefficient significantly differs from zero (Stock and Watson, 2020). This test is used to determine whether an explanatory variable has a statistically meaningful partial effect on the dependent variable, holding other variables constant.

Equation 3.16 t-Statistic Test Formula

$$t = \frac{\beta_i}{SE(\beta_i)}$$

Where β_i represents the estimated regression coefficient and $SE(\beta_i)$ is its standard error. The standard error reflects the variability of the coefficient estimate, so a larger absolute t-value indicates that the coefficient is more precisely estimated and less likely to be statistically indistinguishable from zero.

Decision rule:

p-value $\leq 0.05 \rightarrow$ the variable is statistically significant

p-value $> 0.05 \rightarrow$ the variable is not statistically significant

The primary significance threshold used in this study is 0.05. However, probability values between 0.05 and 0.10 may be discussed as marginally significant at the 0.10 level, but they are not treated as statistically significant under the main 0.05 decision rule. If heteroscedasticity is detected in the regression residuals, hypothesis testing will be based on robust standard errors rather than conventional OLS standard errors. In this case, the coefficient estimates remain based on the OLS method, while the t-statistics and probability values are calculated using White heteroscedasticity-consistent robust standard errors.

If the t-test is significant, it indicates that the estimated coefficient is statistically different from zero and that the corresponding independent variable has a meaningful partial effect on the dependent variable. This suggests that the observed relationship is unlikely to be driven by random variation in the sample data. Conversely, if the t-test is not significant, it implies that there is insufficient statistical evidence to conclude that the variable has an individual effect on the dependent variable, and therefore the coefficient should be interpreted with caution (T. K. Kim, 2015).

However, statistical significance does not necessarily imply economic significance. A variable may be statistically significant but have a small coefficient magnitude, indicating a limited practical impact on the dependent variable. Therefore, both the magnitude and the significance of the coefficient must be considered when interpreting the regression results.

b. F-Statistic Test

The F-test evaluates whether the independent variables jointly influence the dependent variable. If $p\text{-value} \leq 0.05 \rightarrow$ the regression model is statistically significant (Gujarati and Porter, 2010)

Hypotheses:

H0: $\beta_1 = \beta_2 = \dots = \beta_k = 0$

H1: at least one $\beta_i \neq 0$

If the F-test is significant, it means that the independent variables jointly explain the variation in the dependent variable and that the regression model is statistically meaningful as a whole. If the F-test is not significant, it indicates that the model does not provide sufficient joint explanatory power, so the overall regression model may not be appropriate for interpretation (Sureiman and Mangera, 2020).

c. Coefficient of Determination (R^2)

The coefficient of determination (R^2) measures the proportion of the variation in the dependent variable that can be explained by the independent variables included in the regression model (Kvålseth, 1985). The value of R^2 ranges between 0 and 1, where a higher value indicates that the model explains a larger proportion of the variation in the dependent variable. For example, if the value of $R^2 = 0.65$, it indicates that 65% of the variation in

R_{IHSG} can be explained by the independent variables included in the model, while the remaining 35% is explained by other factors outside the model. Although a higher R^2 value indicates greater explanatory power, researchers must be cautious because the value of R^2 can increase simply by adding more variables to the model without necessarily improving the model's predictive accuracy.

3.6.9 Interpretation of Results

The final stage of the analysis involves interpreting the regression results in the context of the research objectives. The interpretation focuses on the sign, magnitude, and statistical significance of the estimated regression coefficients.

The regression coefficients are obtained using the OLS estimation method, which determines the values of the parameters that minimize the sum of squared residuals between the observed and predicted values of the dependent variable. Each coefficient represents the estimated marginal effect of an independent variable on R_{IHSG} , holding other variables constant. A positive coefficient indicates that an increase in the explanatory variable is associated with an increase in R_{IHSG} , while a negative coefficient indicates an inverse relationship.

To assess whether the estimated coefficients represent meaningful relationships rather than random variation, statistical significance is evaluated using the t-test. The t-statistic is calculated as the ratio between the estimated coefficient and its standard error, and it is used to test the null hypothesis that the coefficient is equal to zero. If the probability value is below the selected significance level, the null hypothesis is rejected, indicating that the variable has a statistically significant effect on R_{IHSG} . Conversely, if the probability value exceeds the threshold, the coefficient is not statistically significant and may reflect random variation rather than a systematic relationship.

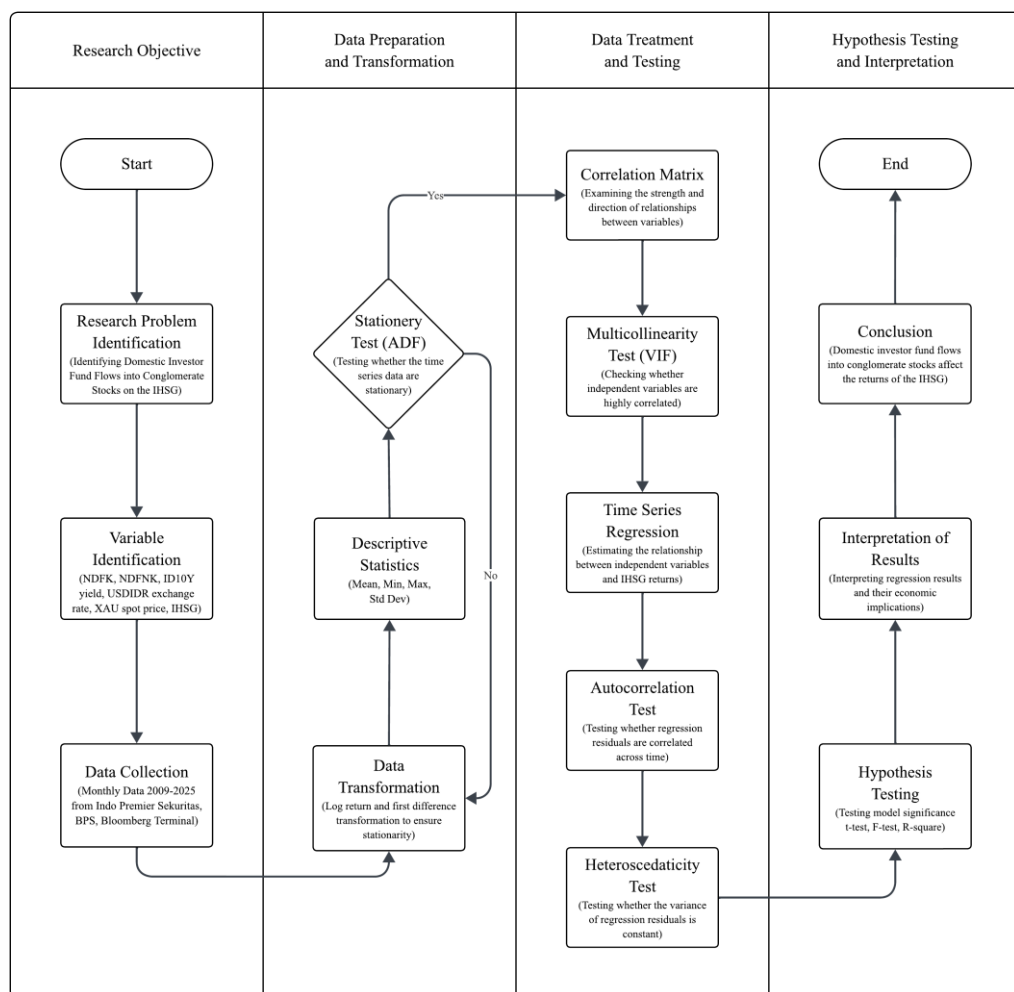
In addition to statistical significance, the economic meaning of the coefficients is also considered. The magnitude of each coefficient is interpreted to assess the strength of the relationship, while the sign is evaluated in relation to

theoretical expectations and prior empirical findings. The results are then discussed in relation to existing financial theories and previous studies on capital flows, macroeconomic variables, and stock market dynamics to ensure that the findings are both statistically valid and economically meaningful.

3.7 Research Flowchart

Based on the discussion presented above, the research flowchart of this study is formulated as follows:

Figure 3.1 Research Flowchart



Source: Author's illustration using Lucidchart

CHAPTER IV

FINDINGS, ANALYSIS, AND DISCUSSION

4.1 Descriptive Statistics

This study uses monthly secondary data covering the period from January 2009 to December 2025, resulting in 204 observations. The variables examined include domestic investor fund flows into conglomerate stocks (FlowRatioK), domestic investor fund flows into non-conglomerate stocks (FlowRatioNK), changes in the 10-year Indonesian government bond yield ($\Delta ID10Y$), the USD/IDR exchange-rate return (R_{USDIDR}), the gold spot-price return (R_{XAU}), and the return of the Composite Stock Price Index (R_{IHSG}). For stock classification purposes, this study identifies eleven conglomerate groups comprising 108 issuers, representing approximately 11.3% of the 958 companies listed on the IDX as of December 2025, while the remaining 850 issuers, representing approximately 88.7% of all IDX-listed companies, are classified as non-conglomerate companies. Descriptive statistics are used to provide an initial overview of the characteristics and distribution of each variable based on its mean, minimum, maximum, and standard deviation.

Table 4.1 Descriptive Statistics

Variable	Obs.	Mean	Min	Max	Std. Dev.
FlowRatioK	204	0.0017	-0.0781	0.0969	0.0226
FlowRatioNK	204	-0.0030	-0.2129	0.0893	0.0354
$\Delta ID10Y$	204	-0.0284	-1.5240	2.3130	0.4393
R_{USDIDR}	204	0.0023	-0.0919	0.1391	0.0236
R_{XAU}	204	0.0089	-0.1105	0.1283	0.0459
R_{IHSG}	204	0.0101	-0.1676	0.2013	0.0443

Source: Author's calculation using Microsoft Excel

Based on Table 4.1, FlowRatioK has a mean value of 0.0017, with a minimum value of -0.0781 and a maximum value of 0.0969. This indicates that domestic investor fund flows into conglomerate stocks fluctuate between net selling and net buying conditions throughout the observation period. The standard deviation of 0.0226 shows that FlowRatioK has moderate variation relative to its mean.

FlowRatioNK has a mean value of -0.0030, with a minimum value of -0.2129 and a maximum value of 0.0893. The negative mean suggests that, on average, domestic investor fund flows into non-conglomerate stocks tend to show slight net selling relative to total market turnover. The standard deviation of 0.0354 is higher than that of FlowRatioK, indicating that domestic investor flows into non-conglomerate stocks are more volatile than flows into conglomerate stocks.

$\Delta ID10Y$ has a mean value of -0.0284, with a minimum value of -1.5240 and a maximum value of 2.3130. This indicates that the 10-year Indonesian government bond yield experienced both increases and decreases during the observation period. The standard deviation of 0.4393 shows that changes in bond yield were relatively volatile, reflecting changing macroeconomic and financial market conditions.

R_{USDIDR} has a mean value of 0.0023, indicating that the rupiah experienced a slight average depreciation against the US dollar during the observation period. The minimum value of -0.0919 and maximum value of 0.1391 show that exchange rate movements varied considerably across months. Meanwhile, R_{XAU} has a mean value of 0.0089, suggesting that gold prices increased on average during the observation period. R_{IHSG} has a mean value of 0.0101, indicating that the IHSG generated a positive average monthly return over the sample period.

4.2 Stationarity Test

Before estimating the regression model, this study conducts a stationarity test to ensure that the variables used in the analysis have stable statistical properties over time. Non-stationary data may produce spurious regression results, where variables appear statistically significant even though no meaningful relationship exists. This

study uses the Augmented Dickey–Fuller (ADF) test, with the decision rule as described in Chapter III Section 3.6.2. A variable is considered stationary when the ADF statistic is more negative than the 0.05 critical value and the probability value is less than or equal to 0.05.

Table 4.2 ADF Unit Root Test Results (Level)

Variable	ADF Statistics	Critical Value (0.05)	P-Value	Lag	Conclusion
FlowRatioK	-12.4253	-2.8756	0.0000	0	Stationary
FlowRatioNK	-10.9115	-2.8756	0.0000	0	Stationary
Δ ID10Y	-15.4814	-2.8756	0.0000	0	Stationary
R _{USDIDR}	-13.7475	-2.8756	0.0000	0	Stationary
R _{XAU}	-15.2547	-2.8756	0.0000	0	Stationary
R _{IHSG}	-12.1259	-2.8756	0.0000	0	Stationary

Note: Lag length is selected automatically using the Schwarz Information Criterion (SIC) with a maximum lag length of 14.

Source: Author's calculation using EViews

The results in Table 4.2 show that all variables used in the regression model are stationary at the level. FlowRatioK, FlowRatioNK, Δ ID10Y, R_{USDIDR}, R_{XAU}, and R_{IHSG} all have probability values of 0.0000, which are below the 0.05 significance level. In addition, their ADF statistics are more negative than the 5% critical value of -2.8756. Therefore, all variables satisfy the stationarity requirement for time-series regression analysis. The variable transformation process is provided in Appendices C to H, while the final transformed variables used for empirical analysis are presented in Appendix I.

4.3 Correlation Matrix

After confirming stationarity, a correlation matrix is constructed to examine pairwise relationships among variables. The matrix provides an initial view of the direction and strength of associations and helps identify potential multicollinearity among independent variables.

Table 4.3 Correlation Matrix

Variable	FlowRatioK	FlowRatioNK	$\Delta ID10Y$	R_{USDIDR}	R_{XAU}	R_{IHSG}
FlowRatioK	1.000					
FlowRatioNK	0.310***	1.000				
$\Delta ID10Y$	0.155**	0.256***	1.000			
R_{USDIDR}	0.191***	0.265***	0.604***	1.000		
R_{XAU}	0.009	-0.072	-0.270***	-0.228***	1.000	
R_{IHSG}	-0.285***	-0.430***	-0.550***	-0.612***	0.144**	1.000

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Source: Author's calculation using EViews

Table 4.3 presents the correlation matrix for all variables used in this study. The results show that FlowRatioK and FlowRatioNK are negatively correlated with R_{IHSG} , with correlation coefficients of -0.285 and -0.430, respectively. This indicates that, in a bivariate correlation setting, higher domestic investor fund flow ratios in both conglomerate and non-conglomerate stocks are associated with weaker R_{IHSG} . The negative association is stronger for FlowRatioNK than for FlowRatioK, suggesting that domestic flows into non-conglomerate stocks have a relatively larger inverse relationship with overall market returns.

Among the macroeconomic variables, R_{USDIDR} has the strongest negative correlation with R_{IHSG} , with a coefficient of -0.612, followed by $\Delta ID10Y$ at -0.550. These results suggest that rupiah depreciation and increases in the 10-year Indonesian government bond yield tend to be associated with weaker stock market performance. Meanwhile, R_{XAU} shows a weak positive correlation with R_{IHSG} , with a coefficient of 0.144, indicating that the linear relationship between gold returns and R_{IHSG} is relatively limited.

The correlation matrix also shows that the strongest correlation among independent variables is between $\Delta ID10Y$ and R_{USDIDR} , with a coefficient of 0.604. This suggests that movements in bond yields and exchange rate returns are closely related, which is reasonable given that both variables reflect macroeconomic pressure and risk sentiment. However, the coefficient remains below the common multicollinearity concern threshold of 0.80, indicating that severe multicollinearity is not immediately suggested by the correlation matrix.

Overall, the correlation matrix captures only pairwise relationships between two variables without controlling for the influence of other variables. Therefore, the negative correlations between $FlowRatioK$, $FlowRatioNK$, $\Delta ID10Y$, R_{USDIDR} , and R_{IHSG} should be interpreted as preliminary associations rather than final empirical evidence. To obtain a more accurate estimate, regression analysis is required because it measures the partial effect of each independent variable on R_{IHSG} after controlling for the other explanatory variables in the model.

4.4 Multicollinearity Test

Multicollinearity occurs when two or more independent variables in a regression model are highly correlated with each other. When severe multicollinearity exists, it can inflate the variance of the estimated coefficients and make it difficult to interpret the individual effect of each explanatory variable on the dependent variable. To detect multicollinearity, this study uses the VIF test.

Table 4.4 Multicollinearity Test (VIF)

Variable	Centered VIF
FlowRatioK	1.1272
FlowRatioNK	1.1789
$\Delta ID10Y$	1.6483
RUSDIDR	1.6331
R _{XAU}	1.0909

Source: Author's calculation using EViews

As explained in Chapter III Section 3.6.4, multicollinearity is evaluated using the VIF, where a VIF value greater than 10 indicates a serious multicollinearity problem. Based on Table 4.4, all centered VIF values are well below the threshold of 10, with the highest value observed for $\Delta ID10Y$ at 1.6483, followed by RUSDIDR at 1.6331, while the remaining variables also show low VIF values. Therefore, there is no evidence of serious multicollinearity among the explanatory variables, and all independent variables can be retained for the time-series regression estimation.

Although the correlation matrix in Table 4.3 already indicates that pairwise correlations among independent variables are not excessively high, the VIF test is still required as a formal diagnostic test because it evaluates the extent to which each independent variable is explained by all other independent variables in the regression model. Thus, the VIF results provide stronger evidence that the regression model is not affected by severe multicollinearity.

4.5 Time-series Regression Results

After confirming that all variables are stationary and that no serious multicollinearity problem exists, the regression model is estimated using a time-series regression framework. Unlike the correlation matrix, which only examines pairwise relationships, the regression model estimates the partial effect of each explanatory variable on R_{IHSG} while controlling for the other variables. The objective of this estimation is to examine the partial relationship between domestic investor trading, selected macroeconomic and financial market variables, and the return ratio of the IHSG.

At this stage, the regression output is presented as the first estimation result before diagnostic correction. The result provides the estimated coefficients, standard errors, t-test statistics, and probability values for each variable. However, before the regression results can be used as the final basis for statistical inference, diagnostic tests must be conducted to examine whether the residuals satisfy the classical assumptions of the OLS method, particularly with respect to autocorrelation and heteroscedasticity.

Equation 4.1 Regression Model

$$R_{IHSG,t} = \beta_0 + \beta_1 FlowRatioK_t + \beta_2 FlowRatioNK_t + \beta_3 \Delta ID10Y_t \\ + \beta_4 R_{USDIDR,t} + \beta_5 R_{XAU,t} + \varepsilon_t$$

where $R_{IHSG,t}$ represents the monthly return ratio of the IHSG at time t and t denotes the monthly observation period from January 2009 to December 2025.

Table 4.5 Time-series Regression Results

Variable	Coefficient	Std. Error	t-Test Statistic	P-Value	Result
β_0	0.0107	0.0023	4.6216	0.0000	Significant
FlowRatioK	-0.1941	0.1047	-1.8528	0.0654	Not Significant*
FlowRatioNK	-0.2935	0.0683	-4.2987	0.0000	Significant
$\Delta ID10Y$	-0.0250	0.0065	-3.8403	0.0002	Significant
R _{USDIDR}	-0.7260	0.1204	-6.0299	0.0000	Significant
R _{XAU}	-0.0265	0.0507	-0.5235	0.6012	Not Significant

* Not significant at 0.05, but marginally significant at 0.10

Note: The results in this table are based on the initial regression output before heteroscedasticity correction. Final statistical inference is based on White heteroscedasticity-consistent robust standard errors after heteroscedasticity is detected.

Source: Author's calculation using EViews

Based on Table 4.5, FlowRatioK has a coefficient of -0.1941, a t-test statistic of -1.8528, and a p-value of 0.0654. This indicates that FlowRatioK is marginally significant at the 0.10 level but does not meet the 0.05 significance threshold. Therefore, the first estimation result suggests that domestic investor fund flows into conglomerate stocks have a negative association with R_{IHSG}, although the statistical evidence is relatively weak.

FlowRatioNK has a coefficient of -0.2935, a t-test statistic of -4.2987, and a p-value of 0.0000. Since the p-value is below the 0.05 significance level, FlowRatioNK is statistically significant in the first estimation result. This indicates that domestic investor fund flows into non-conglomerate stocks have a negative and statistically significant relationship with R_{IHSG}.

$\Delta ID10Y$ has a coefficient of -0.0250, a t-test statistic of -3.8403, and a p-value of 0.0002. This result indicates that changes in the 10-year Indonesian government bond yield have a negative and statistically significant relationship with R_{IHSG} . R_{USDIDR} has a coefficient of -0.7260, a t-test statistic of -6.0299, and a p-value of 0.0000, indicating that rupiah depreciation against the US dollar is negatively and statistically significantly associated with R_{IHSG} . In contrast, R_{XAU} has a coefficient of -0.0265, a t-test statistic of -0.5235, and a p-value of 0.6012, indicating that gold price returns do not have a statistically significant relationship with R_{IHSG} in the first estimation result.

Table 4.6 Model Summary

Statistic	Value
R-squared	0.4990
Adjusted R-squared	0.4864
F-statistic	39.4448
P-value (F-statistic)	0.0000
Durbin–Watson	1.9035

Source: Author's calculation using EViews

Based on Table 4.6, the R-squared value of 0.4990 suggests that approximately 49.90% of the variation in R_{IHSG} can be explained by the variables included in the model. After adjusting for the number of explanatory variables, the adjusted R-squared value of 0.4864 indicates that approximately 48.64% of the variation in R_{IHSG} is explained by the model, while the remaining 51.36% is influenced by other factors outside the model.

The F-statistic is 39.4448 with a probability value of 0.0000. Since the probability value is below 0.05, the independent variables jointly have a statistically

significant relationship with R_{IHSG} in the regression model. The Durbin–Watson statistic of 1.9035 is relatively close to 2, suggesting that there is no strong indication of first-order autocorrelation in the regression residuals.

Although the first estimation result provides the estimated coefficients and initial statistical significance, these results cannot be directly used as the final basis for hypothesis testing before diagnostic testing is completed. This is because the reliability of standard errors, t-statistics, and p-values depends on whether the regression residuals satisfy the classical assumptions of OLS. Therefore, diagnostic tests are conducted in the following section.

4.6 Diagnostic Tests

Diagnostic tests are conducted to assess whether the regression model satisfies the classical assumptions of the OLS method. These tests are important because violations of the classical assumptions may affect the reliability of statistical inference. In particular, this study examines the presence of autocorrelation and heteroscedasticity in the regression residuals.

The diagnostic tests are conducted after the first time-series regression estimation. The purpose is to determine whether the standard errors, t-statistics, and p-values from the first regression output can be used directly for hypothesis testing, or whether a robust inference method is required. If autocorrelation or heteroscedasticity is detected, the OLS coefficient estimates may remain unbiased and consistent under the relevant assumptions, but the conventional standard errors, t-statistics, and p-values may become unreliable.

In this study, the Durbin–Watson statistic is used to detect first-order autocorrelation, while White’s heteroscedasticity test is used to examine whether the residual variance is constant across observations. The diagnostic results show that there is no strong indication of first-order autocorrelation. However, White’s test indicates the presence of heteroscedasticity. Therefore, the final regression inference is not based on the first standard errors and p-values, but on White

heteroscedasticity-consistent robust standard errors through the Huber-White-Hinkley covariance method with the HC1 correction.

4.6.1 Autocorrelation

The regression results presented in Table 4.6 show that the Durbin–Watson statistic is 1.9035. As explained in Chapter III Section 3.6.6, the Durbin–Watson statistic is used to detect first-order autocorrelation in the regression residuals. A Durbin–Watson value close to 2 indicates no strong evidence of first-order autocorrelation, while values substantially below or above 2 may indicate positive or negative autocorrelation.

Since the Durbin–Watson statistic of 1.9035 is close to 2, there is no strong indication of first-order autocorrelation in the residuals of the regression model. This finding suggests that the model does not indicate a serious violation of the OLS assumption of independent residuals. Therefore, based on the Durbin–Watson statistic, the model does not show a serious first-order autocorrelation problem.

However, the Durbin–Watson test mainly detects first-order autocorrelation. Therefore, future research may apply additional tests, such as the Breusch-Godfrey test, to examine higher-order serial correlation. In this study, the Durbin–Watson statistic is used as the main diagnostic indicator for first-order autocorrelation.

4.6.2 Heteroscedasticity and Robust Standard Errors.

In this study, heteroscedasticity is examined using White’s heteroscedasticity test. As explained in Chapter III Section 3.6.7, this test is used to examine whether the regression residuals have constant variance. The null hypothesis of White’s test is that the residuals are homoscedastic, meaning that the error variance is constant. If the probability value is less than or equal to 0.05, the null hypothesis is rejected and heteroscedasticity is detected.

Table 4.7 Heteroscedasticity Test (White Test)

Test Statistic	Value	Probability
F-statistic	2.3621	0.0015
Obs*R-squared	41.8572	0.0029
Scaled explained SS	58.7782	0.0000

Note: The null hypothesis of White's test is homoscedasticity, or constant residual variance.

Source: Author's calculation using EViews

Based on Table 4.7, the probability values of the F-statistic, Obs*R-squared, and Scaled explained SS are 0.0015, 0.0029, and 0.0000, respectively. Since all probability values are below the 0.05 significance level, the null hypothesis of homoscedasticity is rejected. This indicates that the regression residuals exhibit heteroscedasticity, meaning that the variance of the error term is not constant across observations.

The presence of heteroscedasticity does not bias the OLS coefficient estimates. Therefore, the direction and magnitude of the estimated coefficients remain informative. However, heteroscedasticity may cause the standard errors, t-statistics, and p-values from the first regression output to become unreliable. If these standard errors are used without correction, the statistical significance of some variables may be overstated or understated. Therefore, the first regression output is used to identify the coefficient direction and magnitude, but it is not used as the final basis for hypothesis testing.

To address this issue, this study applies White heteroscedasticity-consistent robust standard errors through the Huber-White-Hinkley covariance method with the HC1 correction. This method does not change the OLS coefficient estimates, but it adjusts the standard errors, t-statistics, and p-values. Therefore, the final

regression results and hypothesis testing in this study are based on the robust results presented in Table 4.8.

Table 4.8 Time-series Regression Results with White Robust Standard Errors

Variable	Coefficient	Robust Std. Error	Robust t-Test Statistic	Robust P-Value	Final Result
β_0	0.0107	0.0025	4.3691	0.0000	Significant
FlowRatioK	-0.1941	0.1356	-1.4315	0.1539	Not Significant
FlowRatioNK	-0.2935	0.0929	-3.1607	0.0018	Significant
$\Delta ID10Y$	-0.0250	0.0082	-3.0453	0.0026	Significant
RUSDIDR	-0.7260	0.1658	-4.3774	0.0000	Significant
RXAU	-0.0265	0.0539	-0.4921	0.6232	Not Significant

Note: Standard errors, t-statistics, and p-values are estimated using White heteroscedasticity-consistent robust standard errors through the Huber-White-Hinkley covariance method with the HC1 correction.

Source: Author's calculation using EViews

Table 4.8 shows that the coefficients remain the same as those reported in Table 4.5 because the robust standard error procedure does not change the estimated OLS coefficients. However, the standard errors, t-test statistics, and p-values change after applying White heteroscedasticity-consistent robust standard errors. Therefore, the final interpretation of statistical significance is based on the robust p-values reported in Table 4.8.

Table 4.9 Comparison between First Regression Output and White Robust Inference

Variable	Coefficient	Initial P-Value	Robust P-Value	Change in Inference
FlowRatioK	-0.1941	0.0654	0.1539	Changes from marginally significant at 0.10 to not significant
FlowRatioNK	-0.2935	0.0000	0.0018	Remains significant
$\Delta ID10Y$	-0.0250	0.0002	0.0026	Remains significant
RUSDIDR	-0.7260	0.0000	0.0000	Remains significant
R _{XAU}	-0.0265	0.6012	0.6232	Remains not significant

Note: The comparison shows the difference between the first regression output and White robust inference. The coefficient estimates remain unchanged, while the p-values change because the standard errors are adjusted for heteroscedasticity.

Source: Author's calculation using EViews

Table 4.9 shows that the main change after applying White robust standard errors occurs in FlowRatioK. In the first regression output, FlowRatioK has a p-value of 0.0654 and is marginally significant at the 0.10 level. However, after applying White robust standard errors, the p-value increases to 0.1539, meaning that FlowRatioK is no longer statistically significant. This indicates that the initial marginal significance of FlowRatioK is not robust after correcting the standard errors for heteroscedasticity.

FlowRatioNK remains statistically significant after applying White robust standard errors, although its p-value changes from 0.0000 to 0.0018. This indicates that the negative relationship between domestic investor fund flows into non-conglomerate stocks and R_{IHSG} remains statistically reliable under robust inference. Similarly, $\Delta ID10Y$ remains statistically significant, with the p-value changing from 0.0002 to 0.0026. RUSDIDR also remains statistically significant with a robust p-value

of 0.0000, indicating that the negative relationship between rupiah depreciation and R_{IHSG} remains robust. Meanwhile, R_{XAU} remains statistically insignificant both in the first regression output and after robust correction.

Therefore, after correcting the standard errors for heteroscedasticity, the final regression results indicate that $FlowRatioNK$, $\Delta ID10Y$, and R_{USDIDR} have negative and statistically significant relationships with R_{IHSG} . $FlowRatioK$ has a negative coefficient but is not statistically significant after applying robust standard errors. R_{XAU} also has a negative coefficient but is not statistically significant.

Table 4.10 Final Model Summary with Robust Joint Significance

Statistic	Value
R-squared	0.4990
Adjusted R-squared	0.4864
F-statistic	39.4448
P-value (F-statistic)	0.0000
Wald F-statistic	24.6922
P-value (Wald F-statistic)	0.0000
Durbin–Watson	1.9035

Note: The Wald F-statistic is reported because the final regression inference is based on White heteroscedasticity-consistent robust standard errors.

Source: Author's calculation using EViews

The R-squared value of 0.4990 suggests that approximately 49.90% of the variation in R_{IHSG} can be explained by the variables included in the model. After adjusting for the number of explanatory variables, the adjusted R-squared value of 0.4864 indicates that approximately 48.64% of the variation in R_{IHSG} is explained

by the model, while the remaining 51.36% is influenced by other factors outside the model.

The conventional F-statistic is 39.4448 with a probability value of 0.0000, indicating that the explanatory variables jointly have a statistically significant relationship with R_{IHSG} . However, because the final regression inference is based on White robust standard errors, the Wald F-statistic is also reported to evaluate joint significance under robust inference. The Wald F-statistic is 24.6922 with a probability value of 0.0000, confirming that the explanatory variables are jointly significant after applying White heteroscedasticity-consistent robust standard errors.

Regarding the domestic flow variables, FlowRatioK has a coefficient of -0.1941 and a robust p-value of 0.1539. This indicates that domestic investor fund flows into conglomerate stocks have a negative relationship with R_{IHSG} , but the relationship is not statistically significant after correcting the standard errors for heteroscedasticity. Therefore, there is insufficient statistical evidence to conclude that FlowRatioK has a significant partial relationship with R_{IHSG} .

By contrast, FlowRatioNK has a coefficient of -0.2935 and a robust p-value of 0.0018. This indicates that domestic investor fund flows into non-conglomerate stocks have a negative and statistically significant relationship with R_{IHSG} . Compared with FlowRatioK, the coefficient of FlowRatioNK is larger in absolute value and remains statistically significant after applying robust standard errors. This suggests that domestic investor activity in non-conglomerate stocks has a stronger and more statistically reliable partial relationship with R_{IHSG} during the observation period.

The stronger effect of FlowRatioNK compared with FlowRatioK may reflect the broader role of non-conglomerate stocks in overall market activity. Non-conglomerate firms account for a larger share of listed companies on the IDX, and domestic investors are likely to be more active across this wider stock universe. As a result, aggregate domestic investor trading in non-conglomerate stocks may exert a broader influence on market-wide price movements, which may explain why FlowRatioNK shows a stronger relationship with R_{IHSG} . This finding suggests that

domestic investor activity in non-conglomerate stocks may play a more prominent role in explaining monthly fluctuations in the IHSG.

Among the macroeconomic variables, $\Delta ID10Y$ has a coefficient of -0.0250 and a robust p-value of 0.0026. This indicates that increases in the 10-year Indonesian government bond yield are associated with lower R_{IHSG} . The negative coefficient is consistent with the view that rising bond yields may increase discount rates and reduce the relative attractiveness of equities through portfolio-reallocation channels.

R_{USDIDR} has a coefficient of -0.7260 and a robust p-value of 0.0000. This result indicates that rupiah depreciation against the US dollar is associated with lower R_{IHSG} . The large coefficient and strong robust t-test result suggest that exchange rate movements play an important role in Indonesian stock market dynamics. Rupiah depreciation may weaken investor confidence, increase foreign-currency costs for firms with imported inputs or US dollar-denominated liabilities, and create potential capital outflow pressures.

In contrast, R_{XAU} has a coefficient of -0.0265 and a robust p-value of 0.6232. Since the robust p-value is above the 0.05 significance threshold, R_{XAU} is not statistically significant. This suggests that gold price returns do not have a statistically significant partial relationship with R_{IHSG} after controlling for domestic investor fund flows, government bond yield changes, and exchange-rate movements. Although the coefficient of R_{XAU} is relatively similar in magnitude to the coefficient of $\Delta ID10Y$, the statistical significance differs because the t-test depends not only on the coefficient size but also on the standard error. $\Delta ID10Y$ has a robust standard error of 0.0082, resulting in a robust t-test statistic of -3.0453 and a robust p-value of 0.0026. In contrast, R_{XAU} has a larger robust standard error of 0.0539, resulting in a low absolute robust t-test statistic of -0.4921 and a robust p-value of 0.6232. Therefore, the R_{XAU} coefficient is not statistically different from zero at the 0.05 significance level.

Overall, the diagnostic tests show that the first regression model does not indicate a serious first-order autocorrelation problem, but it does indicate heteroscedasticity. As a result, the final statistical inference in this study is based

on OLS coefficients with White heteroscedasticity-consistent robust standard errors. Based on the final robust results, FlowRatioNK, $\Delta ID10Y$, and R_{USDIDR} are statistically significant, while FlowRatioK and R_{XAU} are not statistically significant at the 0.05 level.

4.7 Hypothesis Testing Results and Discussion

This section summarizes the hypothesis testing results based on the final time-series regression results with White heteroscedasticity-consistent robust standard errors presented in Table 4.8. The hypothesis testing is evaluated using the coefficient sign, robust t-test statistic, and robust probability value of each independent variable. As explained in Chapter III Section 3.6.8, a hypothesis is supported when the corresponding variable has a probability value of 0.05 or lower and the coefficient direction is consistent with the proposed hypothesis. Since White's test indicates the presence of heteroscedasticity, the hypothesis testing results are based on OLS coefficients with White heteroscedasticity-consistent robust standard errors.

Table 4.11 Hypothesis Testing Results Based on White Robust Standard Errors

Hypothesis	Variable	Coefficient	Robust t-Test Statistic	Robust P-Value	Interpretation
H1a	FlowRatioK	-0.1941	-1.4315	0.1539	Negative relationship, but not statistically significant
H1b	FlowRatioNK	-0.2935	-3.1607	0.0018	Negative and statistically significant relationship
H2a	$\Delta ID10Y$	-0.0250	-3.0453	0.0026	Negative and statistically significant relationship
H2b	R _{USDIDR}	-0.7260	-4.3774	0.0000	Negative and statistically significant relationship
H2c	R _{XAU}	-0.0265	-0.4921	0.6232	Negative relationship, but not statistically significant

Note: Hypothesis testing is based on OLS coefficients with White heteroscedasticity-consistent robust standard errors through the Huber-White-Hinkley covariance method with the HC1 correction.

Source: Author's calculation using EViews

Based on Table 4.11, H1a is not supported. FlowRatioK has a negative coefficient of -0.1941, a robust t-test statistic of -1.4315, and a robust p-value of 0.1539. Although the negative coefficient indicates an inverse relationship between domestic investor fund flows into conglomerate stocks and R_{IHSG}, the robust p-value is above the 0.05 threshold. Therefore, domestic investor fund flows into conglomerate stocks do not have a statistically significant relationship with R_{IHSG} after correcting the standard errors for heteroscedasticity.

H1b is supported because FlowRatioNK has a negative coefficient of -0.2935, a robust t-test statistic of -3.1607, and a robust p-value of 0.0018. Since the robust p-value is below the 0.05 threshold, domestic investor fund flows into non-conglomerate stocks have a negative and statistically significant relationship with R_{IHSG}. Compared with FlowRatioK, FlowRatioNK has a larger coefficient in absolute value and a stronger robust t-test statistic, suggesting that domestic

investor activity in non-conglomerate stocks has a stronger relationship with R_{IHSG} during the observation period.

H2a is supported because $\Delta ID10Y$ has a negative coefficient of -0.0250, a robust t-test statistic of -3.0453, and a robust p-value of 0.0026. This result indicates that changes in the 10-year Indonesian government bond yield have a negative and statistically significant relationship with R_{IHSG} . Economically, this suggests that rising bond yields are associated with lower stock market returns, as higher yields may reduce the relative attractiveness of equities and encourage portfolio reallocation toward fixed-income instruments.

H2b is also supported because R_{USDIDR} has a negative coefficient of -0.7260, a robust t-test statistic of -4.3774, and a robust p-value of 0.0000. This result indicates that rupiah depreciation against the US dollar is negatively and statistically significantly associated with R_{IHSG} . Economically, this relationship may occur because IDX-listed stocks are denominated in rupiah, so rupiah depreciation can reduce the foreign-currency value of Indonesian equity holdings. This may lower the attractiveness of Indonesian stocks for foreign investors, create selling pressure, and increase potential capital outflow from the IDX. In addition, rupiah depreciation may weaken investor confidence and increase foreign-currency costs for firms with exposure to imported inputs or US dollar-denominated liabilities.

H2c is not supported because R_{XAU} has a negative coefficient of -0.0265, a robust t-test statistic of -0.4921, and a robust p-value of 0.6232. Since the robust p-value is above the 0.05 significance threshold, gold price returns do not show a statistically significant relationship with R_{IHSG} in this model. This suggests that gold price movements do not have a strong direct relationship with R_{IHSG} after controlling for domestic investor fund flows, government bond yield changes, and exchange-rate movements.

Overall, the hypothesis testing results show that $FlowRatioNK$, $\Delta ID10Y$, and R_{USDIDR} are statistically significant at the 0.05 level and have negative relationships with R_{IHSG} . Meanwhile, $FlowRatioK$ shows a negative relationship but is not statistically significant, while R_{XAU} does not show a statistically

significant relationship with R_{IHSG} . These findings suggest that R_{IHSG} is more strongly associated with domestic investor fund flows into non-conglomerate stocks, government bond yield changes, and exchange-rate movements than with domestic investor fund flows into conglomerate stocks or gold price returns.

The negative relationship between domestic investor fund flows and R_{IHSG} supports the argument that domestic inflows should not always be interpreted as independent buying pressure that directly increases stock prices. In the context of market clearing, domestic net buying may occur when domestic investors absorb selling pressure from foreign investors or other market participants. Therefore, the negative coefficients of $FlowRatioK$ and $FlowRatioNK$ are consistent with the possibility that domestic investors play a liquidity-absorbing or contrarian role during periods of market weakness.

Nevertheless, these findings should not be interpreted as direct proof that domestic investors intentionally apply contrarian strategies. The regression model does not observe investor motivation or distinguish whether domestic investors buy because of independent positive expectations or because they absorb selling pressure from other investor groups. Therefore, contrarian behavior and liquidity absorption are used as interpretive explanations that are consistent with the negative coefficients, rather than as behavioral mechanisms directly tested by the model.

The stronger relationship of $FlowRatioNK$ compared with $FlowRatioK$ may indicate that domestic investor activity in non-conglomerate stocks captures broader market participation across a wider stock universe. While conglomerate stocks tend to have larger market weights and stronger investor attention, non-conglomerate stocks represent a larger number of listed firms and may better reflect the aggregate trading behavior of domestic investors across the market. This finding suggests that domestic investor flows into non-conglomerate stocks may contain broader information about market-wide liquidity conditions and investor sentiment.

The significant negative coefficients of $\Delta ID10Y$ and R_{USDIDR} also confirm the importance of macroeconomic and financial market conditions in explaining $IHSG$ returns. Rising government bond yields may reduce the relative attractiveness of equities through the discount-rate and portfolio-reallocation channels, while

rupiah depreciation may weaken investor confidence, reduce foreign-currency-adjusted equity returns, and increase pressure on firms with foreign-currency exposure. In contrast, R_{XAU} is not statistically significant, suggesting that gold price movements do not have a consistent short-term relationship with R_{IHSG} after controlling for domestic investor fund flows, bond yield changes, and exchange-rate movements.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the time-series regression results presented in Table 4.5 and the hypothesis testing summary presented in Table 4.8, this study provides empirical evidence on the relationship between domestic investor fund flows, selected macroeconomic variables, and the monthly return ratio of the IHSG. The conclusions are drawn by considering the coefficient sign, robust t-test statistic, and robust probability value of each independent variable. Since White's test in Table 4.7 indicates the presence of heteroscedasticity, the final statistical inference is based on OLS coefficients with White heteroscedasticity-consistent robust standard errors using the Huber-White-Hinkley (HC1) covariance method.

- a. Based on the empirical analysis, domestic investor fund flows into conglomerate stocks (FlowRatioK) show a negative relationship with R_{IHSG} . However, the relationship is not statistically significant after applying White robust standard errors. FlowRatioK has a coefficient of -0.1941, a robust t-test statistic of -1.4315, and a robust p-value of 0.1539. Since the robust p-value is above the 0.05 significance level, H1a is not supported. This finding indicates that higher domestic investor fund flows into conglomerate stocks are associated with lower R_{IHSG} , but the statistical evidence is not strong enough to conclude that FlowRatioK has a significant relationship with R_{IHSG} . One possible explanation is that conglomerate stocks may have large market capitalization weights in the IHSG, but the variable used in this study measures relative domestic net flow through FlowRatioK, not market capitalization weight or price contribution. Therefore, the influence of conglomerate stocks on the index through price movements may not be fully captured by the domestic flow ratio variable. In addition, domestic investor trading in conglomerate stocks may be concentrated in selected large-cap names, while the aggregate FlowRatioK measure captures net domestic

flows across all conglomerate-classified stocks. As a result, the empirical relationship between FlowRatioK and R_{IHSG} is negative, but statistically insignificant.

- b. This study finds empirical evidence that domestic investor fund flows into non-conglomerate stocks (FlowRatioNK) have a negative and statistically significant relationship with R_{IHSG} . FlowRatioNK has a coefficient of -0.2935, a robust t-test statistic of -3.1607, and a robust p-value of 0.0018. Since the robust p-value is below the 0.05 significance level, H1b is supported. This finding indicates that higher domestic investor fund flows into non-conglomerate stocks are associated with lower R_{IHSG} during the observation period. The coefficient of FlowRatioNK is larger in absolute value than that of FlowRatioK, suggesting that domestic investor trading activity in non-conglomerate stocks has a stronger relationship with R_{IHSG} . This may reflect the broader number of non-conglomerate firms in the Indonesian stock market and wider domestic investor participation across these stocks. The negative relationship also supports the interpretation that domestic inflows may not always represent independent buying pressure, but may instead reflect liquidity absorption or contrarian behavior during periods of market weakness.
- c. The empirical results show that changes in the Indonesian 10-year government bond yield ($\Delta ID10Y$) have a negative and statistically significant relationship with R_{IHSG} . $\Delta ID10Y$ has a coefficient of -0.0250, a robust t-test statistic of -3.0453, and a robust p-value of 0.0026. Since the robust p-value is below the 0.05 significance level, H2a is supported. This finding indicates that increases in government bond yields are associated with lower R_{IHSG} . Economically, this may occur because higher bond yields reduce the relative attractiveness of equity investments and encourage portfolio reallocation toward fixed-income instruments. Higher bond yields may also increase the discount rate used in valuing future corporate cash flows, thereby putting downward pressure on stock prices.

- d. This study also finds empirical evidence that movements in the Indonesian rupiah exchange rate against the US dollar (R_{USDIDR}) have a negative and statistically significant relationship with R_{IHSG} . R_{USDIDR} has a coefficient of -0.7260, a robust t-test statistic of -4.3774, and a robust p-value of 0.0000. Since the robust p-value is below the 0.05 significance level, H2b is supported. This result indicates that rupiah depreciation against the US dollar tends to be associated with weaker stock market performance. One possible explanation is that IDX-listed stocks are denominated in rupiah, so rupiah depreciation may reduce the foreign-currency value of Indonesian equity investments, particularly from the perspective of foreign investors or investors who evaluate returns in US dollar terms. This may reduce the attractiveness of Indonesian equities, encourage selling pressure, and contribute to potential capital outflows. In addition, rupiah depreciation may reflect higher macroeconomic uncertainty, weaker investor confidence, and higher foreign-currency costs for firms with imported inputs or foreign-currency liabilities.
- e. The empirical analysis shows that gold spot price returns (R_{XAU}) do not have a statistically significant relationship with R_{IHSG} . R_{XAU} has a coefficient of -0.0265, a robust t-test statistic of -0.4921, and a robust p-value of 0.6232. Since the robust p-value is above the 0.05 significance level, H2c is not supported. This finding suggests that gold price movements do not consistently explain R_{IHSG} within the monthly observation period used in this study, after controlling for domestic investor fund flows, government bond yield changes, and exchange-rate movements. Although gold is often viewed as a safe-haven asset, its short-term monthly relationship with Indonesian stock market returns may not be stable when other macro-financial variables are included in the model.

Overall, this study provides empirical evidence that domestic investor trading activity and macroeconomic conditions are relevant in explaining movements in R_{IHSG} . The strongest evidence is found for domestic investor fund flows into non-conglomerate stocks, changes in the Indonesian 10-year government

bond yield, and movements in the USDIDR exchange rate. Meanwhile, domestic investor fund flows into conglomerate stocks show a negative but statistically insignificant relationship with R_{IHSG} , and gold price movements also show a negative relationship but statistically insignificant relationship with R_{IHSG} in this model. These findings support the view that domestic investor fund flows should not always be interpreted as direct buying pressure that increases stock prices. Instead, domestic inflows may also reflect a counterparty or liquidity-absorbing role, particularly when market conditions are weak or when other investor groups reduce their exposure.

5.2 Limitations

This study has several limitations that should be considered when interpreting the results.

- a. In regards to the market-clearing behavior theory, this study only incorporates domestic investor fund flows and does not explicitly include foreign investor fund flows in the regression model. In practice, the interaction between domestic and foreign investors plays an important role in shaping stock market dynamics in Indonesia. Since domestic investors may act as counterparties to foreign investors, future research may include both domestic and foreign flows in the same model to provide a more complete interpretation of market-clearing behavior.
- b. The classification of conglomerate firms in this study is based on the *Unboxing Konglomerasi Indonesia* report published by Stockbit and additional conglomerate groups identified based on market capitalization relevance. This classification approach is practical for empirical analysis, but it may not fully capture complex ownership structures, cross-shareholdings, indirect control, and changes in business-group affiliation over time. Therefore, the classification should be interpreted as an operational classification rather than a legal determination of ultimate ownership or control.

- c. The econometric model applied in this research uses a time-series regression framework that focuses on contemporaneous relationships among variables. This approach allows the study to estimate direct and interpretable relationships between domestic investor flows, macroeconomic variables, and R_{IHSG} . However, it may not fully capture potential dynamic or lagged relationships. Investor flows and macroeconomic shocks may affect stock market returns with time delays, which are not explicitly modelled in the current specification.
- d. The variables included in this model explain only part of the variation in R_{IHSG} , as indicated by the adjusted R-squared value of approximately 48.64%. This suggests that other factors outside the model may also influence stock market movements. These factors may include global economic conditions, global equity market performance, commodity prices, domestic monetary policy, fiscal policy, political events, market sentiment, and sector-specific developments.
- e. The regression model indicates the presence of heteroscedasticity based on White's test. This condition suggests that the variance of the residuals is not constant across observations. Although this study has addressed the issue by applying White heteroscedasticity-consistent robust standard errors using the Huber-White-Hinkley (HC1) covariance method, heteroscedasticity still indicates that the volatility of the model residuals may vary across periods. Therefore, the results should be interpreted as robust OLS inference rather than evidence that the underlying data are free from volatility changes.
- f. This study does not incorporate broader external macroeconomic variables and instead focuses on selected domestic and global financial indicators, namely ID10Y, USDIDR, and XAU. While this approach ensures a focused and consistent empirical framework, it may overlook the influence of global macroeconomic factors such as international interest rates, global equity indices, commodity price cycles, global risk sentiment, and geopolitical

shocks. As a result, the model may not fully capture external transmission mechanisms that affect R_{IHSG} .

5.3 Recommendations

This study provides practical recommendations, policy implications, and suggestions for future research.

- a. For investors and portfolio managers, domestic investor fund flows can be used as an additional indicator in analyzing stock market movements in Indonesia. However, domestic inflows should not be interpreted automatically as a positive signal for IHSG appreciation. The negative relationship between domestic fund flows and R_{IHSG} , particularly in non-conglomerate stocks, suggests that domestic investors may act as liquidity absorbers during periods of market weakness. Therefore, investors should evaluate domestic investor flows together with foreign investor activity, market sentiment, exchange-rate movements, and bond-yield conditions.
- b. Investors and portfolio managers should pay particular attention to domestic investor fund flows into non-conglomerate stocks. The results show that $FlowRatioNK$ has a negative and statistically significant relationship with R_{IHSG} , while $FlowRatioK$ is negative but not statistically significant. This suggests that domestic trading activity in non-conglomerate stocks may provide broader information about market-wide liquidity conditions and investor behavior. Therefore, monitoring domestic activity across the wider stock universe may help investors better assess short-term market pressure.
- c. The results of this study also highlight the importance of monitoring macroeconomic and financial market indicators, particularly the Indonesian 10-year government bond yield and the USDIDR exchange rate. Rising bond yields and rupiah depreciation are both associated with lower R_{IHSG} . Therefore, investors should consider bond-market movements and exchange-rate risk when making equity investment decisions, especially during periods of macroeconomic uncertainty or capital outflow pressure.

- d. For regulators and market institutions, the findings suggest that domestic investors play an important role in supporting market liquidity, particularly during periods when other investor groups may reduce exposure. Therefore, policies that strengthen domestic investor literacy, market transparency, and risk awareness remain important for improving market resilience. Regulators may also improve public communication to ensure that domestic net buying is not interpreted simplistically as a bullish signal, but understood within the broader context of market clearing, liquidity absorption, and investor behavior.
- e. For future research, subsequent studies may include foreign investor fund flows in the regression model, if possible, to examine the interaction between domestic and foreign investors more directly. This would allow future studies to test whether domestic investor flows primarily reflect independent demand pressure or a counterparty response to foreign selling pressure. Future research may also separate investor flows by investor type, such as retail and institutional investors, if such data become available.
- f. Future studies may improve the classification of conglomerate and non-conglomerate stocks by using more detailed ownership data, ultimate beneficial ownership information, or time-varying business-group classifications. This would allow the analysis to capture changes in conglomerate affiliation and market capitalization relevance more accurately over time.
- g. Future research may also apply alternative econometric approaches to capture dynamic effects, lagged relationships, or changing market regimes. Possible methods include autoregressive distributed lag models, vector autoregression, rolling regression, quantile regression, or regime-switching models. These approaches may provide further insight into whether the relationship between investor fund flows, macroeconomic variables, and RI_{HSG} differs across normal periods, crisis periods, and high-volatility market conditions.

- h. Future studies may expand the model by adding external macroeconomic and financial variables, such as global equity indices, international interest rates, oil prices, commodity prices, global risk indicators, or monetary policy variables. Including these variables may improve the explanatory power of the model and provide a more comprehensive understanding of the factors influencing R_{IHSG} .

Literature Source Composition Summary

Source	Number	%
Theses	4	4%
Journals	64	69%
Books	5	5%
Others	20	22%
Total	93	100%

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Appendix A. List of Companies in the Conglomerate Group

Group	Companies
Astra	ASII, UNTR, AALI, AUTO, ACST, ASGR, HEAL, ARKO
Bakrie	BNBR, BUMI, BRMS, ENRG, BTEL, UNSP, ELTY, DEWA, JGLE, VIVA, MDIA
Barito	BRPT, TPIA, CUAN, BREN, CDIA, PTRO, GZCO
Djarum	BBCA, TOWR, BELI, RANC, SUPR
Emtek	EMTK, SCMA, SAME, BUKA, RSGK
Lippo	LPPF, LPKR, MPPA, SILO, LPCK, MLPL, KBLV, NOBU, MLPT, GMTD, LPGI, LPLI, LPPS, LPIN
MNC	BMTR, MNCN, BHIT, IPTV, KPIG, MSIN, BABP, BCAP, MSKY, IATA
Salim	ICBP, INDF, DNET, LSIP, SIMP, ROTI, IMAS, BINA, IMJS, FAST, META, AHAP, DCII, EMTK, MEDC, BOLA, JECC, BBHI, BUMI
Sinar Mas	INKP, TKIM, BSDE, DMAS, FREN, DSSA, SMMA, LIFE, SMAR, BSIM, DUTI, GEMS, SMDM, PLIN, IBST, UCID
Tancorp	CLEO, AVIA, DEPO, ZONE, RISE, CAKK, PEVE
Triputra	ADRO, ASSA, ASLC, DRMA, DSNG, TAPG, ESSA, KMTR

Source: Indo Premier Sekuritas, Stockbit

Appendix B. Original Datasets Obtained from Indo Premier Sekuritas, BPS, and Bloomberg Terminal

Date	NDFK	NDFNK	Turnover	ID10Y	USDIDR	XAU	IHSG
Dec-08	-	-	-	11.92	11,120	882	1,355
Jan-09	2,178	-1,021	31,391	11.86	11,375	928	1,333
Feb-09	231	386	24,663	14.17	12,000	942	1,285
Mar-09	-1,392	-429	36,788	12.69	11,700	919	1,434
Apr-09	-209	-2,395	79,412	12.03	10,625	888	1,723
May-09	-346	-1,570	130,920	10.51	10,295	979	1,917
Jun-09	256	-985	126,866	11.02	10,208	927	2,027
Jul-09	-2,334	-998	114,624	10.10	9,928	954	2,323
Aug-09	-106	-723	121,858	10.54	10,105	951	2,342
Sep-09	191	-1,122	66,804	9.97	9,665	1,008	2,468
Oct-09	1,240	464	98,969	10.23	9,585	1,045	2,368
Nov-09	-98	-2,575	87,741	10.21	9,461	1,180	2,416
Dec-09	-1,278	-2,567	55,099	10.10	9,404	1,097	2,534
Jan-10	-1,003	571	79,012	9.81	9,353	1,081	2,611
Feb-10	525	1,658	63,556	9.85	9,343	1,118	2,549
Mar-10	-1,419	-3,453	104,136	9.20	9,100	1,113	2,777
Apr-10	-435	-1,090	110,461	8.57	9,010	1,179	2,971
May-10	311	1,339	96,959	8.86	9,175	1,216	2,797
Jun-10	-2,544	-1,932	73,689	8.19	9,074	1,242	2,914
Jul-10	-610	-4,205	76,936	8.00	8,949	1,181	3,069
Aug-10	1,295	-3,427	89,637	8.34	9,045	1,247	3,082
Sep-10	-2,351	-3,557	100,613	7.65	8,928	1,309	3,501
Oct-10	-134	-263	122,209	7.55	8,940	1,359	3,635
Nov-10	1,255	1,172	132,496	7.41	9,017	1,386	3,531
Dec-10	180	-2,331	126,534	7.60	9,013	1,421	3,704
Jan-11	882	3,193	121,284	8.88	9,050	1,333	3,409
Feb-11	-579	-1,638	85,768	8.85	8,823	1,411	3,470
Mar-11	5,302	-3,005	121,871	8.17	8,710	1,432	3,679
Apr-11	-1,176	-2,128	101,879	7.77	8,575	1,564	3,820
May-11	-49	-477	105,412	7.40	8,537	1,536	3,837

Jun-11	-795	-1,488	82,927	7.57	8,577	1,500	3,889
Jul-11	-3,189	-2,027	110,092	7.11	8,498	1,627	4,131
Aug-11	4,716	3,556	132,073	6.80	8,534	1,826	3,842
Sep-11	-5,820	4,065	108,040	6.70	8,790	1,624	3,549
Oct-11	-763	-2,312	97,489	6.30	8,853	1,715	3,791
Nov-11	-3,503	244	80,596	6.88	9,138	1,746	3,715
Dec-11	-886	-2,289	76,010	6.02	9,067	1,565	3,822
Jan-12	-1,384	-973	86,754	5.31	8,995	1,738	3,942
Feb-12	1,600	-64	106,226	5.62	9,074	1,697	3,985
Mar-12	-2,156	-6,805	85,421	5.92	9,165	1,668	4,122
Apr-12	1,658	-3,004	97,741	5.96	9,189	1,665	4,181
May-12	4,536	3,134	105,236	6.52	9,400	1,561	3,833
Jun-12	2,751	-674	84,717	6.11	9,430	1,597	3,956
Jul-12	260	-4,525	91,229	5.69	9,439	1,615	4,142
Aug-12	-179	-216	71,033	6.25	9,581	1,692	4,060
Sep-12	-1,085	-8,037	90,730	5.97	9,589	1,772	4,263
Oct-12	-1,305	-1,252	99,053	5.71	9,608	1,721	4,350
Nov-12	2,268	907	97,697	5.43	9,594	1,715	4,276
Dec-12	-869	855	100,277	5.17	9,638	1,675	4,317
Jan-13	-1,697	-3,935	104,780	5.34	9,740	1,664	4,454
Feb-13	-2,747	-8,346	119,774	5.42	9,664	1,580	4,796
Mar-13	976	-2,452	151,499	5.52	9,715	1,598	4,941
Apr-13	222	-670	138,295	5.49	9,723	1,477	5,034
May-13	-7,705	8,024	181,778	6.10	9,795	1,388	5,069
Jun-13	5,689	14,489	162,281	7.12	9,925	1,235	4,819
Jul-13	731	1,768	119,096	7.87	10,278	1,325	4,610
Aug-13	-1,045	6,726	105,606	8.61	10,920	1,395	4,195
Sep-13	-331	718	137,774	8.49	11,580	1,329	4,316
Oct-13	1,584	460	111,165	7.42	11,273	1,323	4,511
Nov-13	-395	4,290	97,942	8.69	11,963	1,253	4,256
Dec-13	77	5,248	92,131	8.44	12,170	1,202	4,274
Jan-14	1,001	-3,296	96,886	8.89	12,210	1,245	4,419
Feb-14	-1,022	-5,582	112,517	8.39	11,609	1,326	4,620
Mar-14	-4,570	-9,157	147,669	7.97	11,360	1,284	4,768
Apr-14	-2,136	-6,179	137,940	7.93	11,562	1,292	4,840
May-14	-1,546	-6,593	112,281	8.06	11,675	1,250	4,894

Jun-14	-3,891	1,435	105,589	8.24	11,855	1,327	4,879
Jul-14	-4,183	-8,727	132,830	8.03	11,580	1,283	5,089
Aug-14	-697	982	115,659	8.22	11,694	1,287	5,137
Sep-14	2,740	4,554	131,523	8.40	12,183	1,208	5,138
Oct-14	37	3,090	133,423	8.05	12,085	1,173	5,090
Nov-14	-2,480	-2,056	99,886	7.70	12,203	1,167	5,150
Dec-14	1,984	5,751	127,190	7.79	12,385	1,184	5,227
Jan-15	-469	-469	136,604	7.04	12,670	1,284	5,289
Feb-15	-4,404	-6,001	130,600	6.90	12,928	1,213	5,450
Mar-15	-191	5,672	141,351	7.41	13,075	1,184	5,519
Apr-15	-11,749	5,394	150,385	7.69	12,964	1,184	5,086
May-15	1,650	1,976	115,300	8.17	13,225	1,191	5,216
Jun-15	1,797	1,420	104,000	8.38	13,333	1,172	4,911
Jul-15	1,332	-1,545	86,306	8.60	13,531	1,096	4,803
Aug-15	6,654	2,836	104,230	8.79	14,053	1,135	4,510
Sep-15	1,945	5,316	92,182	9.62	14,651	1,115	4,224
Oct-15	-670	4,973	141,394	8.80	13,695	1,142	4,455
Nov-15	1,919	1,303	102,170	8.61	13,841	1,065	4,446
Dec-15	-73	1,442	101,838	8.87	13,788	1,061	4,593
Jan-16	781	1,509	100,014	8.28	13,776	1,118	4,615
Feb-16	-1,946	-2,074	118,001	8.24	13,376	1,239	4,771
Mar-16	-498	-1,789	130,137	7.71	13,260	1,233	4,845
Apr-16	-538	388	122,304	7.72	13,197	1,294	4,839
May-16	1,525	-1,264	109,362	7.87	13,658	1,215	4,797
Jun-16	-1,048	-7,779	135,492	7.46	13,220	1,322	5,017
Jul-16	-3,549	-8,333	128,653	6.94	13,099	1,351	5,216
Aug-16	-3,283	-9,710	183,128	7.14	13,265	1,309	5,386
Sep-16	152	3,015	157,846	7.07	13,051	1,316	5,365
Oct-16	4,309	-2,046	150,164	7.26	13,048	1,277	5,423
Nov-16	4,300	7,950	353,821	8.18	13,553	1,173	5,149
Dec-16	-1,675	5,271	155,666	7.94	13,473	1,148	5,297
Jan-17	314	645	119,291	7.64	13,352	1,211	5,294
Feb-17	2,828	-2,004	143,350	7.54	13,336	1,248	5,387
Mar-17	-3,264	-6,892	171,063	7.03	13,326	1,249	5,568
Apr-17	-7,078	-6,915	173,441	7.03	13,329	1,268	5,685
May-17	7,222	-6,632	164,356	6.95	13,323	1,269	5,738

Jun-17	2,276	1,946	109,812	6.81	13,328	1,242	5,830
Jul-17	7,812	2,818	131,863	6.95	13,325	1,269	5,841
Aug-17	6,665	-423	138,775	6.68	13,342	1,321	5,864
Sep-17	5,737	5,485	126,037	6.50	13,472	1,280	5,901
Oct-17	1,215	4,968	168,929	6.81	13,563	1,271	6,006
Nov-17	13,958	5,005	187,096	6.51	13,526	1,275	5,952
Dec-17	966	3,185	175,579	6.30	13,568	1,303	6,356
Jan-18	-4,211	2,465	198,902	6.32	13,389	1,345	6,606
Feb-18	4,129	6,108	172,056	6.60	13,745	1,318	6,597
Mar-18	5,215	9,770	221,371	6.67	13,768	1,325	6,189
Apr-18	3,291	7,099	146,631	6.91	13,913	1,315	5,995
May-18	1,476	4,963	182,237	7.06	13,894	1,299	5,984
Jun-18	2,414	6,710	122,029	7.80	14,330	1,253	5,799
Jul-18	-205	32	157,852	7.76	14,420	1,224	5,936
Aug-18	-1,099	2,597	184,115	8.13	14,730	1,201	6,018
Sep-18	25	945	133,958	8.21	14,903	1,191	5,977
Oct-18	2,471	947	155,988	8.60	15,203	1,215	5,832
Nov-18	-4,262	-4,708	185,235	7.87	14,302	1,221	6,056
Dec-18	298	4,821	179,713	8.00	14,390	1,282	6,194
Jan-19	-4,601	-8,874	236,675	8.05	13,973	1,321	6,533
Feb-19	3,372	-47	180,005	7.80	14,069	1,313	6,443
Mar-19	3,478	-5,080	175,149	7.67	14,241	1,292	6,469
Apr-19	-1,106	-49,055	230,389	7.80	14,259	1,284	6,455
May-19	-88	7,528	187,098	8.02	14,273	1,306	6,209
Jun-19	-1,247	-9,678	156,966	7.37	14,128	1,410	6,359
Jul-19	-2,334	2,403	194,938	7.38	14,022	1,414	6,391
Aug-19	3,315	6,071	184,896	7.35	14,191	1,520	6,328
Sep-19	1,574	5,740	172,000	7.30	14,195	1,472	6,169
Oct-19	-190	3,861	202,327	7.01	14,041	1,513	6,228
Nov-19	2,066	4,910	155,332	7.07	14,108	1,464	6,012
Dec-19	-46	-5,490	155,144	7.05	13,866	1,517	6,300
Jan-20	2,038	-2,070	140,067	6.65	13,655	1,589	5,940
Feb-20	1,495	3,268	131,392	6.89	14,318	1,586	5,453
Mar-20	1,573	4,020	166,004	7.91	16,310	1,577	4,539
Apr-20	3,450	5,382	143,486	7.89	14,882	1,687	4,716
May-20	2,861	5,542	157,169	7.34	14,610	1,730	4,754

Jun-20	-2,204	6,744	189,655	7.22	14,265	1,781	4,905
Jul-20	-828	4,660	169,543	6.83	14,600	1,976	5,150
Aug-20	2,283	5,830	172,830	6.86	14,563	1,968	5,238
Sep-20	8,291	7,264	170,705	6.93	14,880	1,886	4,870
Oct-20	111	3,497	161,388	6.61	14,625	1,879	5,128
Nov-20	-754	-3,322	276,428	6.19	14,120	1,777	5,612
Dec-20	-5,622	9,097	350,131	5.94	14,050	1,898	5,979
Jan-21	-2,255	-8,674	410,267	6.26	14,030	1,848	5,862
Feb-21	4,682	-8,273	296,230	6.60	14,235	1,734	6,242
Mar-21	3,093	-353	262,571	6.81	14,525	1,708	5,986
Apr-21	521	3,305	198,177	6.48	14,445	1,769	5,996
May-21	-1,002	-2,491	186,755	6.45	14,280	1,907	5,947
Jun-21	-2,863	-2,015	254,923	6.63	14,500	1,770	5,985
Jul-21	-360	-792	241,219	6.31	14,463	1,814	6,070
Aug-21	-3,343	-1,548	275,006	6.08	14,268	1,814	6,150
Sep-21	-5,789	1,338	276,621	6.35	14,313	1,757	6,287
Oct-21	5,142	-18,473	340,408	6.17	14,168	1,783	6,591
Nov-21	2,582	437	289,277	6.27	14,323	1,775	6,534
Dec-21	-1,418	2,696	271,478	6.37	14,253	1,829	6,581
Jan-22	-2,626	-3,448	256,484	6.45	14,383	1,797	6,631
Feb-22	-3,604	-13,899	248,751	6.51	14,367	1,909	6,888
Mar-22	-3,671	-4,647	375,567	6.75	14,369	1,937	7,071
Apr-22	-5,337	-34,533	356,509	7.00	14,497	1,897	7,229
May-22	4,082	-498	281,786	7.05	14,583	1,837	7,149
Jun-22	3,104	4,581	348,269	7.25	14,898	1,807	6,912
Jul-22	494	3,249	246,225	7.20	14,833	1,766	6,951
Aug-22	-10,459	-12,971	310,262	7.12	14,843	1,711	7,179
Sep-22	3,929	-7,270	345,530	7.38	15,228	1,661	7,041
Oct-22	-4,241	-7,049	272,708	7.54	15,598	1,634	7,099
Nov-22	-1,158	412	286,100	6.95	15,732	1,769	7,081
Dec-22	12,308	8,598	289,705	6.93	15,568	1,824	6,851
Jan-23	1,931	1,290	216,200	6.71	14,990	1,928	6,839
Feb-23	-1,717	-3,980	196,432	6.89	15,250	1,827	6,843
Mar-23	1,718	-5,832	214,133	6.82	14,995	1,969	6,805
Apr-23	-3,861	-8,426	154,178	6.54	14,670	1,990	6,916
May-23	-1,565	-73	234,591	6.39	14,993	1,963	6,633

Jun-23	162	4,216	163,919	6.26	14,993	1,919	6,662
Jul-23	-691	-2,026	193,180	6.27	15,080	1,965	6,931
Aug-23	23,874	-3,771	246,353	6.38	15,230	1,940	6,953
Sep-23	5,727	-1,595	227,256	6.91	15,455	1,849	6,940
Oct-23	4,015	4,094	228,413	7.07	15,885	1,984	6,752
Nov-23	1,908	-1,368	244,214	6.62	15,510	2,036	7,081
Dec-23	-4,109	-3,947	249,464	6.48	15,397	2,063	7,273
Jan-24	-162	-8,154	224,662	6.59	15,780	2,040	7,208
Feb-24	-2,845	-7,235	201,744	6.61	15,715	2,044	7,316
Mar-24	759	-8,631	210,358	6.69	15,855	2,230	7,289
Apr-24	1,255	17,077	282,496	7.27	16,260	2,286	7,234
May-24	364	13,827	258,875	6.93	16,250	2,327	6,971
Jun-24	-5,531	7,000	231,199	7.05	16,375	2,327	7,064
Jul-24	-1,583	-5,195	228,534	6.89	16,260	2,448	7,256
Aug-24	-5,712	-23,144	389,273	6.63	15,455	2,503	7,671
Sep-24	-18,914	-3,152	287,022	6.46	15,140	2,635	7,528
Oct-24	5,091	6,176	295,884	6.78	15,697	2,744	7,574
Nov-24	4,783	12,026	234,309	6.87	15,845	2,643	7,114
Dec-24	337	4,693	260,130	7.00	16,102	2,625	7,080
Jan-25	3,889	-176	203,448	6.97	16,300	2,798	7,109
Feb-25	8,517	9,678	248,955	6.91	16,580	2,858	6,271
Mar-25	4,046	3,979	263,166	6.96	16,560	3,124	6,511
Apr-25	6,356	14,451	207,376	6.85	16,601	3,289	6,767
May-25	317	-5,848	251,229	6.83	16,290	3,289	7,176
Jun-25	3,780	4,602	274,837	6.63	16,238	3,303	6,928
Jul-25	5,830	2,508	322,588	6.55	16,455	3,290	7,484
Aug-25	-1,480	-9,479	404,732	6.32	16,490	3,448	7,830
Sep-25	6,924	-4	504,340	6.34	16,665	3,859	8,061
Oct-25	-3,089	-9,753	576,306	6.10	16,630	4,003	8,164
Nov-25	-3,957	-7,014	462,855	6.31	16,660	4,239	8,509
Dec-25	-809	-10,649	543,786	6.12	16,690	4,319	8,647

Source: Bloomberg Terminal, BPS, Indo Premier Sekuritas

Appendix C. FlowRatioK Transformation

Date	NDFK	Turnover	FlowRatioK
Equation	a	b	a / b
Jan-09	2,178	31,391	0.0694
Feb-09	231	24,663	0.0094
Mar-09	-1,392	36,788	-0.0378
Apr-09	-209	79,412	-0.0026
May-09	-346	130,920	-0.0026
Jun-09	256	126,866	0.0020
Jul-09	-2,334	114,624	-0.0204
Aug-09	-106	121,858	-0.0009
Sep-09	191	66,804	0.0029
Oct-09	1,240	98,969	0.0125
Nov-09	-98	87,741	-0.0011
Dec-09	-1,278	55,099	-0.0232
Jan-10	-1,003	79,012	-0.0127
Feb-10	525	63,556	0.0083
Mar-10	-1,419	104,136	-0.0136
Apr-10	-435	110,461	-0.0039
May-10	311	96,959	0.0032
Jun-10	-2,544	73,689	-0.0345
Jul-10	-610	76,936	-0.0079
Aug-10	1,295	89,637	0.0144
Sep-10	-2,351	100,613	-0.0234
Oct-10	-134	122,209	-0.0011
Nov-10	1,255	132,496	0.0095
Dec-10	180	126,534	0.0014
Jan-11	882	121,284	0.0073
Feb-11	-579	85,768	-0.0067
Mar-11	5,302	121,871	0.0435
Apr-11	-1,176	101,879	-0.0115
May-11	-49	105,412	-0.0005
Jun-11	-795	82,927	-0.0096

Jul-11	-3,189	110,092	-0.0290
Aug-11	4,716	132,073	0.0357
Sep-11	-5,820	108,040	-0.0539
Oct-11	-763	97,489	-0.0078
Nov-11	-3,503	80,596	-0.0435
Dec-11	-886	76,010	-0.0117
Jan-12	-1,384	86,754	-0.0160
Feb-12	1,600	106,226	0.0151
Mar-12	-2,156	85,421	-0.0252
Apr-12	1,658	97,741	0.0170
May-12	4,536	105,236	0.0431
Jun-12	2,751	84,717	0.0325
Jul-12	260	91,229	0.0028
Aug-12	-179	71,033	-0.0025
Sep-12	-1,085	90,730	-0.0120
Oct-12	-1,305	99,053	-0.0132
Nov-12	2,268	97,697	0.0232
Dec-12	-869	100,277	-0.0087
Jan-13	-1,697	104,780	-0.0162
Feb-13	-2,747	119,774	-0.0229
Mar-13	976	151,499	0.0064
Apr-13	222	138,295	0.0016
May-13	-7,705	181,778	-0.0424
Jun-13	5,689	162,281	0.0351
Jul-13	731	119,096	0.0061
Aug-13	-1,045	105,606	-0.0099
Sep-13	-331	137,774	-0.0024
Oct-13	1,584	111,165	0.0143
Nov-13	-395	97,942	-0.0040
Dec-13	77	92,131	0.0008
Jan-14	1,001	96,886	0.0103
Feb-14	-1,022	112,517	-0.0091
Mar-14	-4,570	147,669	-0.0309
Apr-14	-2,136	137,940	-0.0155
May-14	-1,546	112,281	-0.0138
Jun-14	-3,891	105,589	-0.0368

Jul-14	-4,183	132,830	-0.0315
Aug-14	-697	115,659	-0.0060
Sep-14	2,740	131,523	0.0208
Oct-14	37	133,423	0.0003
Nov-14	-2,480	99,886	-0.0248
Dec-14	1,984	127,190	0.0156
Jan-15	-469	136,604	-0.0034
Feb-15	-4,404	130,600	-0.0337
Mar-15	-191	141,351	-0.0014
Apr-15	-11,749	150,385	-0.0781
May-15	1,650	115,300	0.0143
Jun-15	1,797	104,000	0.0173
Jul-15	1,332	86,306	0.0154
Aug-15	6,654	104,230	0.0638
Sep-15	1,945	92,182	0.0211
Oct-15	-670	141,394	-0.0047
Nov-15	1,919	102,170	0.0188
Dec-15	-73	101,838	-0.0007
Jan-16	781	100,014	0.0078
Feb-16	-1,946	118,001	-0.0165
Mar-16	-498	130,137	-0.0038
Apr-16	-538	122,304	-0.0044
May-16	1,525	109,362	0.0139
Jun-16	-1,048	135,492	-0.0077
Jul-16	-3,549	128,653	-0.0276
Aug-16	-3,283	183,128	-0.0179
Sep-16	152	157,846	0.0010
Oct-16	4,309	150,164	0.0287
Nov-16	4,300	353,821	0.0122
Dec-16	-1,675	155,666	-0.0108
Jan-17	314	119,291	0.0026
Feb-17	2,828	143,350	0.0197
Mar-17	-3,264	171,063	-0.0191
Apr-17	-7,078	173,441	-0.0408
May-17	7,222	164,356	0.0439
Jun-17	2,276	109,812	0.0207

Jul-17	7,812	131,863	0.0592
Aug-17	6,665	138,775	0.0480
Sep-17	5,737	126,037	0.0455
Oct-17	1,215	168,929	0.0072
Nov-17	13,958	187,096	0.0746
Dec-17	966	175,579	0.0055
Jan-18	-4,211	198,902	-0.0212
Feb-18	4,129	172,056	0.0240
Mar-18	5,215	221,371	0.0236
Apr-18	3,291	146,631	0.0224
May-18	1,476	182,237	0.0081
Jun-18	2,414	122,029	0.0198
Jul-18	-205	157,852	-0.0013
Aug-18	-1,099	184,115	-0.0060
Sep-18	25	133,958	0.0002
Oct-18	2,471	155,988	0.0158
Nov-18	-4,262	185,235	-0.0230
Dec-18	298	179,713	0.0017
Jan-19	-4,601	236,675	-0.0194
Feb-19	3,372	180,005	0.0187
Mar-19	3,478	175,149	0.0199
Apr-19	-1,106	230,389	-0.0048
May-19	-88	187,098	-0.0005
Jun-19	-1,247	156,966	-0.0079
Jul-19	-2,334	194,938	-0.0120
Aug-19	3,315	184,896	0.0179
Sep-19	1,574	172,000	0.0092
Oct-19	-190	202,327	-0.0009
Nov-19	2,066	155,332	0.0133
Dec-19	-46	155,144	-0.0003
Jan-20	2,038	140,067	0.0145
Feb-20	1,495	131,392	0.0114
Mar-20	1,573	166,004	0.0095
Apr-20	3,450	143,486	0.0240
May-20	2,861	157,169	0.0182
Jun-20	-2,204	189,655	-0.0116

Jul-20	-828	169,543	-0.0049
Aug-20	2,283	172,830	0.0132
Sep-20	8,291	170,705	0.0486
Oct-20	111	161,388	0.0007
Nov-20	-754	276,428	-0.0027
Dec-20	-5,622	350,131	-0.0161
Jan-21	-2,255	410,267	-0.0055
Feb-21	4,682	296,230	0.0158
Mar-21	3,093	262,571	0.0118
Apr-21	521	198,177	0.0026
May-21	-1,002	186,755	-0.0054
Jun-21	-2,863	254,923	-0.0112
Jul-21	-360	241,219	-0.0015
Aug-21	-3,343	275,006	-0.0122
Sep-21	-5,789	276,621	-0.0209
Oct-21	5,142	340,408	0.0151
Nov-21	2,582	289,277	0.0089
Dec-21	-1,418	271,478	-0.0052
Jan-22	-2,626	256,484	-0.0102
Feb-22	-3,604	248,751	-0.0145
Mar-22	-3,671	375,567	-0.0098
Apr-22	-5,337	356,509	-0.0150
May-22	4,082	281,786	0.0145
Jun-22	3,104	348,269	0.0089
Jul-22	494	246,225	0.0020
Aug-22	-10,459	310,262	-0.0337
Sep-22	3,929	345,530	0.0114
Oct-22	-4,241	272,708	-0.0156
Nov-22	-1,158	286,100	-0.0040
Dec-22	12,308	289,705	0.0425
Jan-23	1,931	216,200	0.0089
Feb-23	-1,717	196,432	-0.0087
Mar-23	1,718	214,133	0.0080
Apr-23	-3,861	154,178	-0.0250
May-23	-1,565	234,591	-0.0067
Jun-23	162	163,919	0.0010

Jul-23	-691	193,180	-0.0036
Aug-23	23,874	246,353	0.0969
Sep-23	5,727	227,256	0.0252
Oct-23	4,015	228,413	0.0176
Nov-23	1,908	244,214	0.0078
Dec-23	-4,109	249,464	-0.0165
Jan-24	-162	224,662	-0.0007
Feb-24	-2,845	201,744	-0.0141
Mar-24	759	210,358	0.0036
Apr-24	1,255	282,496	0.0044
May-24	364	258,875	0.0014
Jun-24	-5,531	231,199	-0.0239
Jul-24	-1,583	228,534	-0.0069
Aug-24	-5,712	389,273	-0.0147
Sep-24	-18,914	287,022	-0.0659
Oct-24	5,091	295,884	0.0172
Nov-24	4,783	234,309	0.0204
Dec-24	337	260,130	0.0013
Jan-25	3,889	203,448	0.0191
Feb-25	8,517	248,955	0.0342
Mar-25	4,046	263,166	0.0154
Apr-25	6,356	207,376	0.0306
May-25	317	251,229	0.0013
Jun-25	3,780	274,837	0.0138
Jul-25	5,830	322,588	0.0181
Aug-25	-1,480	404,732	-0.0037
Sep-25	6,924	504,340	0.0137
Oct-25	-3,089	576,306	-0.0054
Nov-25	-3,957	462,855	-0.0085
Dec-25	-809	543,786	-0.0015

Appendix D. FlowRatioNK Transformation

Date	NDFNK	Turnover	FlowRatioNK
Equation	a	b	a / b
Jan-09	-1,021	31,391	-0.0325
Feb-09	386	24,663	0.0156
Mar-09	-429	36,788	-0.0117
Apr-09	-2,395	79,412	-0.0302
May-09	-1,570	130,920	-0.0120
Jun-09	-985	126,866	-0.0078
Jul-09	-998	114,624	-0.0087
Aug-09	-723	121,858	-0.0059
Sep-09	-1,122	66,804	-0.0168
Oct-09	464	98,969	0.0047
Nov-09	-2,575	87,741	-0.0293
Dec-09	-2,567	55,099	-0.0466
Jan-10	571	79,012	0.0072
Feb-10	1,658	63,556	0.0261
Mar-10	-3,453	104,136	-0.0332
Apr-10	-1,090	110,461	-0.0099
May-10	1,339	96,959	0.0138
Jun-10	-1,932	73,689	-0.0262
Jul-10	-4,205	76,936	-0.0547
Aug-10	-3,427	89,637	-0.0382
Sep-10	-3,557	100,613	-0.0353
Oct-10	-263	122,209	-0.0022
Nov-10	1,172	132,496	0.0088
Dec-10	-2,331	126,534	-0.0184
Jan-11	3,193	121,284	0.0263
Feb-11	-1,638	85,768	-0.0191
Mar-11	-3,005	121,871	-0.0247
Apr-11	-2,128	101,879	-0.0209
May-11	-477	105,412	-0.0045
Jun-11	-1,488	82,927	-0.0179

Jul-11	-2,027	110,092	-0.0184
Aug-11	3,556	132,073	0.0269
Sep-11	4,065	108,040	0.0376
Oct-11	-2,312	97,489	-0.0237
Nov-11	244	80,596	0.0030
Dec-11	-2,289	76,010	-0.0301
Jan-12	-973	86,754	-0.0112
Feb-12	-64	106,226	-0.0006
Mar-12	-6,805	85,421	-0.0797
Apr-12	-3,004	97,741	-0.0307
May-12	3,134	105,236	0.0298
Jun-12	-674	84,717	-0.0080
Jul-12	-4,525	91,229	-0.0496
Aug-12	-216	71,033	-0.0030
Sep-12	-8,037	90,730	-0.0886
Oct-12	-1,252	99,053	-0.0126
Nov-12	907	97,697	0.0093
Dec-12	855	100,277	0.0085
Jan-13	-3,935	104,780	-0.0376
Feb-13	-8,346	119,774	-0.0697
Mar-13	-2,452	151,499	-0.0162
Apr-13	-670	138,295	-0.0048
May-13	8,024	181,778	0.0441
Jun-13	14,489	162,281	0.0893
Jul-13	1,768	119,096	0.0148
Aug-13	6,726	105,606	0.0637
Sep-13	718	137,774	0.0052
Oct-13	460	111,165	0.0041
Nov-13	4,290	97,942	0.0438
Dec-13	5,248	92,131	0.0570
Jan-14	-3,296	96,886	-0.0340
Feb-14	-5,582	112,517	-0.0496
Mar-14	-9,157	147,669	-0.0620
Apr-14	-6,179	137,940	-0.0448
May-14	-6,593	112,281	-0.0587
Jun-14	1,435	105,589	0.0136

Jul-14	-8,727	132,830	-0.0657
Aug-14	982	115,659	0.0085
Sep-14	4,554	131,523	0.0346
Oct-14	3,090	133,423	0.0232
Nov-14	-2,056	99,886	-0.0206
Dec-14	5,751	127,190	0.0452
Jan-15	-469	136,604	-0.0034
Feb-15	-6,001	130,600	-0.0459
Mar-15	5,672	141,351	0.0401
Apr-15	5,394	150,385	0.0359
May-15	1,976	115,300	0.0171
Jun-15	1,420	104,000	0.0137
Jul-15	-1,545	86,306	-0.0179
Aug-15	2,836	104,230	0.0272
Sep-15	5,316	92,182	0.0577
Oct-15	4,973	141,394	0.0352
Nov-15	1,303	102,170	0.0127
Dec-15	1,442	101,838	0.0142
Jan-16	1,509	100,014	0.0151
Feb-16	-2,074	118,001	-0.0176
Mar-16	-1,789	130,137	-0.0137
Apr-16	388	122,304	0.0032
May-16	-1,264	109,362	-0.0116
Jun-16	-7,779	135,492	-0.0574
Jul-16	-8,333	128,653	-0.0648
Aug-16	-9,710	183,128	-0.0530
Sep-16	3,015	157,846	0.0191
Oct-16	-2,046	150,164	-0.0136
Nov-16	7,950	353,821	0.0225
Dec-16	5,271	155,666	0.0339
Jan-17	645	119,291	0.0054
Feb-17	-2,004	143,350	-0.0140
Mar-17	-6,892	171,063	-0.0403
Apr-17	-6,915	173,441	-0.0399
May-17	-6,632	164,356	-0.0404
Jun-17	1,946	109,812	0.0177

Jul-17	2,818	131,863	0.0214
Aug-17	-423	138,775	-0.0030
Sep-17	5,485	126,037	0.0435
Oct-17	4,968	168,929	0.0294
Nov-17	5,005	187,096	0.0268
Dec-17	3,185	175,579	0.0181
Jan-18	2,465	198,902	0.0124
Feb-18	6,108	172,056	0.0355
Mar-18	9,770	221,371	0.0441
Apr-18	7,099	146,631	0.0484
May-18	4,963	182,237	0.0272
Jun-18	6,710	122,029	0.0550
Jul-18	32	157,852	0.0002
Aug-18	2,597	184,115	0.0141
Sep-18	945	133,958	0.0071
Oct-18	947	155,988	0.0061
Nov-18	-4,708	185,235	-0.0254
Dec-18	4,821	179,713	0.0268
Jan-19	-8,874	236,675	-0.0375
Feb-19	-47	180,005	-0.0003
Mar-19	-5,080	175,149	-0.0290
Apr-19	-49,055	230,389	-0.2129
May-19	7,528	187,098	0.0402
Jun-19	-9,678	156,966	-0.0617
Jul-19	2,403	194,938	0.0123
Aug-19	6,071	184,896	0.0328
Sep-19	5,740	172,000	0.0334
Oct-19	3,861	202,327	0.0191
Nov-19	4,910	155,332	0.0316
Dec-19	-5,490	155,144	-0.0354
Jan-20	-2,070	140,067	-0.0148
Feb-20	3,268	131,392	0.0249
Mar-20	4,020	166,004	0.0242
Apr-20	5,382	143,486	0.0375
May-20	5,542	157,169	0.0353
Jun-20	6,744	189,655	0.0356

Jul-20	4,660	169,543	0.0275
Aug-20	5,830	172,830	0.0337
Sep-20	7,264	170,705	0.0426
Oct-20	3,497	161,388	0.0217
Nov-20	-3,322	276,428	-0.0120
Dec-20	9,097	350,131	0.0260
Jan-21	-8,674	410,267	-0.0211
Feb-21	-8,273	296,230	-0.0279
Mar-21	-353	262,571	-0.0013
Apr-21	3,305	198,177	0.0167
May-21	-2,491	186,755	-0.0133
Jun-21	-2,015	254,923	-0.0079
Jul-21	-792	241,219	-0.0033
Aug-21	-1,548	275,006	-0.0056
Sep-21	1,338	276,621	0.0048
Oct-21	-18,473	340,408	-0.0543
Nov-21	437	289,277	0.0015
Dec-21	2,696	271,478	0.0099
Jan-22	-3,448	256,484	-0.0134
Feb-22	-13,899	248,751	-0.0559
Mar-22	-4,647	375,567	-0.0124
Apr-22	-34,533	356,509	-0.0969
May-22	-498	281,786	-0.0018
Jun-22	4,581	348,269	0.0132
Jul-22	3,249	246,225	0.0132
Aug-22	-12,971	310,262	-0.0418
Sep-22	-7,270	345,530	-0.0210
Oct-22	-7,049	272,708	-0.0258
Nov-22	412	286,100	0.0014
Dec-22	8,598	289,705	0.0297
Jan-23	1,290	216,200	0.0060
Feb-23	-3,980	196,432	-0.0203
Mar-23	-5,832	214,133	-0.0272
Apr-23	-8,426	154,178	-0.0547
May-23	-73	234,591	-0.0003
Jun-23	4,216	163,919	0.0257

Jul-23	-2,026	193,180	-0.0105
Aug-23	-3,771	246,353	-0.0153
Sep-23	-1,595	227,256	-0.0070
Oct-23	4,094	228,413	0.0179
Nov-23	-1,368	244,214	-0.0056
Dec-23	-3,947	249,464	-0.0158
Jan-24	-8,154	224,662	-0.0363
Feb-24	-7,235	201,744	-0.0359
Mar-24	-8,631	210,358	-0.0410
Apr-24	17,077	282,496	0.0604
May-24	13,827	258,875	0.0534
Jun-24	7,000	231,199	0.0303
Jul-24	-5,195	228,534	-0.0227
Aug-24	-23,144	389,273	-0.0595
Sep-24	-3,152	287,022	-0.0110
Oct-24	6,176	295,884	0.0209
Nov-24	12,026	234,309	0.0513
Dec-24	4,693	260,130	0.0180
Jan-25	-176	203,448	-0.0009
Feb-25	9,678	248,955	0.0389
Mar-25	3,979	263,166	0.0151
Apr-25	14,451	207,376	0.0697
May-25	-5,848	251,229	-0.0233
Jun-25	4,602	274,837	0.0167
Jul-25	2,508	322,588	0.0078
Aug-25	-9,479	404,732	-0.0234
Sep-25	-4	504,340	0.0000
Oct-25	-9,753	576,306	-0.0169
Nov-25	-7,014	462,855	-0.0152
Dec-25	-10,649	543,786	-0.0196

Appendix E. $\Delta ID10Y$ Transformation

Date	$ID10Y_t$	$ID10Y_{t-1}$	$\Delta ID10Y$
Equation	a	b	a - b
Jan-09	11.86	11.92	-0.0590
Feb-09	14.17	11.86	2.3130
Mar-09	12.69	14.17	-1.4800
Apr-09	12.03	12.69	-0.6560
May-09	10.51	12.03	-1.5240
Jun-09	11.02	10.51	0.5120
Jul-09	10.10	11.02	-0.9270
Aug-09	10.54	10.10	0.4450
Sep-09	9.97	10.54	-0.5690
Oct-09	10.23	9.97	0.2580
Nov-09	10.21	10.23	-0.0220
Dec-09	10.10	10.21	-0.1080
Jan-10	9.81	10.10	-0.2850
Feb-10	9.85	9.81	0.0320
Mar-10	9.20	9.85	-0.6450
Apr-10	8.57	9.20	-0.6340
May-10	8.86	8.57	0.2970
Jun-10	8.19	8.86	-0.6790
Jul-10	8.00	8.19	-0.1810
Aug-10	8.34	8.00	0.3370
Sep-10	7.65	8.34	-0.6870
Oct-10	7.55	7.65	-0.1080
Nov-10	7.41	7.55	-0.1410
Dec-10	7.60	7.41	0.1980
Jan-11	8.88	7.60	1.2780
Feb-11	8.85	8.88	-0.0360
Mar-11	8.17	8.85	-0.6710
Apr-11	7.77	8.17	-0.4010
May-11	7.40	7.77	-0.3780
Jun-11	7.57	7.40	0.1770

Jul-11	7.11	7.57	-0.4580
Aug-11	6.80	7.11	-0.3100
Sep-11	6.70	6.80	-0.1070
Oct-11	6.30	6.70	-0.4000
Nov-11	6.88	6.30	0.5850
Dec-11	6.02	6.88	-0.8630
Jan-12	5.31	6.02	-0.7120
Feb-12	5.62	5.31	0.3090
Mar-12	5.92	5.62	0.3010
Apr-12	5.96	5.92	0.0450
May-12	6.52	5.96	0.5540
Jun-12	6.11	6.52	-0.4040
Jul-12	5.69	6.11	-0.4260
Aug-12	6.25	5.69	0.5610
Sep-12	5.97	6.25	-0.2740
Oct-12	5.71	5.97	-0.2680
Nov-12	5.43	5.71	-0.2760
Dec-12	5.17	5.43	-0.2620
Jan-13	5.34	5.17	0.1760
Feb-13	5.42	5.34	0.0730
Mar-13	5.52	5.42	0.1060
Apr-13	5.49	5.52	-0.0280
May-13	6.10	5.49	0.6050
Jun-13	7.12	6.10	1.0170
Jul-13	7.87	7.12	0.7550
Aug-13	8.61	7.87	0.7400
Sep-13	8.49	8.61	-0.1210
Oct-13	7.42	8.49	-1.0740
Nov-13	8.69	7.42	1.2750
Dec-13	8.44	8.69	-0.2510
Jan-14	8.89	8.44	0.4470
Feb-14	8.39	8.89	-0.4980
Mar-14	7.97	8.39	-0.4200
Apr-14	7.93	7.97	-0.0350
May-14	8.06	7.93	0.1270
Jun-14	8.24	8.06	0.1800

Jul-14	8.03	8.24	-0.2160
Aug-14	8.22	8.03	0.1950
Sep-14	8.40	8.22	0.1770
Oct-14	8.05	8.40	-0.3480
Nov-14	7.70	8.05	-0.3530
Dec-14	7.79	7.70	0.0970
Jan-15	7.04	7.79	-0.7520
Feb-15	6.90	7.04	-0.1390
Mar-15	7.41	6.90	0.5090
Apr-15	7.69	7.41	0.2810
May-15	8.17	7.69	0.4740
Jun-15	8.38	8.17	0.2140
Jul-15	8.60	8.38	0.2230
Aug-15	8.79	8.60	0.1830
Sep-15	9.62	8.79	0.8380
Oct-15	8.80	9.62	-0.8210
Nov-15	8.61	8.80	-0.1980
Dec-15	8.87	8.61	0.2670
Jan-16	8.28	8.87	-0.5950
Feb-16	8.24	8.28	-0.0330
Mar-16	7.71	8.24	-0.5310
Apr-16	7.72	7.71	0.0020
May-16	7.87	7.72	0.1500
Jun-16	7.46	7.87	-0.4030
Jul-16	6.94	7.46	-0.5180
Aug-16	7.14	6.94	0.1940
Sep-16	7.07	7.14	-0.0690
Oct-16	7.26	7.07	0.1900
Nov-16	8.18	7.26	0.9250
Dec-16	7.94	8.18	-0.2430
Jan-17	7.64	7.94	-0.3030
Feb-17	7.54	7.64	-0.0960
Mar-17	7.03	7.54	-0.5130
Apr-17	7.03	7.03	0.0020
May-17	6.95	7.03	-0.0800
Jun-17	6.81	6.95	-0.1400

Jul-17	6.95	6.81	0.1370
Aug-17	6.68	6.95	-0.2650
Sep-17	6.50	6.68	-0.1870
Oct-17	6.81	6.50	0.3090
Nov-17	6.51	6.81	-0.2940
Dec-17	6.30	6.51	-0.2130
Jan-18	6.32	6.30	0.0200
Feb-18	6.60	6.32	0.2770
Mar-18	6.67	6.60	0.0740
Apr-18	6.91	6.67	0.2370
May-18	7.06	6.91	0.1540
Jun-18	7.80	7.06	0.7430
Jul-18	7.76	7.80	-0.0480
Aug-18	8.13	7.76	0.3720
Sep-18	8.21	8.13	0.0810
Oct-18	8.60	8.21	0.3930
Nov-18	7.87	8.60	-0.7350
Dec-18	8.00	7.87	0.1310
Jan-19	8.05	8.00	0.0540
Feb-19	7.80	8.05	-0.2500
Mar-19	7.67	7.80	-0.1360
Apr-19	7.80	7.67	0.1360
May-19	8.02	7.80	0.2220
Jun-19	7.37	8.02	-0.6540
Jul-19	7.38	7.37	0.0090
Aug-19	7.35	7.38	-0.0240
Sep-19	7.30	7.35	-0.0580
Oct-19	7.01	7.30	-0.2910
Nov-19	7.07	7.01	0.0690
Dec-19	7.05	7.07	-0.0270
Jan-20	6.65	7.05	-0.4020
Feb-20	6.89	6.65	0.2420
Mar-20	7.91	6.89	1.0200
Apr-20	7.89	7.91	-0.0150
May-20	7.34	7.89	-0.5520
Jun-20	7.22	7.34	-0.1250

Jul-20	6.83	7.22	-0.3900
Aug-20	6.86	6.83	0.0390
Sep-20	6.93	6.86	0.0660
Oct-20	6.61	6.93	-0.3210
Nov-20	6.19	6.61	-0.4210
Dec-20	5.94	6.19	-0.2460
Jan-21	6.26	5.94	0.3150
Feb-21	6.60	6.26	0.3410
Mar-21	6.81	6.60	0.2160
Apr-21	6.48	6.81	-0.3380
May-21	6.45	6.48	-0.0310
Jun-21	6.63	6.45	0.1850
Jul-21	6.31	6.63	-0.3230
Aug-21	6.08	6.31	-0.2300
Sep-21	6.35	6.08	0.2760
Oct-21	6.17	6.35	-0.1840
Nov-21	6.27	6.17	0.0980
Dec-21	6.37	6.27	0.1010
Jan-22	6.45	6.37	0.0810
Feb-22	6.51	6.45	0.0610
Mar-22	6.75	6.51	0.2390
Apr-22	7.00	6.75	0.2490
May-22	7.05	7.00	0.0490
Jun-22	7.25	7.05	0.2020
Jul-22	7.20	7.25	-0.0520
Aug-22	7.12	7.20	-0.0800
Sep-22	7.38	7.12	0.2630
Oct-22	7.54	7.38	0.1610
Nov-22	6.95	7.54	-0.5920
Dec-22	6.93	6.95	-0.0240
Jan-23	6.71	6.93	-0.2190
Feb-23	6.89	6.71	0.1790
Mar-23	6.82	6.89	-0.0700
Apr-23	6.54	6.82	-0.2790
May-23	6.39	6.54	-0.1440
Jun-23	6.26	6.39	-0.1350

Jul-23	6.27	6.26	0.0110
Aug-23	6.38	6.27	0.1130
Sep-23	6.91	6.38	0.5290
Oct-23	7.07	6.91	0.1620
Nov-23	6.62	7.07	-0.4560
Dec-23	6.48	6.62	-0.1340
Jan-24	6.59	6.48	0.1030
Feb-24	6.61	6.59	0.0210
Mar-24	6.69	6.61	0.0860
Apr-24	7.27	6.69	0.5760
May-24	6.93	7.27	-0.3380
Jun-24	7.05	6.93	0.1240
Jul-24	6.89	7.05	-0.1650
Aug-24	6.63	6.89	-0.2640
Sep-24	6.46	6.63	-0.1640
Oct-24	6.78	6.46	0.3160
Nov-24	6.87	6.78	0.0950
Dec-24	7.00	6.87	0.1250
Jan-25	6.97	7.00	-0.0270
Feb-25	6.91	6.97	-0.0570
Mar-25	6.96	6.91	0.0510
Apr-25	6.85	6.96	-0.1130
May-25	6.83	6.85	-0.0210
Jun-25	6.63	6.83	-0.2000
Jul-25	6.55	6.63	-0.0840
Aug-25	6.32	6.55	-0.2240
Sep-25	6.34	6.32	0.0190
Oct-25	6.10	6.34	-0.2420
Nov-25	6.31	6.10	0.2150
Dec-25	6.12	6.31	-0.1950

Appendix F. R_{USDIDR} Transformation

Date	$USDIDR_t$	$USDIDR_{t-1}$	R_{USDIDR}
Equation	a	b	(a-b) / b
Jan-09	11,375	11,120	0.0229
Feb-09	12,000	11,375	0.0549
Mar-09	11,700	12,000	-0.0250
Apr-09	10,625	11,700	-0.0919
May-09	10,295	10,625	-0.0311
Jun-09	10,208	10,295	-0.0085
Jul-09	9,928	10,208	-0.0274
Aug-09	10,105	9,928	0.0178
Sep-09	9,665	10,105	-0.0435
Oct-09	9,585	9,665	-0.0083
Nov-09	9,461	9,585	-0.0129
Dec-09	9,404	9,461	-0.0060
Jan-10	9,353	9,404	-0.0054
Feb-10	9,343	9,353	-0.0011
Mar-10	9,100	9,343	-0.0260
Apr-10	9,010	9,100	-0.0099
May-10	9,175	9,010	0.0183
Jun-10	9,074	9,175	-0.0110
Jul-10	8,949	9,074	-0.0138
Aug-10	9,045	8,949	0.0107
Sep-10	8,928	9,045	-0.0129
Oct-10	8,940	8,928	0.0013
Nov-10	9,017	8,940	0.0086
Dec-10	9,013	9,017	-0.0004
Jan-11	9,050	9,013	0.0041
Feb-11	8,823	9,050	-0.0251
Mar-11	8,710	8,823	-0.0128
Apr-11	8,575	8,710	-0.0155
May-11	8,537	8,575	-0.0044
Jun-11	8,577	8,537	0.0047

Jul-11	8,498	8,577	-0.0092
Aug-11	8,534	8,498	0.0042
Sep-11	8,790	8,534	0.0300
Oct-11	8,853	8,790	0.0072
Nov-11	9,138	8,853	0.0322
Dec-11	9,067	9,138	-0.0078
Jan-12	8,995	9,067	-0.0079
Feb-12	9,074	8,995	0.0088
Mar-12	9,165	9,074	0.0100
Apr-12	9,189	9,165	0.0026
May-12	9,400	9,189	0.0230
Jun-12	9,430	9,400	0.0032
Jul-12	9,439	9,430	0.0010
Aug-12	9,581	9,439	0.0150
Sep-12	9,589	9,581	0.0008
Oct-12	9,608	9,589	0.0020
Nov-12	9,594	9,608	-0.0015
Dec-12	9,638	9,594	0.0046
Jan-13	9,740	9,638	0.0106
Feb-13	9,664	9,740	-0.0078
Mar-13	9,715	9,664	0.0053
Apr-13	9,723	9,715	0.0008
May-13	9,795	9,723	0.0074
Jun-13	9,925	9,795	0.0133
Jul-13	10,278	9,925	0.0356
Aug-13	10,920	10,278	0.0625
Sep-13	11,580	10,920	0.0604
Oct-13	11,273	11,580	-0.0265
Nov-13	11,963	11,273	0.0612
Dec-13	12,170	11,963	0.0173
Jan-14	12,210	12,170	0.0033
Feb-14	11,609	12,210	-0.0492
Mar-14	11,360	11,609	-0.0214
Apr-14	11,562	11,360	0.0178
May-14	11,675	11,562	0.0098
Jun-14	11,855	11,675	0.0154

Jul-14	11,580	11,855	-0.0232
Aug-14	11,694	11,580	0.0098
Sep-14	12,183	11,694	0.0418
Oct-14	12,085	12,183	-0.0080
Nov-14	12,203	12,085	0.0098
Dec-14	12,385	12,203	0.0149
Jan-15	12,670	12,385	0.0230
Feb-15	12,928	12,670	0.0204
Mar-15	13,075	12,928	0.0114
Apr-15	12,964	13,075	-0.0085
May-15	13,225	12,964	0.0201
Jun-15	13,333	13,225	0.0082
Jul-15	13,531	13,333	0.0149
Aug-15	14,053	13,531	0.0386
Sep-15	14,651	14,053	0.0426
Oct-15	13,695	14,651	-0.0653
Nov-15	13,841	13,695	0.0107
Dec-15	13,788	13,841	-0.0038
Jan-16	13,776	13,788	-0.0009
Feb-16	13,376	13,776	-0.0290
Mar-16	13,260	13,376	-0.0087
Apr-16	13,197	13,260	-0.0048
May-16	13,658	13,197	0.0349
Jun-16	13,220	13,658	-0.0321
Jul-16	13,099	13,220	-0.0092
Aug-16	13,265	13,099	0.0127
Sep-16	13,051	13,265	-0.0161
Oct-16	13,048	13,051	-0.0002
Nov-16	13,553	13,048	0.0387
Dec-16	13,473	13,553	-0.0059
Jan-17	13,352	13,473	-0.0090
Feb-17	13,336	13,352	-0.0012
Mar-17	13,326	13,336	-0.0007
Apr-17	13,329	13,326	0.0002
May-17	13,323	13,329	-0.0005
Jun-17	13,328	13,323	0.0004

Jul-17	13,325	13,328	-0.0002
Aug-17	13,342	13,325	0.0013
Sep-17	13,472	13,342	0.0097
Oct-17	13,563	13,472	0.0068
Nov-17	13,526	13,563	-0.0027
Dec-17	13,568	13,526	0.0031
Jan-18	13,389	13,568	-0.0132
Feb-18	13,745	13,389	0.0266
Mar-18	13,768	13,745	0.0017
Apr-18	13,913	13,768	0.0105
May-18	13,894	13,913	-0.0014
Jun-18	14,330	13,894	0.0314
Jul-18	14,420	14,330	0.0063
Aug-18	14,730	14,420	0.0215
Sep-18	14,903	14,730	0.0117
Oct-18	15,203	14,903	0.0201
Nov-18	14,302	15,203	-0.0593
Dec-18	14,390	14,302	0.0062
Jan-19	13,973	14,390	-0.0290
Feb-19	14,069	13,973	0.0069
Mar-19	14,241	14,069	0.0122
Apr-19	14,259	14,241	0.0013
May-19	14,273	14,259	0.0010
Jun-19	14,128	14,273	-0.0102
Jul-19	14,022	14,128	-0.0075
Aug-19	14,191	14,022	0.0121
Sep-19	14,195	14,191	0.0003
Oct-19	14,041	14,195	-0.0108
Nov-19	14,108	14,041	0.0048
Dec-19	13,866	14,108	-0.0172
Jan-20	13,655	13,866	-0.0152
Feb-20	14,318	13,655	0.0486
Mar-20	16,310	14,318	0.1391
Apr-20	14,882	16,310	-0.0876
May-20	14,610	14,882	-0.0183
Jun-20	14,265	14,610	-0.0236

Jul-20	14,600	14,265	0.0235
Aug-20	14,563	14,600	-0.0025
Sep-20	14,880	14,563	0.0218
Oct-20	14,625	14,880	-0.0171
Nov-20	14,120	14,625	-0.0345
Dec-20	14,050	14,120	-0.0050
Jan-21	14,030	14,050	-0.0014
Feb-21	14,235	14,030	0.0146
Mar-21	14,525	14,235	0.0204
Apr-21	14,445	14,525	-0.0055
May-21	14,280	14,445	-0.0114
Jun-21	14,500	14,280	0.0154
Jul-21	14,463	14,500	-0.0026
Aug-21	14,268	14,463	-0.0135
Sep-21	14,313	14,268	0.0032
Oct-21	14,168	14,313	-0.0101
Nov-21	14,323	14,168	0.0109
Dec-21	14,253	14,323	-0.0049
Jan-22	14,383	14,253	0.0091
Feb-22	14,367	14,383	-0.0011
Mar-22	14,369	14,367	0.0001
Apr-22	14,497	14,369	0.0089
May-22	14,583	14,497	0.0059
Jun-22	14,898	14,583	0.0216
Jul-22	14,833	14,898	-0.0044
Aug-22	14,843	14,833	0.0007
Sep-22	15,228	14,843	0.0259
Oct-22	15,598	15,228	0.0243
Nov-22	15,732	15,598	0.0086
Dec-22	15,568	15,732	-0.0104
Jan-23	14,990	15,568	-0.0371
Feb-23	15,250	14,990	0.0173
Mar-23	14,995	15,250	-0.0167
Apr-23	14,670	14,995	-0.0217
May-23	14,993	14,670	0.0220
Jun-23	14,993	14,993	0.0000

Jul-23	15,080	14,993	0.0058
Aug-23	15,230	15,080	0.0099
Sep-23	15,455	15,230	0.0148
Oct-23	15,885	15,455	0.0278
Nov-23	15,510	15,885	-0.0236
Dec-23	15,397	15,510	-0.0073
Jan-24	15,780	15,397	0.0249
Feb-24	15,715	15,780	-0.0041
Mar-24	15,855	15,715	0.0089
Apr-24	16,260	15,855	0.0255
May-24	16,250	16,260	-0.0006
Jun-24	16,375	16,250	0.0077
Jul-24	16,260	16,375	-0.0070
Aug-24	15,455	16,260	-0.0495
Sep-24	15,140	15,455	-0.0204
Oct-24	15,697	15,140	0.0368
Nov-24	15,845	15,697	0.0094
Dec-24	16,102	15,845	0.0162
Jan-25	16,300	16,102	0.0123
Feb-25	16,580	16,300	0.0172
Mar-25	16,560	16,580	-0.0012
Apr-25	16,601	16,560	0.0025
May-25	16,290	16,601	-0.0187
Jun-25	16,238	16,290	-0.0032
Jul-25	16,455	16,238	0.0134
Aug-25	16,490	16,455	0.0021
Sep-25	16,665	16,490	0.0106
Oct-25	16,630	16,665	-0.0021
Nov-25	16,660	16,630	0.0018
Dec-25	16,690	16,660	0.0018

Appendix G. R_{XAU} Transformation

Date	XAU_t	XAU_{t-1}	R_{XAU}
Equation	a	b	(a-b) / b
Jan-09	928	882	0.0519
Feb-09	942	928	0.0156
Mar-09	919	942	-0.0244
Apr-09	888	919	-0.0339
May-09	979	888	0.1024
Jun-09	927	979	-0.0538
Jul-09	954	927	0.0297
Aug-09	951	954	-0.0029
Sep-09	1,008	951	0.0594
Oct-09	1,045	1,008	0.0375
Nov-09	1,180	1,045	0.1283
Dec-09	1,097	1,180	-0.0701
Jan-10	1,081	1,097	-0.0144
Feb-10	1,118	1,081	0.0337
Mar-10	1,113	1,118	-0.0039
Apr-10	1,179	1,113	0.0591
May-10	1,216	1,179	0.0316
Jun-10	1,242	1,216	0.0214
Jul-10	1,181	1,242	-0.0494
Aug-10	1,247	1,181	0.0562
Sep-10	1,309	1,247	0.0490
Oct-10	1,359	1,309	0.0389
Nov-10	1,386	1,359	0.0197
Dec-10	1,421	1,386	0.0254
Jan-11	1,333	1,421	-0.0624
Feb-11	1,411	1,333	0.0590
Mar-11	1,432	1,411	0.0148
Apr-11	1,564	1,432	0.0918
May-11	1,536	1,564	-0.0179
Jun-11	1,500	1,536	-0.0231

Jul-11	1,627	1,500	0.0846
Aug-11	1,826	1,627	0.1220
Sep-11	1,624	1,826	-0.1105
Oct-11	1,715	1,624	0.0560
Nov-11	1,746	1,715	0.0185
Dec-11	1,565	1,746	-0.1039
Jan-12	1,738	1,565	0.1105
Feb-12	1,697	1,738	-0.0236
Mar-12	1,668	1,697	-0.0169
Apr-12	1,665	1,668	-0.0020
May-12	1,561	1,665	-0.0626
Jun-12	1,597	1,561	0.0237
Jul-12	1,615	1,597	0.0107
Aug-12	1,692	1,615	0.0479
Sep-12	1,772	1,692	0.0475
Oct-12	1,721	1,772	-0.0291
Nov-12	1,715	1,721	-0.0033
Dec-12	1,675	1,715	-0.0231
Jan-13	1,664	1,675	-0.0070
Feb-13	1,580	1,664	-0.0505
Mar-13	1,598	1,580	0.0113
Apr-13	1,477	1,598	-0.0756
May-13	1,388	1,477	-0.0602
Jun-13	1,235	1,388	-0.1104
Jul-13	1,325	1,235	0.0733
Aug-13	1,395	1,325	0.0530
Sep-13	1,329	1,395	-0.0475
Oct-13	1,323	1,329	-0.0045
Nov-13	1,253	1,323	-0.0527
Dec-13	1,202	1,253	-0.0413
Jan-14	1,245	1,202	0.0357
Feb-14	1,326	1,245	0.0658
Mar-14	1,284	1,326	-0.0320
Apr-14	1,292	1,284	0.0059
May-14	1,250	1,292	-0.0325
Jun-14	1,327	1,250	0.0621

Jul-14	1,283	1,327	-0.0337
Aug-14	1,287	1,283	0.0037
Sep-14	1,208	1,287	-0.0615
Oct-14	1,173	1,208	-0.0291
Nov-14	1,167	1,173	-0.0047
Dec-14	1,184	1,167	0.0146
Jan-15	1,284	1,184	0.0839
Feb-15	1,213	1,284	-0.0550
Mar-15	1,184	1,213	-0.0244
Apr-15	1,184	1,184	0.0007
May-15	1,191	1,184	0.0052
Jun-15	1,172	1,191	-0.0153
Jul-15	1,096	1,172	-0.0653
Aug-15	1,135	1,096	0.0357
Sep-15	1,115	1,135	-0.0175
Oct-15	1,142	1,115	0.0242
Nov-15	1,065	1,142	-0.0677
Dec-15	1,061	1,065	-0.0034
Jan-16	1,118	1,061	0.0538
Feb-16	1,239	1,118	0.1077
Mar-16	1,233	1,239	-0.0048
Apr-16	1,294	1,233	0.0493
May-16	1,215	1,294	-0.0605
Jun-16	1,322	1,215	0.0877
Jul-16	1,351	1,322	0.0222
Aug-16	1,309	1,351	-0.0313
Sep-16	1,316	1,309	0.0053
Oct-16	1,277	1,316	-0.0294
Nov-16	1,173	1,277	-0.0814
Dec-16	1,148	1,173	-0.0219
Jan-17	1,211	1,148	0.0551
Feb-17	1,248	1,211	0.0312
Mar-17	1,249	1,248	0.0006
Apr-17	1,268	1,249	0.0153
May-17	1,269	1,268	0.0005
Jun-17	1,242	1,269	-0.0215

Jul-17	1,269	1,242	0.0224
Aug-17	1,321	1,269	0.0410
Sep-17	1,280	1,321	-0.0315
Oct-17	1,271	1,280	-0.0065
Nov-17	1,275	1,271	0.0028
Dec-17	1,303	1,275	0.0218
Jan-18	1,345	1,303	0.0325
Feb-18	1,318	1,345	-0.0199
Mar-18	1,325	1,318	0.0054
Apr-18	1,315	1,325	-0.0076
May-18	1,299	1,315	-0.0128
Jun-18	1,253	1,299	-0.0354
Jul-18	1,224	1,253	-0.0227
Aug-18	1,201	1,224	-0.0188
Sep-18	1,191	1,201	-0.0086
Oct-18	1,215	1,191	0.0201
Nov-18	1,221	1,215	0.0047
Dec-18	1,282	1,221	0.0508
Jan-19	1,321	1,282	0.0302
Feb-19	1,313	1,321	-0.0060
Mar-19	1,292	1,313	-0.0159
Apr-19	1,284	1,292	-0.0068
May-19	1,306	1,284	0.0172
Jun-19	1,410	1,306	0.0796
Jul-19	1,414	1,410	0.0030
Aug-19	1,520	1,414	0.0754
Sep-19	1,472	1,520	-0.0315
Oct-19	1,513	1,472	0.0275
Nov-19	1,464	1,513	-0.0324
Dec-19	1,517	1,464	0.0364
Jan-20	1,589	1,517	0.0474
Feb-20	1,586	1,589	-0.0022
Mar-20	1,577	1,586	-0.0054
Apr-20	1,687	1,577	0.0693
May-20	1,730	1,687	0.0260
Jun-20	1,781	1,730	0.0293

Jul-20	1,976	1,781	0.1094
Aug-20	1,968	1,976	-0.0041
Sep-20	1,886	1,968	-0.0417
Oct-20	1,879	1,886	-0.0037
Nov-20	1,777	1,879	-0.0542
Dec-20	1,898	1,777	0.0683
Jan-21	1,848	1,898	-0.0267
Feb-21	1,734	1,848	-0.0615
Mar-21	1,708	1,734	-0.0152
Apr-21	1,769	1,708	0.0360
May-21	1,907	1,769	0.0779
Jun-21	1,770	1,907	-0.0717
Jul-21	1,814	1,770	0.0249
Aug-21	1,814	1,814	-0.0003
Sep-21	1,757	1,814	-0.0312
Oct-21	1,783	1,757	0.0150
Nov-21	1,775	1,783	-0.0050
Dec-21	1,829	1,775	0.0308
Jan-22	1,797	1,829	-0.0175
Feb-22	1,909	1,797	0.0622
Mar-22	1,937	1,909	0.0149
Apr-22	1,897	1,937	-0.0209
May-22	1,837	1,897	-0.0314
Jun-22	1,807	1,837	-0.0164
Jul-22	1,766	1,807	-0.0229
Aug-22	1,711	1,766	-0.0311
Sep-22	1,661	1,711	-0.0295
Oct-22	1,634	1,661	-0.0163
Nov-22	1,769	1,634	0.0826
Dec-22	1,824	1,769	0.0314
Jan-23	1,928	1,824	0.0572
Feb-23	1,827	1,928	-0.0526
Mar-23	1,969	1,827	0.0779
Apr-23	1,990	1,969	0.0105
May-23	1,963	1,990	-0.0137
Jun-23	1,919	1,963	-0.0221

Jul-23	1,965	1,919	0.0238
Aug-23	1,940	1,965	-0.0127
Sep-23	1,849	1,940	-0.0472
Oct-23	1,984	1,849	0.0732
Nov-23	2,036	1,984	0.0265
Dec-23	2,063	2,036	0.0130
Jan-24	2,040	2,063	-0.0114
Feb-24	2,044	2,040	0.0023
Mar-24	2,230	2,044	0.0908
Apr-24	2,286	2,230	0.0253
May-24	2,327	2,286	0.0180
Jun-24	2,327	2,327	-0.0002
Jul-24	2,448	2,327	0.0519
Aug-24	2,503	2,448	0.0228
Sep-24	2,635	2,503	0.0524
Oct-24	2,744	2,635	0.0415
Nov-24	2,643	2,744	-0.0367
Dec-24	2,625	2,643	-0.0071
Jan-25	2,798	2,625	0.0663
Feb-25	2,858	2,798	0.0212
Mar-25	3,124	2,858	0.0930
Apr-25	3,289	3,124	0.0529
May-25	3,289	3,289	0.0002
Jun-25	3,303	3,289	0.0042
Jul-25	3,290	3,303	-0.0040
Aug-25	3,448	3,290	0.0480
Sep-25	3,859	3,448	0.1192
Oct-25	4,003	3,859	0.0373
Nov-25	4,239	4,003	0.0591
Dec-25	4,319	4,239	0.0189

Appendix H. R_{IHSG} Transformation

Date	$IHSG_t$	$IHSG_{t-1}$	R_{IHSG}
Equation	a	b	(a-b) / b
Jan-09	1,333	1,355	-0.0168
Feb-09	1,285	1,333	-0.0354
Mar-09	1,434	1,285	0.1156
Apr-09	1,723	1,434	0.2013
May-09	1,917	1,723	0.1126
Jun-09	2,027	1,917	0.0574
Jul-09	2,323	2,027	0.1463
Aug-09	2,342	2,323	0.0079
Sep-09	2,468	2,342	0.0538
Oct-09	2,368	2,468	-0.0405
Nov-09	2,416	2,368	0.0203
Dec-09	2,534	2,416	0.0491
Jan-10	2,611	2,534	0.0302
Feb-10	2,549	2,611	-0.0237
Mar-10	2,777	2,549	0.0896
Apr-10	2,971	2,777	0.0698
May-10	2,797	2,971	-0.0587
Jun-10	2,914	2,797	0.0417
Jul-10	3,069	2,914	0.0534
Aug-10	3,082	3,069	0.0041
Sep-10	3,501	3,082	0.1361
Oct-10	3,635	3,501	0.0383
Nov-10	3,531	3,635	-0.0286
Dec-10	3,704	3,531	0.0488
Jan-11	3,409	3,704	-0.0795
Feb-11	3,470	3,409	0.0179
Mar-11	3,679	3,470	0.0600
Apr-11	3,820	3,679	0.0383
May-11	3,837	3,820	0.0045
Jun-11	3,889	3,837	0.0134

Jul-11	4,131	3,889	0.0623
Aug-11	3,842	4,131	-0.0700
Sep-11	3,549	3,842	-0.0762
Oct-11	3,791	3,549	0.0681
Nov-11	3,715	3,791	-0.0200
Dec-11	3,822	3,715	0.0288
Jan-12	3,942	3,822	0.0313
Feb-12	3,985	3,942	0.0110
Mar-12	4,122	3,985	0.0342
Apr-12	4,181	4,122	0.0144
May-12	3,833	4,181	-0.0832
Jun-12	3,956	3,833	0.0320
Jul-12	4,142	3,956	0.0472
Aug-12	4,060	4,142	-0.0198
Sep-12	4,263	4,060	0.0498
Oct-12	4,350	4,263	0.0206
Nov-12	4,276	4,350	-0.0170
Dec-12	4,317	4,276	0.0095
Jan-13	4,454	4,317	0.0317
Feb-13	4,796	4,454	0.0768
Mar-13	4,941	4,796	0.0303
Apr-13	5,034	4,941	0.0188
May-13	5,069	5,034	0.0069
Jun-13	4,819	5,069	-0.0493
Jul-13	4,610	4,819	-0.0433
Aug-13	4,195	4,610	-0.0901
Sep-13	4,316	4,195	0.0289
Oct-13	4,511	4,316	0.0451
Nov-13	4,256	4,511	-0.0564
Dec-13	4,274	4,256	0.0042
Jan-14	4,419	4,274	0.0338
Feb-14	4,620	4,419	0.0456
Mar-14	4,768	4,620	0.0320
Apr-14	4,840	4,768	0.0151
May-14	4,894	4,840	0.0111
Jun-14	4,879	4,894	-0.0031

Jul-14	5,089	4,879	0.0431
Aug-14	5,137	5,089	0.0094
Sep-14	5,138	5,137	0.0001
Oct-14	5,090	5,138	-0.0093
Nov-14	5,150	5,090	0.0119
Dec-14	5,227	5,150	0.0150
Jan-15	5,289	5,227	0.0119
Feb-15	5,450	5,289	0.0304
Mar-15	5,519	5,450	0.0125
Apr-15	5,086	5,519	-0.0783
May-15	5,216	5,086	0.0255
Jun-15	4,911	5,216	-0.0586
Jul-15	4,803	4,911	-0.0220
Aug-15	4,510	4,803	-0.0610
Sep-15	4,224	4,510	-0.0634
Oct-15	4,455	4,224	0.0548
Nov-15	4,446	4,455	-0.0020
Dec-15	4,593	4,446	0.0330
Jan-16	4,615	4,593	0.0048
Feb-16	4,771	4,615	0.0338
Mar-16	4,845	4,771	0.0156
Apr-16	4,839	4,845	-0.0014
May-16	4,797	4,839	-0.0086
Jun-16	5,017	4,797	0.0458
Jul-16	5,216	5,017	0.0397
Aug-16	5,386	5,216	0.0326
Sep-16	5,365	5,386	-0.0040
Oct-16	5,423	5,365	0.0108
Nov-16	5,149	5,423	-0.0505
Dec-16	5,297	5,149	0.0287
Jan-17	5,294	5,297	-0.0005
Feb-17	5,387	5,294	0.0175
Mar-17	5,568	5,387	0.0337
Apr-17	5,685	5,568	0.0210
May-17	5,738	5,685	0.0093
Jun-17	5,830	5,738	0.0160

Jul-17	5,841	5,830	0.0019
Aug-17	5,864	5,841	0.0040
Sep-17	5,901	5,864	0.0063
Oct-17	6,006	5,901	0.0178
Nov-17	5,952	6,006	-0.0089
Dec-17	6,356	5,952	0.0678
Jan-18	6,606	6,356	0.0393
Feb-18	6,597	6,606	-0.0013
Mar-18	6,189	6,597	-0.0619
Apr-18	5,995	6,189	-0.0314
May-18	5,984	5,995	-0.0018
Jun-18	5,799	5,984	-0.0308
Jul-18	5,936	5,799	0.0237
Aug-18	6,018	5,936	0.0138
Sep-18	5,977	6,018	-0.0070
Oct-18	5,832	5,977	-0.0242
Nov-18	6,056	5,832	0.0385
Dec-18	6,194	6,056	0.0228
Jan-19	6,533	6,194	0.0546
Feb-19	6,443	6,533	-0.0137
Mar-19	6,469	6,443	0.0039
Apr-19	6,455	6,469	-0.0021
May-19	6,209	6,455	-0.0381
Jun-19	6,359	6,209	0.0241
Jul-19	6,391	6,359	0.0050
Aug-19	6,328	6,391	-0.0097
Sep-19	6,169	6,328	-0.0252
Oct-19	6,228	6,169	0.0096
Nov-19	6,012	6,228	-0.0348
Dec-19	6,300	6,012	0.0479
Jan-20	5,940	6,300	-0.0571
Feb-20	5,453	5,940	-0.0820
Mar-20	4,539	5,453	-0.1676
Apr-20	4,716	4,539	0.0391
May-20	4,754	4,716	0.0079
Jun-20	4,905	4,754	0.0319

Jul-20	5,150	4,905	0.0498
Aug-20	5,238	5,150	0.0173
Sep-20	4,870	5,238	-0.0703
Oct-20	5,128	4,870	0.0530
Nov-20	5,612	5,128	0.0944
Dec-20	5,979	5,612	0.0653
Jan-21	5,862	5,979	-0.0195
Feb-21	6,242	5,862	0.0647
Mar-21	5,986	6,242	-0.0411
Apr-21	5,996	5,986	0.0017
May-21	5,947	5,996	-0.0080
Jun-21	5,985	5,947	0.0064
Jul-21	6,070	5,985	0.0141
Aug-21	6,150	6,070	0.0132
Sep-21	6,287	6,150	0.0222
Oct-21	6,591	6,287	0.0484
Nov-21	6,534	6,591	-0.0087
Dec-21	6,581	6,534	0.0073
Jan-22	6,631	6,581	0.0075
Feb-22	6,888	6,631	0.0388
Mar-22	7,071	6,888	0.0266
Apr-22	7,229	7,071	0.0223
May-22	7,149	7,229	-0.0111
Jun-22	6,912	7,149	-0.0332
Jul-22	6,951	6,912	0.0057
Aug-22	7,179	6,951	0.0327
Sep-22	7,041	7,179	-0.0192
Oct-22	7,099	7,041	0.0083
Nov-22	7,081	7,099	-0.0025
Dec-22	6,851	7,081	-0.0326
Jan-23	6,839	6,851	-0.0016
Feb-23	6,843	6,839	0.0006
Mar-23	6,805	6,843	-0.0055
Apr-23	6,916	6,805	0.0162
May-23	6,633	6,916	-0.0408
Jun-23	6,662	6,633	0.0043

Jul-23	6,931	6,662	0.0405
Aug-23	6,953	6,931	0.0032
Sep-23	6,940	6,953	-0.0019
Oct-23	6,752	6,940	-0.0270
Nov-23	7,081	6,752	0.0487
Dec-23	7,273	7,081	0.0271
Jan-24	7,208	7,273	-0.0089
Feb-24	7,316	7,208	0.0150
Mar-24	7,289	7,316	-0.0037
Apr-24	7,234	7,289	-0.0075
May-24	6,971	7,234	-0.0364
Jun-24	7,064	6,971	0.0133
Jul-24	7,256	7,064	0.0272
Aug-24	7,671	7,256	0.0572
Sep-24	7,528	7,671	-0.0186
Oct-24	7,574	7,528	0.0061
Nov-24	7,114	7,574	-0.0607
Dec-24	7,080	7,114	-0.0048
Jan-25	7,109	7,080	0.0041
Feb-25	6,271	7,109	-0.1180
Mar-25	6,511	6,271	0.0383
Apr-25	6,767	6,511	0.0393
May-25	7,176	6,767	0.0604
Jun-25	6,928	7,176	-0.0346
Jul-25	7,484	6,928	0.0804
Aug-25	7,830	7,484	0.0463
Sep-25	8,061	7,830	0.0294
Oct-25	8,164	8,061	0.0128
Nov-25	8,509	8,164	0.0422
Dec-25	8,647	8,509	0.0162

Appendix I. Transformed Variables for Empirical Analysis

Date	FlowRatioK	FlowRatioNK	Δ ID10Y	RUSDIDR	R _{XAU}	R _{IHSG}
Jan-09	0.0694	-0.0325	-0.0590	0.0229	0.0519	-0.0168
Feb-09	0.0094	0.0156	2.3130	0.0549	0.0156	-0.0354
Mar-09	-0.0378	-0.0117	-1.4800	-0.0250	-0.0244	0.1156
Apr-09	-0.0026	-0.0302	-0.6560	-0.0919	-0.0339	0.2013
May-09	-0.0026	-0.0120	-1.5240	-0.0311	0.1024	0.1126
Jun-09	0.0020	-0.0078	0.5120	-0.0085	-0.0538	0.0574
Jul-09	-0.0204	-0.0087	-0.9270	-0.0274	0.0297	0.1463
Aug-09	-0.0009	-0.0059	0.4450	0.0178	-0.0029	0.0079
Sep-09	0.0029	-0.0168	-0.5690	-0.0435	0.0594	0.0538
Oct-09	0.0125	0.0047	0.2580	-0.0083	0.0375	-0.0405
Nov-09	-0.0011	-0.0293	-0.0220	-0.0129	0.1283	0.0203
Dec-09	-0.0232	-0.0466	-0.1080	-0.0060	-0.0701	0.0491
Jan-10	-0.0127	0.0072	-0.2850	-0.0054	-0.0144	0.0302
Feb-10	0.0083	0.0261	0.0320	-0.0011	0.0337	-0.0237
Mar-10	-0.0136	-0.0332	-0.6450	-0.0260	-0.0039	0.0896
Apr-10	-0.0039	-0.0099	-0.6340	-0.0099	0.0591	0.0698
May-10	0.0032	0.0138	0.2970	0.0183	0.0316	-0.0587
Jun-10	-0.0345	-0.0262	-0.6790	-0.0110	0.0214	0.0417
Jul-10	-0.0079	-0.0547	-0.1810	-0.0138	-0.0494	0.0534
Aug-10	0.0144	-0.0382	0.3370	0.0107	0.0562	0.0041
Sep-10	-0.0234	-0.0353	-0.6870	-0.0129	0.0490	0.1361
Oct-10	-0.0011	-0.0022	-0.1080	0.0013	0.0389	0.0383
Nov-10	0.0095	0.0088	-0.1410	0.0086	0.0197	-0.0286
Dec-10	0.0014	-0.0184	0.1980	-0.0004	0.0254	0.0488
Jan-11	0.0073	0.0263	1.2780	0.0041	-0.0624	-0.0795
Feb-11	-0.0067	-0.0191	-0.0360	-0.0251	0.0590	0.0179
Mar-11	0.0435	-0.0247	-0.6710	-0.0128	0.0148	0.0600
Apr-11	-0.0115	-0.0209	-0.4010	-0.0155	0.0918	0.0383
May-11	-0.0005	-0.0045	-0.3780	-0.0044	-0.0179	0.0045
Jun-11	-0.0096	-0.0179	0.1770	0.0047	-0.0231	0.0134
Jul-11	-0.0290	-0.0184	-0.4580	-0.0092	0.0846	0.0623

Aug-11	0.0357	0.0269	-0.3100	0.0042	0.1220	-0.0700
Sep-11	-0.0539	0.0376	-0.1070	0.0300	-0.1105	-0.0762
Oct-11	-0.0078	-0.0237	-0.4000	0.0072	0.0560	0.0681
Nov-11	-0.0435	0.0030	0.5850	0.0322	0.0185	-0.0200
Dec-11	-0.0117	-0.0301	-0.8630	-0.0078	-0.1039	0.0288
Jan-12	-0.0160	-0.0112	-0.7120	-0.0079	0.1105	0.0313
Feb-12	0.0151	-0.0006	0.3090	0.0088	-0.0236	0.0110
Mar-12	-0.0252	-0.0797	0.3010	0.0100	-0.0169	0.0342
Apr-12	0.0170	-0.0307	0.0450	0.0026	-0.0020	0.0144
May-12	0.0431	0.0298	0.5540	0.0230	-0.0626	-0.0832
Jun-12	0.0325	-0.0080	-0.4040	0.0032	0.0237	0.0320
Jul-12	0.0028	-0.0496	-0.4260	0.0010	0.0107	0.0472
Aug-12	-0.0025	-0.0030	0.5610	0.0150	0.0479	-0.0198
Sep-12	-0.0120	-0.0886	-0.2740	0.0008	0.0475	0.0498
Oct-12	-0.0132	-0.0126	-0.2680	0.0020	-0.0291	0.0206
Nov-12	0.0232	0.0093	-0.2760	-0.0015	-0.0033	-0.0170
Dec-12	-0.0087	0.0085	-0.2620	0.0046	-0.0231	0.0095
Jan-13	-0.0162	-0.0376	0.1760	0.0106	-0.0070	0.0317
Feb-13	-0.0229	-0.0697	0.0730	-0.0078	-0.0505	0.0768
Mar-13	0.0064	-0.0162	0.1060	0.0053	0.0113	0.0303
Apr-13	0.0016	-0.0048	-0.0280	0.0008	-0.0756	0.0188
May-13	-0.0424	0.0441	0.6050	0.0074	-0.0602	0.0069
Jun-13	0.0351	0.0893	1.0170	0.0133	-0.1104	-0.0493
Jul-13	0.0061	0.0148	0.7550	0.0356	0.0733	-0.0433
Aug-13	-0.0099	0.0637	0.7400	0.0625	0.0530	-0.0901
Sep-13	-0.0024	0.0052	-0.1210	0.0604	-0.0475	0.0289
Oct-13	0.0143	0.0041	-1.0740	-0.0265	-0.0045	0.0451
Nov-13	-0.0040	0.0438	1.2750	0.0612	-0.0527	-0.0564
Dec-13	0.0008	0.0570	-0.2510	0.0173	-0.0413	0.0042
Jan-14	0.0103	-0.0340	0.4470	0.0033	0.0357	0.0338
Feb-14	-0.0091	-0.0496	-0.4980	-0.0492	0.0658	0.0456
Mar-14	-0.0309	-0.0620	-0.4200	-0.0214	-0.0320	0.0320
Apr-14	-0.0155	-0.0448	-0.0350	0.0178	0.0059	0.0151
May-14	-0.0138	-0.0587	0.1270	0.0098	-0.0325	0.0111
Jun-14	-0.0368	0.0136	0.1800	0.0154	0.0621	-0.0031
Jul-14	-0.0315	-0.0657	-0.2160	-0.0232	-0.0337	0.0431

Aug-14	-0.0060	0.0085	0.1950	0.0098	0.0037	0.0094
Sep-14	0.0208	0.0346	0.1770	0.0418	-0.0615	0.0001
Oct-14	0.0003	0.0232	-0.3480	-0.0080	-0.0291	-0.0093
Nov-14	-0.0248	-0.0206	-0.3530	0.0098	-0.0047	0.0119
Dec-14	0.0156	0.0452	0.0970	0.0149	0.0146	0.0150
Jan-15	-0.0034	-0.0034	-0.7520	0.0230	0.0839	0.0119
Feb-15	-0.0337	-0.0459	-0.1390	0.0204	-0.0550	0.0304
Mar-15	-0.0014	0.0401	0.5090	0.0114	-0.0244	0.0125
Apr-15	-0.0781	0.0359	0.2810	-0.0085	0.0007	-0.0783
May-15	0.0143	0.0171	0.4740	0.0201	0.0052	0.0255
Jun-15	0.0173	0.0137	0.2140	0.0082	-0.0153	-0.0586
Jul-15	0.0154	-0.0179	0.2230	0.0149	-0.0653	-0.0220
Aug-15	0.0638	0.0272	0.1830	0.0386	0.0357	-0.0610
Sep-15	0.0211	0.0577	0.8380	0.0426	-0.0175	-0.0634
Oct-15	-0.0047	0.0352	-0.8210	-0.0653	0.0242	0.0548
Nov-15	0.0188	0.0127	-0.1980	0.0107	-0.0677	-0.0020
Dec-15	-0.0007	0.0142	0.2670	-0.0038	-0.0034	0.0330
Jan-16	0.0078	0.0151	-0.5950	-0.0009	0.0538	0.0048
Feb-16	-0.0165	-0.0176	-0.0330	-0.0290	0.1077	0.0338
Mar-16	-0.0038	-0.0137	-0.5310	-0.0087	-0.0048	0.0156
Apr-16	-0.0044	0.0032	0.0020	-0.0048	0.0493	-0.0014
May-16	0.0139	-0.0116	0.1500	0.0349	-0.0605	-0.0086
Jun-16	-0.0077	-0.0574	-0.4030	-0.0321	0.0877	0.0458
Jul-16	-0.0276	-0.0648	-0.5180	-0.0092	0.0222	0.0397
Aug-16	-0.0179	-0.0530	0.1940	0.0127	-0.0313	0.0326
Sep-16	0.0010	0.0191	-0.0690	-0.0161	0.0053	-0.0040
Oct-16	0.0287	-0.0136	0.1900	-0.0002	-0.0294	0.0108
Nov-16	0.0122	0.0225	0.9250	0.0387	-0.0814	-0.0505
Dec-16	-0.0108	0.0339	-0.2430	-0.0059	-0.0219	0.0287
Jan-17	0.0026	0.0054	-0.3030	-0.0090	0.0551	-0.0005
Feb-17	0.0197	-0.0140	-0.0960	-0.0012	0.0312	0.0175
Mar-17	-0.0191	-0.0403	-0.5130	-0.0007	0.0006	0.0337
Apr-17	-0.0408	-0.0399	0.0020	0.0002	0.0153	0.0210
May-17	0.0439	-0.0404	-0.0800	-0.0005	0.0005	0.0093
Jun-17	0.0207	0.0177	-0.1400	0.0004	-0.0215	0.0160
Jul-17	0.0592	0.0214	0.1370	-0.0002	0.0224	0.0019

Aug-17	0.0480	-0.0030	-0.2650	0.0013	0.0410	0.0040
Sep-17	0.0455	0.0435	-0.1870	0.0097	-0.0315	0.0063
Oct-17	0.0072	0.0294	0.3090	0.0068	-0.0065	0.0178
Nov-17	0.0746	0.0268	-0.2940	-0.0027	0.0028	-0.0089
Dec-17	0.0055	0.0181	-0.2130	0.0031	0.0218	0.0678
Jan-18	-0.0212	0.0124	0.0200	-0.0132	0.0325	0.0393
Feb-18	0.0240	0.0355	0.2770	0.0266	-0.0199	-0.0013
Mar-18	0.0236	0.0441	0.0740	0.0017	0.0054	-0.0619
Apr-18	0.0224	0.0484	0.2370	0.0105	-0.0076	-0.0314
May-18	0.0081	0.0272	0.1540	-0.0014	-0.0128	-0.0018
Jun-18	0.0198	0.0550	0.7430	0.0314	-0.0354	-0.0308
Jul-18	-0.0013	0.0002	-0.0480	0.0063	-0.0227	0.0237
Aug-18	-0.0060	0.0141	0.3720	0.0215	-0.0188	0.0138
Sep-18	0.0002	0.0071	0.0810	0.0117	-0.0086	-0.0070
Oct-18	0.0158	0.0061	0.3930	0.0201	0.0201	-0.0242
Nov-18	-0.0230	-0.0254	-0.7350	-0.0593	0.0047	0.0385
Dec-18	0.0017	0.0268	0.1310	0.0062	0.0508	0.0228
Jan-19	-0.0194	-0.0375	0.0540	-0.0290	0.0302	0.0546
Feb-19	0.0187	-0.0003	-0.2500	0.0069	-0.0060	-0.0137
Mar-19	0.0199	-0.0290	-0.1360	0.0122	-0.0159	0.0039
Apr-19	-0.0048	-0.2129	0.1360	0.0013	-0.0068	-0.0021
May-19	-0.0005	0.0402	0.2220	0.0010	0.0172	-0.0381
Jun-19	-0.0079	-0.0617	-0.6540	-0.0102	0.0796	0.0241
Jul-19	-0.0120	0.0123	0.0090	-0.0075	0.0030	0.0050
Aug-19	0.0179	0.0328	-0.0240	0.0121	0.0754	-0.0097
Sep-19	0.0092	0.0334	-0.0580	0.0003	-0.0315	-0.0252
Oct-19	-0.0009	0.0191	-0.2910	-0.0108	0.0275	0.0096
Nov-19	0.0133	0.0316	0.0690	0.0048	-0.0324	-0.0348
Dec-19	-0.0003	-0.0354	-0.0270	-0.0172	0.0364	0.0479
Jan-20	0.0145	-0.0148	-0.4020	-0.0152	0.0474	-0.0571
Feb-20	0.0114	0.0249	0.2420	0.0486	-0.0022	-0.0820
Mar-20	0.0095	0.0242	1.0200	0.1391	-0.0054	-0.1676
Apr-20	0.0240	0.0375	-0.0150	-0.0876	0.0693	0.0391
May-20	0.0182	0.0353	-0.5520	-0.0183	0.0260	0.0079
Jun-20	-0.0116	0.0356	-0.1250	-0.0236	0.0293	0.0319
Jul-20	-0.0049	0.0275	-0.3900	0.0235	0.1094	0.0498

Aug-20	0.0132	0.0337	0.0390	-0.0025	-0.0041	0.0173
Sep-20	0.0486	0.0426	0.0660	0.0218	-0.0417	-0.0703
Oct-20	0.0007	0.0217	-0.3210	-0.0171	-0.0037	0.0530
Nov-20	-0.0027	-0.0120	-0.4210	-0.0345	-0.0542	0.0944
Dec-20	-0.0161	0.0260	-0.2460	-0.0050	0.0683	0.0653
Jan-21	-0.0055	-0.0211	0.3150	-0.0014	-0.0267	-0.0195
Feb-21	0.0158	-0.0279	0.3410	0.0146	-0.0615	0.0647
Mar-21	0.0118	-0.0013	0.2160	0.0204	-0.0152	-0.0411
Apr-21	0.0026	0.0167	-0.3380	-0.0055	0.0360	0.0017
May-21	-0.0054	-0.0133	-0.0310	-0.0114	0.0779	-0.0080
Jun-21	-0.0112	-0.0079	0.1850	0.0154	-0.0717	0.0064
Jul-21	-0.0015	-0.0033	-0.3230	-0.0026	0.0249	0.0141
Aug-21	-0.0122	-0.0056	-0.2300	-0.0135	-0.0003	0.0132
Sep-21	-0.0209	0.0048	0.2760	0.0032	-0.0312	0.0222
Oct-21	0.0151	-0.0543	-0.1840	-0.0101	0.0150	0.0484
Nov-21	0.0089	0.0015	0.0980	0.0109	-0.0050	-0.0087
Dec-21	-0.0052	0.0099	0.1010	-0.0049	0.0308	0.0073
Jan-22	-0.0102	-0.0134	0.0810	0.0091	-0.0175	0.0075
Feb-22	-0.0145	-0.0559	0.0610	-0.0011	0.0622	0.0388
Mar-22	-0.0098	-0.0124	0.2390	0.0001	0.0149	0.0266
Apr-22	-0.0150	-0.0969	0.2490	0.0089	-0.0209	0.0223
May-22	0.0145	-0.0018	0.0490	0.0059	-0.0314	-0.0111
Jun-22	0.0089	0.0132	0.2020	0.0216	-0.0164	-0.0332
Jul-22	0.0020	0.0132	-0.0520	-0.0044	-0.0229	0.0057
Aug-22	-0.0337	-0.0418	-0.0800	0.0007	-0.0311	0.0327
Sep-22	0.0114	-0.0210	0.2630	0.0259	-0.0295	-0.0192
Oct-22	-0.0156	-0.0258	0.1610	0.0243	-0.0163	0.0083
Nov-22	-0.0040	0.0014	-0.5920	0.0086	0.0826	-0.0025
Dec-22	0.0425	0.0297	-0.0240	-0.0104	0.0314	-0.0326
Jan-23	0.0089	0.0060	-0.2190	-0.0371	0.0572	-0.0016
Feb-23	-0.0087	-0.0203	0.1790	0.0173	-0.0526	0.0006
Mar-23	0.0080	-0.0272	-0.0700	-0.0167	0.0779	-0.0055
Apr-23	-0.0250	-0.0547	-0.2790	-0.0217	0.0105	0.0162
May-23	-0.0067	-0.0003	-0.1440	0.0220	-0.0137	-0.0408
Jun-23	0.0010	0.0257	-0.1350	0.0000	-0.0221	0.0043
Jul-23	-0.0036	-0.0105	0.0110	0.0058	0.0238	0.0405

Aug-23	0.0969	-0.0153	0.1130	0.0099	-0.0127	0.0032
Sep-23	0.0252	-0.0070	0.5290	0.0148	-0.0472	-0.0019
Oct-23	0.0176	0.0179	0.1620	0.0278	0.0732	-0.0270
Nov-23	0.0078	-0.0056	-0.4560	-0.0236	0.0265	0.0487
Dec-23	-0.0165	-0.0158	-0.1340	-0.0073	0.0130	0.0271
Jan-24	-0.0007	-0.0363	0.1030	0.0249	-0.0114	-0.0089
Feb-24	-0.0141	-0.0359	0.0210	-0.0041	0.0023	0.0150
Mar-24	0.0036	-0.0410	0.0860	0.0089	0.0908	-0.0037
Apr-24	0.0044	0.0604	0.5760	0.0255	0.0253	-0.0075
May-24	0.0014	0.0534	-0.3380	-0.0006	0.0180	-0.0364
Jun-24	-0.0239	0.0303	0.1240	0.0077	-0.0002	0.0133
Jul-24	-0.0069	-0.0227	-0.1650	-0.0070	0.0519	0.0272
Aug-24	-0.0147	-0.0595	-0.2640	-0.0495	0.0228	0.0572
Sep-24	-0.0659	-0.0110	-0.1640	-0.0204	0.0524	-0.0186
Oct-24	0.0172	0.0209	0.3160	0.0368	0.0415	0.0061
Nov-24	0.0204	0.0513	0.0950	0.0094	-0.0367	-0.0607
Dec-24	0.0013	0.0180	0.1250	0.0162	-0.0071	-0.0048
Jan-25	0.0191	-0.0009	-0.0270	0.0123	0.0663	0.0041
Feb-25	0.0342	0.0389	-0.0570	0.0172	0.0212	-0.1180
Mar-25	0.0154	0.0151	0.0510	-0.0012	0.0930	0.0383
Apr-25	0.0306	0.0697	-0.1130	0.0025	0.0529	0.0393
May-25	0.0013	-0.0233	-0.0210	-0.0187	0.0002	0.0604
Jun-25	0.0138	0.0167	-0.2000	-0.0032	0.0042	-0.0346
Jul-25	0.0181	0.0078	-0.0840	0.0134	-0.0040	0.0804
Aug-25	-0.0037	-0.0234	-0.2240	0.0021	0.0480	0.0463
Sep-25	0.0137	0.0000	0.0190	0.0106	0.1192	0.0294
Oct-25	-0.0054	-0.0169	-0.2420	-0.0021	0.0373	0.0128
Nov-25	-0.0085	-0.0152	0.2150	0.0018	0.0591	0.0422
Dec-25	-0.0015	-0.0196	-0.1950	0.0018	0.0189	0.0162

The Biography of the Author



Wahyu Madyo Basuki is a Senior Executive Director at PT Mandiri Sekuritas, bringing over two decades of extensive experience in the Indonesian financial services industry. His professional trajectory is deeply rooted in corporate banking, having spent more than 15 years at PT Bank Mandiri (Persero) Tbk, where he developed profound expertise in wholesale banking, structured finance, and risk management. This long-standing foundation in commercial banking now informs his strategic oversight of capital market activities, bridging the gap between corporate financing and investment solutions.

Throughout his career, he has orchestrated numerous high-value syndicated loans and project finance schemes for prominent private corporations and state-owned enterprises. His comprehensive acumen encompasses investment strategy, financial intermediation, and market dynamics, cultivated through senior roles at PT Bank Danamon Indonesia Tbk, PT Bank CIMB Niaga Tbk, Citibank NA Jakarta, and the Coordinating Ministry for Maritime Affairs and Investment of the Republic of Indonesia.

He holds a bachelor's degree in Economics from Universitas Gadjah Mada, Indonesia, earned with Cum Laude predicate. This rigorous academic foundation, combined with his practical experience in navigating complex financial landscapes, equips him with a distinctive strategic perspective on capital markets, corporate finance, and macroeconomic policy.