

ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

The Effect of Dividend Policy on Stock Price Evidence from Selected African Stock Markets

A Thesis Submitted to The Department of Economics in Partial Fulfillment of the Requirements for the Degree of Master of Science in Financial Economics

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June, 2025

Addis Ababa, Ethiopia

DECLARATION

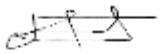
I, Hana Debebe, hereby declare that the thesis work entitled “The Effect of Dividend Policy on Stock Price Evidence from Selected African Stock Markets” is my original work. I have conducted this research independently, with guidance and assistance from my research advisor. This study has not previously been submitted for the award of any other Degree or other similar titles of any other university or institution.

Name: Hana Debebe

Signature: ……

CERTIFICATION

This is to certify that this study entitled: "The Effect of Dividend Policy on Stock Price Evidence from Selected African Stock Markets" was carried out by Hana Debebe under my supervision in partial fulfillment of the requirements for the degree of Masters of Science in Financial Economics at Addis Ababa university. The thesis meets the regulation of the university standard and accepted with respect to originality and quality. Therefore, I recommend that it accepted as fulfilling thesis requirements.

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LIST OF ABBREVIATION AND ACRONYMS

ARDL	Autoregressive Distributed Lag
BOD	Board of Directors
DPS	Dividend Per Share
EPS	Earning Per Share
ESG	Environmental Social and Governance
FE	Fixed Effect
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
GARCH	Generalized Autoregressive Conditional Heteroskedastic
SP	Share Price
OLS	Ordinary Least Square
PAT	Profit After Tax
RE	Random Effect

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ACKNOWLEDGEMENT

First of all, I would like to extend my first and most gratitude to almighty **God** for his love, grace and mercy, and for giving me the intellectual capability to accomplish this work.

Next, I would like to thank **Jemberu Lulie (PhD)** for giving me the magnificent opportunity to effectively complete my master thesis under his supervision, it is truly an honor. Thank you for all the advice, ideas, moral support and patience in guiding me through this research project. I had a great fortune to study under his supervision and I am very grateful for his guidance and encouragement.

Besides, I would like to thank my family particularly my dearest mother, for their limitless support all the way through my life and successful educational triumph. I would like to extend heartfelt gratitude and special thanks to my beloved friends and classmates for their unlimited encouragement and moral support they have render to me.

ABSTRACT

Dividend policy remains a central issue in corporate finance, as it reflects how a firm balance rewarding shareholders with reinvesting for future growth. In the context of emerging markets like those in Africa, understanding how dividend decisions affect share prices is particularly relevant due to evolving market structures and investor behavior. This study aims to investigate the effect of dividend policy on share price using panel data from 52 listed companies across three major African stock exchanges—Johannesburg Stock Exchange (South Africa), Nigerian Exchange Group (Nigeria), and Nairobi Securities Exchange (Kenya)—covering the period from 2013 to 2023. A purposive sampling strategy was employed to select the firms, and the two-step System Generalized Method of Moments (System GMM) estimation technique was applied to address potential endogeneity and unobserved heterogeneity. The findings reveal that dividend policy, measured through dividend yield and payout ratio, has a statistically significant negative effect on share price. These results align with the dividend relevance theory, which maintains that although payout decisions give the market important information, investors might not always view them favorably. Moreover, firm-specific factors such as firm size, along with macroeconomic variables like GDP and inflation, also exert a significant influence on share prices. In light of these results, the study suggests that investor should not rely on dividend payments as an indicator of firm performance. Rather, a comprehensive evaluation that might include firm specific, macroeconomic factors is essential for making informed investment decisions.

***Key words**: Dividend policy, Share price, and System GMM*

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

The dividend policy is a cornerstone of corporate financial management, which plays an important role in shaping the spirit of the investor and affecting the overall value of the business. Dividends represent the returns distributed to equity shareholders as reward for their investment in the company's capital. When a company generates benefits, it faces an important decision whether these earnings have to be maintained for reinvestment or distributing them to stockholder as dividend payment. This allocation of profits between retained earnings and dividend forms a dividend policy of a firm (Gwaska, 2017).

Retained earnings are the part of the profits that are placed in the company and used to finance development opportunities, operational enhancements, or strategic initiatives instead of being distributed to shareholders. Conversely, the company distributes dividends, a portion of its profits, to its shareholders as a substantial yield on their investment. As a result, dividend policy involves finding a careful balance between compensation to shareholders and ensuring that adequate resources are available for future business expansion and stability (Omerhodzic, 2014).

Dividend policy influences both a firm’s capital structure and investor preferences. Companies adopt various dividend policies based on the financial performance, growth objective and industry dynamics. Such a policy includes stable dividend policy, residual dividend policy, irregular dividend policy and the like. These policies can deeply affect investor’s perceptions and as a result market valuation of firm’s shares (Rehman, 2016). Payments of dividends might indicate a company's financial stability and potential. It can attract investors seeking regular income and can enhance a company reputation.

The formulation of an optimal dividend policy depends on many internal and external factors, such as financial health, cash flow stability, growth prospect, regulatory environment, and shareholder expectations Narula et al. (2023). A sound dividend policy promotes shareholder trust, enhances market reputation, and attracts institutional investors. It also helps in managing liquidity, supports future investment plans, and contributes to prudent financial control by preventing over-

distribution of profits. In addition, dividend payments can provide tax benefits to shareholders and serve as the major signal of the company's value and stability in the capital markets (Hunjra, 2018). In corporate finance literature, there are two opposite theoretical approaches regarding dividend policy. The dividend irrelevance argument, first put forth by Miller and Modigliani in 1961, holds that, under certain assumptions, a company's dividend policy has no bearing on its capital structure or share price. According to this perspective, management action regarding dividend payments or decisions has no impact on the underlying risk or value of the firm's shares. Conversely, dividend relevance theory supported by Gordon (1963) and Lintner (1956) contend that a company's dividend policy can significantly affect its value. Supporters of this theory assert that present dividends are preferred by investors above future capital gains and that a high dividend payment ratio may increase stock prices.

While the relationship between dividend policy and share price has been extensively examined in corporate finance literature, the majority of empirical studies have focused on developed markets. In contrast, there is limited understanding of how dividend decisions affect share prices in emerging economies, particularly within African stock markets, where investor behavior, regulatory environments, and macroeconomic conditions often differ significantly from those in more advanced markets. Even in developed economies, existing empirical findings on the relationship between dividend policy and share price are often mixed and inconclusive. These gaps point to the need for further context-specific investigation. Therefore, this study seeks to examine the effect of dividend policy on share prices, using evidence from selected African stock markets. The study aims to contribute to the literature by addressing the current knowledge gap and offering relevant insights for investors, policymakers, and corporate managers operating in emerging market settings.

1.2. Statement of the Problem

One of the most important concerns in corporate finance is whether the profit ought to be paid to shareholders or reinvested. To decide the share of the firm profit that should be distributed and retained for future investment, managements in a company utilize a set of rules known as dividend policy. It is among the top three pillars of corporate decision making, alongside financing and investment. This is mostly due to the anticipated effect on the company’s other two decisions, investment and financing (Murniati et al, 2019).

The importance of dividend policy in corporate finance has been a matter of long -term intensive debate and theoretical dispute. Over time, various principles have emerged, offering a conflicting approach to relationships between dividend payments and share prices. The dividend irrelevance theory proposed by Miller and Modigliani (1961) argues that in a perfect capital market, dividend policy has no effect on the value and share price of the firm. However, the unrealistic assumption of a perfect capital market is the foundation of this theory, ignoring real -world factors such as taxes, transactions and information inequality. To address these limitations, many alternative principles have been proposed. The signaling theory suggests that dividend payments express positive information about the future possibilities of a company, which affect investors' perceptions. "Bird-in-hand theory", introduced by Gordon (1963), argues that investors prefer dividends on future capital gains, as dividends reduce uncertainty and low investment risk. The agency theory, the principle-agent lies in the problem, suggests that the dividends help reduce the cost of the agency by restricting free cash flows available to managers, reducing the risk of inefficient spending.

In contrast, tax preference theory argues that because dividends are frequently subject to greater taxes than capital gains, investors find them less attractive. Because investors prefer tax-efficient profits, low-dividend paid companies may have high stock values (Al-Malkawi et al, 2010). Pecking order hypothesis suggests that firms prefer internal financing on external sources, leading to maintaining income rather than distributing them as dividends. The life cycle theory connects the dividend policy to the phase of maturity of a firm; mature firms have to pay high dividends with low investment opportunities. Finally, catering theory proposes that firms adjust their dividend policies in reaction to investor demands, increasing dividends when investors favor dividend-paying shares to increase market valuation (Miller & Scholes, 1978). "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together". Theoretically three primarily often contradictory arguments have emerged. The bird in hand theory supports that increasing dividend payments enhance the price of share of firms. While the theory of tax preference suggests that high dividend payout may have the opposite effects. Conversely, the dividend irrelevance theory states that dividend policy does not influence company value and share price. In addition to these theories, others theories such as signaling, agency costs, and clientless effects, further contributes to the complexity of the dividend puzzle. As such, the

controversy over dividend policy remains a crucial and ongoing issues in corporate finance (Wang et al, 2024).

Many empirical studies examined the effect of dividend policy on share prices, achieving mixed results. Some researchers suggest that high dividend payments positively affect share prices, while others indicate a negative relationship or no significant impact. Several studies, including Rabindra, J. (2012), Donna, G. (2019), Bachmeier & Sinha (2020), Kolosho et al. (2022), Loretta et al. (2016) and Usman et.al. (2020), emphasize an important positive relationship between dividend policy and share prices. In African context, similar conclusions have been reported by Michael (2016), Ponsian et.al (2015), Bamidele & Lukman (2018), Adekunle et al. (2022), Ajao & Robinson (2022), and Abu & Adebayo (2016).

Conversely, research by Kayode.et.al, (2022), Ahmad.et.al. (2018), Kadiri.et.al, (2022), Nijeru (2015), and Shah & Noreen (2016) found negative relationship between dividend policy and share prices. In contrast, some studies challenge the significance of dividend policy in determining share prices. Jakarta & Nyamugure (2015), Abrar ul-haq.et.al (2015), and Oloruntoba & Kunle (2018) conclude that dividend policy has no effect on share prices. Similarly, Mohammed & Abdelgani (2019) argue that dividend policy doesn't have a major impact on share prices, supporting the dividend irrelevance theory. They also question the reliability of the dividend signaling theory, suggesting it may not always hold true. This mixed empirical research findings reveals the complexity of dividend policy effects, influenced by varying market conditions, firm specific factors and investor perceptions. So further research is needed to clarify these relationships across different contexts and industries.

The relationship between a firm dividend policy and market share price has been widely researched. However, existing studies have several gaps that limit their conclusions, applicability, and generalization. Several past studies have mainly focused on dividend policy variables, ignoring other important factors, such as macroeconomic variables, which significantly affect both share prices and dividend policy decisions. According to Araoye.et.al, (2019), the share price is affected by the firm specific conditions, overall economic circumstances as well as a number of additional elements such as social, political and environmental development. Additionally, firm-specific factors that play an important role in shaping these dynamics have not received enough

attention, only some studies include these variables in their analysis. This lapse leaves a difference in fully understanding the complex interplay between dividend policy and share price.

Another limitation is the geographical focus of past research. Most studies have focused on developed economies, while research on developing economies, particularly in Africa, remains limited**.** Even within Africa, existing studies have been largely limited to a few countries ignoring the continent's geographical diversity and unique economic dynamics. This regional bias limits the ability to draw broader conclusions about the relationship between dividend policy and share price across Africa's varied financial landscapes. Furthermore, previous studies lack recent and comprehensive data, particularly covering the period from 2013 to 2023. Incorporating up-to-date data is crucial to analyze contemporary economic conditions and financial trends, which provides more reliable and relevant insights into the evolving relationship between dividend policy and share price in African economies.

Lastly, from a methodological perspective, most prior studies have relied on conventional panel data regression techniques, such as fixed effects and random effects models. While these methods have been useful, they fail to adequately address critical econometric issues like endogeneity, serial correlation and unobserved heterogeneity, which if ignored, may lead to inappropriate inference. In contrast, this study utilizes the two-step system generalized methods of moments which is specifically designed to handle issues of endogeneity, serial correlation and heteroskedasticity that often arise in panel data analysis. Moreover, to empirically modeling causal relationship between corporate variable System GMM is an option that combines low bias and high efficiency estimation (Dang.et al ,2015). By using this advanced technique, this study aims to produce more robust and trustworthy estimates of the impact of dividend policy on share price in African economies.

In summary, this research addresses significant gaps in the existing literature by (i) incorporating both macroeconomic and firm-specific variables, (ii) broadening the geographical scope to include diverse African stock markets, (iii) using recent panel data spanning from 2013 to 2023, and (iv) adopting a more robust estimation method that enhances the validity of the results. These efforts are expected to contribute meaningfully to both theoretical and practical literatures of how dividend policy impacts share price in African economies, offering valuable insights for policymakers, investors, and corporate decision-makers.

1.3. Research Questions

This study addressed the following research questions:

I. How does dividend policy relate to stock price in selected African stock markets?
II. Are macroeconomic variables affect share prices in selected African Stock Markets?
III. Are firm-specific variables affect share prices in these markets?

1.4. Objective of the Study

1.4.1. General Objective

The main objective of the study is to examine the effect of dividend policy on the share prices for selected African stock markets.

1.4.2. Specific Objective

In accordance with the general objective this study aims to achieve the following specific objective:

I. To examine the impact of dividend policy on share price;
II. To analyzed the impact of Macro-economic variables on share price; and
III. To investigate the impact of Firm specific variable on share price.

1.5. Scope of the Study

This study investigates the effect of dividend policy on share prices using data from selected African stock markets. Specifically, the research focuses on three countries namely Kenya, Nigeria, and South Africa—chosen for their relatively well-developed stock exchanges, the availability of consistent financial data, and to reflect the diverse economic context across the content. The time frame of the study spans from 2013 to 2023. This eleven-year period captures important global events that have shape corporate financial decisions, including post global financial crisis recovery, covid-19 and its aftermath. Additionally, the rise of Environmental, Social, and Governance (ESG) concepts, growth of retail investor and market participation and political instability made it an important period to analyze the effect of dividend policy on stock price. Moreover, the study focused on publicly listed companies from the selected markets, with a sample of 52 firms purposively selected based on the availability of complete and consistent dividend and financial data during the study period. The data used are entirely secondary data focused on dividend payout ratio, dividend yield, inflation, GDP, firm size and market share price.

These data were obtained from annual reports of listed firms and world development indicators dataset. To analyze the relationship between dividend policy and share price, the study employs a two-step System Generalized Method of Moments (System GMM) estimation technique. This method is particularly suitable for dynamic panel data analysis as it addresses potential issues of endogeneity, serial correlation, and unobserved heterogeneity, thereby enhancing the robustness of the findings.

1.6. Significance of The Study

Dividend policy continues to be one of the most controversial and highly debated subjects in corporate finance. The finding of the study provides valuable insights for a wide range of stakeholders, including policy makers, investors, corporate managers, and financial advisors. Policy makers and regulatory bodies can utilize the finding to formulate policies that enhance investor protection and strengthen corporate governance frameworks. Corporate managers and financial advisories benefit from an improved understanding of how dividend decisions may impact shareholder wealth and stock valuation, enabling them to craft dividend policies that align with corporate objective and shareholder expectations. Similarly, investors can use the insights to make more informed portfolio and risk management decisions, based on a clearer understanding of dividend signals and their implication for stock price. In addition to its practical value, this study contributes to a broader academic discourse on dividend policy by offering empirical evidence specific to African stock markets.

1.7. Limitation of the Study

The following limitations should be noted, despite the fact that this study offers valuable insights into how dividend policies affect share prices in particular African stock markets. Firstly, due to unavailability and inconsistency of data, the study reduced the initially planned sample of eight African countries stock market to only three. The reduction was necessary to ensure the reliability and completeness of the dataset. Nevertheless, it also restricts the study's geographic reach and could have an impact on how broadly the results can be applied in the African context. Second, for firm-level information, the study solely employs secondary data from publicly available annual financial reports. Despite efforts to translate the document into English, the study sample size was limited due to the lack of historical financial reports of listed firms and linguistic barriers.

1.8. Organization of the Thesis

The study's structure is set up as follows. The study's background, statement of the problem, research questions, aims, scope, and significance are all included in the introduction, which is presented in the first chapter. A theoretical and empirical assessment of the literature pertaining to the study's topic and conceptual framework is given in the second chapter. The research design and approach, data source and type, target population and sampling strategy, model formulation, and analysis method are all covered in the third chapter on research methodology. The study's results and interpretation are presented in the fourth chapter, while recommendations and closing thoughts are presented in the fifth.

CHAPTER TWO: LITERATURE REVIEW

In this chapter previous researches related to the topic is reviewed. It contains both theoretical and empirical review. Finally, based on the theoretical and empirical review the researcher constructs conceptual framework of the study.

2.1. Theoretical Literature Review

2.1.1. Concept of Share Price, Dividend and Dividend Policy

The share (or stock) price refers to the prevailing market value at which a company's shares are traded in the stock market. At the time a firm becomes publicly listed, the initial share price is determined through the initial public offering (IPO), which reflects the firm's assessed value based on available information and market expectations. Subsequently, share prices are determined by the interaction of supply and demand in the capital market, capturing investors' collective assessments of the firm's financial performance, profitability, risk profile, and future growth prospects. Share prices are dynamic and subject to fluctuations arising from firm-specific factors, industry conditions, macroeconomic developments, political and regulatory changes, geopolitical events, and environmental shocks. Consequently, the share price represents the equilibrium price at which buyers and sellers agree to trade at a given point in time, serving as a key market-based indicator of a firm's perceived value (Bamidele &Luqman's, 2018).

The word 'dividend' comes from the Latin word "Dividendum" indicates "which is to be divided or shared". This distribution has been made from the remaining profits after cutting all expenses, provided for taxes, and a reasonable amount has been transferred from the company's total income to reserves. A dividend is part of a company's profits that are distributed to their shareholders as payment (Droughty, 2000). In other word dividend can be defined as the return on investment in a company's share capital as opposed to the return on borrowed capital, which is interest (Rustagi, 2001).

According to the generally accepted definition, a "dividend" refers to the share of a company's profit that is not maintained in the business, but is distributed among the shareholders in proportion to the amount paid on the shares that they keep. After the final accounts are ready, dividends are generally declared for the financial year and the volume of distributable benefits is determined. It's a payment or reward made by a company to its shareholders, whether in cash or another forms.

The board of directors of a company usually corporations, decides on dividends and shareholders must approve them. Nonetheless, a company is not obliged to distribute dividends. Usually, the company gives its shareholder dividend, which are a percentage of its profit (Adnan et.al, 2015).

Alternatively, dividend policy refers to the procedure or techniques used by the company's management to determine how much to distribute as a dividend. It outlines the distribution of the business's profits between dividends to shareholders and retained earnings. To put it another way, a dividend policy is a strict set of rules that must be adhered to when making choices on payouts (Hamdouni,2012). According to Rozeff (1982), dividend policy is the company's approach to the choice between dividends and retention. The issue concerns how much of a company's total earnings should be distributed to shareholders and how much should be retained for reinvestment in order to optimize the wealth of stockholders through both current and future advantages is known as dividend policy. The dividend policy of a company indicates the degree of accountability of its financial management. A set of rules governing dividend distribution is known as a dividend policy.

2.1.2. Types of Dividend Payments

A dividend is a sum that a business distributes to its shareholders from its profits. Dividends are classified into five forms based on how they are paid, with cash being the most common method.

A). Cash dividend: Companies mainly pay dividends in cash; however, to do this requires adequate cash in the bank account or hand. If a company does not have enough cash, it is necessary to make plans to borrow funds. When companies follow a stable dividend policy, it should create a cash budget for the upcoming time frame that shows how much money will be required to pay the company's dividends on a regular basis. But, making a cash budget with the anticipated amount required for dividend payments could be challenging.

When a cash dividend is paid, a company's reserve account and cash account will be depleted. As a result, when the cash dividend is paid out, the company's net value and total assets are decreased. The cash dividend offers psychological benefits for stockholders and a means of enhancing their impression of the capital market (Brigham & Houston, 2004).

B). Stock Dividend/ Bonus Shares: After the BOD gives its approval, present shareholders receive bonus shares and stock dividends. Bonus share are free issuances of shares to existing

owners. Shareholders get extra shares of the company instead of cash dividends. It raises the number of outstanding shares of the company's stock and ought to be given to current shareholders in a proportionate manner without diluting ownership. It is just a shift of reserves and surplus to paid-up capital in accounting terms (Brigham & Houston, 2004). The bonus shares offer shareholders the following benefits:

- ✓ **Tax benefits**; the receipt of bonus shares is the beneficial treatment of such dividends with regard to income tax.
- ✓ **Indication of higher future profits**: for shareholders, bonus payments are typically seen as a sign of increased profitability.
- ✓ **Future dividend may increase**: the total cash dividend paid to shareholders will rise in the future if the company maintains its strategy of paying fixed amount of dividend per share after the announcement of the bonus issue.
- ✓ **Psychological value**: shareholders may experience a positive psychological impact from the announcement of the bonus issue.

C). Stock Splits: If a company believes that its share is priced too high and that lowering the market price will enhance trading activity, one equity is divided into two or more shares. The stock split is no effect on capital structure. It increases the number of share and reduces stocks par value. The stock split is usually made before a new stock offering to improve the stock's marketability and boost market activity (Brigham & Houston, 2004).

D). Stock Repurchases (Buy-Back): Company's repurchase their stock to change their capital structure or to increase the returns to the owners. Businesses who have a very strong, liquid position but no appealing investment opportunities repurchase their stock. On a proportionate basis, a business can purchase back its stock from current shareholders through a tender offer, the open market through the (i) book building process or (ii) stock exchange, and odd-lot holders (Brigham & Houston, 2004).

E). Property Dividends: a company may decide to distribute non -monetary dividends to investors rather than cash or shares. The corporation's assets are used to pay out this type of dividend. For instance, rather than dividing payments in cash, a business may occasionally possess shares of other businesses, such as its subsidiaries, which it may wish to transfer to its own shareholders. Another option is for a business to give its stakeholders samples of its own goods or stock in

another business. If the business decides to sell these shares, it might have to pay capital gains, which are taxable. There is no tax obligation in the event that these shares are distributed to the shareholders (Brigham & Houston, 2004).

F). Scrip Dividends: These are commitments to pay dividends at a later time rather than immediate payment. The 'scrip' issued to stockholders is merely a special form of promissory note or notes payable. Payment of dividends in this form takes place only when the firm is suffering from a shortage of cash or a weak liquidity position (Brigham & Houston, 2004).

G). Debenture Dividends: the businesses may alternatively choose to pay their shareholders debentures rather than dividends. These debentures have an interest rate and are due after a certain amount of time. The situation is similar to accruing long-term debt. It's not a typical practice (Brigham & Houston, 2004).

H). Liquidating Dividends: which may be a prelude to the company's closure, is paid when the board of directors decides to return the money that shareholders initially contributed as a dividend. With the exception of the fact that the money is regarded as coming from the additional paid-in capital account, the accounting for a liquidation dividend is similar to that for cash dividends (Brigham & Houston, 2004).

I). Special dividend: In exceptional situations the business announces special payouts. Typically, when a company's profits are abnormal, it declares a special dividend (Brigham & Houston, 2004).

J). Extra- dividend: is an additional payment that the company makes on top of its normal dividends. Companies whose profits fluctuate pay out more dividends when they are warranted rather than attempting to maintain a higher number of monthly payments (Brigham & Houston, 2004).

2.1.3. Types of Dividend Policy

The dividend policy must be customized to the specific circumstances of the firm because it is determined by a number of factors, and no two companies may have exactly the same dividend policy. The following type of dividend policy is the most common one.

i. **Stable Dividend Policy**

Stable dividend policy is making a consistent payout each year regardless of how the firm has performed. Dividend payment is not influence by variability in earning. When the company's

earnings are consistent and steady, this approach is straightforward and easy to execute. However, it is challenging to maintain a steady dividend if earnings fluctuate significantly. The policy's ultimate goal is to increase dividends at a rate that is comparable to long-term profitability (Lintner ,1956). A stable policy is often designed using a target payout ratio, which indicates the portion of earnings that will be distributed to shareholders throughout the medium to long term. Even in the event of a poor year, a corporation will make an effort to pay the dividend, using cash reserves if profits are insufficient to cover it. This acts as a sort of safety net for shareholders.

ii. **Residual Dividend Policy**

A company pay dividend after taking into account all expenditures. This means that shareholders receive the sums left after the company deducting or taken the capital expenditures, investment and working capital into account (Kolb and Rodriguez, 1996). It named as residual because a business first chooses on capital budgeting and the amount of capital needed to finance the project and then decides on the amount of dividend paid based on the remaining earnings, the company's residual dividend policy consists of the following steps:

i) Set optimum capital budget.
ii) Review capital required to finance that budget.
iii) Use retained earnings to the extent possible to finance the project.
iv) Payment of dividend only if more earnings are available than needed.

Companies implement this kind of policy because they rely more on internally generated cash and are unwilling to borrow more funds to save floatation and other expenses related to issuing debt, and managers believe that high retention leads to greater corporate growth.

iii. **Zero Dividend Policy**

Companies may choose not to provide dividends. This is especially common in newly established companies that require capital to finish their projects or that are unsure of their financial health and might not be able to pay dividends. Investors will be incentivized by this kind of legislation to prioritize capital gains over dividends. Furthermore, it is rather easy to prevent and manage all of the costs associated with dividend distributions (Watson & Head, 2010). The primary advantage of this payout strategy is its ease of implementation, which eliminates the need for the administrative costs associated with dividend payments.

In this case, the business always keeps the profits to finance other initiatives. Even though this dividend policy gives advantage for firm expansion, it typically deters investors seeking steady revenue.

iv. **Alternative Policies to Paying Cash /Stock repurchase**

To give shareholders an option between dividends and fresh shares, the company may decide to buy back shares. This is a repurchase of stock or shares. The shareholders benefit greatly from this in terms of taxes. While dividends are fully taxed like regular income, stock buybacks and repurchases are not taxed until the shares are sold and the shareholder realizes a profit or capital gain (Ross et. al., 2002).

v. **Constant or Fixed Policy**

Firms that use a consistent payout policy distribute a fixed proportion of profits as dividends and maintain this practice for a considerable amount of time. This policy states that, notwithstanding fluctuations in the company's earnings, the company pays a fixed dividend annually and keeps it in place for a long time. Adopting this policy has a major problem when the firm earning is decrease or record loss, the firm unable to pay dividend as usual this affect the firms share price negatively. Because paying dividend seen as a sign of the firm future prospect. This kind of policy offers the ability for shareholders to understand how much dividend they may anticipate from their investments in the company. However as noted by (Watson & Head, 2010), the policy could be traumatic to companies experiencing a volatile or fluctuating profit earning.

2.1.4. Theory of Dividend Policy

Dividend policy has one of the debatable subjects in corporate finance. In the past, numerous experts have developed theoretical models that highlight the issues that a corporate manger should take into account when formulating their dividend policy. Generally speaking, there are two major views regarding dividend policy which is dividend relevance theory and dividend irrelevance theory. According to dividend relevance theory, dividend payments have a big impact on firm value. Some scholars even contend that raising dividend payments raises firm value and vice versa. Contrary to this, dividend irrelevance theory argues that all the work that goes into choosing a payout should be in vain. In the coming section different theory of dividend policy will be discussed in detail.

A. Dividend Irrelevance Theory

According to Modigliani and Miller, the proponents of this idea, investors essentially don't care whether they receive a cash dividend now or capital gains in the future. They contend that a company's dividend policy has no bearing whatsoever on the stock price or cost of capital. Modigliani &Miller (1961) asserts that a company's worth is established by its investment choices and basic earning ability, independent of how it allocates its money. The dividend payout policy that the company decides to implement will not have an impact on the share price at the moment or the overall return to shareholders, given its investment program (Miller & Modigliani, 1961).

The following assumptions form the basis of dividend irrelevance theory: a perfect capital market free from taxes, investors are rational, fixed investment policies, no brokerage fees, information asymmetry, no risk or uncertainty, absence of principle-agent problem, and infinitely divisible shares. Holding this assumption, Modigliani & Miller state that a company's value is unaffected how much of the profit it distributes as dividends. Therefore, there is no distinction between debt and equity securities as a source of funding (Jones, 1992).

A company's retained earnings decrease when it pays a dividend. As a result, it must issue new shares to make up for the money that was disbursed. The issuance of new securities causes the stock price to drop, which is equal to a dividend being paid out. On the other hand, because their marginal cost (stock price decline) and marginal benefit (dividend) are identical, investor wealth remains unaltered. As a result, investors don't care about the company's dividend policy (Mafiejor, 2021).

The main criticism of this theory rises from its assumption of perfect capital market, which is not exist completely in real world. In real world, common market frictions are existed such as information asymmetry, agency cost, tax, investor irrationality, risk and uncertainty, which affect investor and business mangers preference towards dividend. Consequently, a number of theories have emerged by relaxing the assumption of Modigliani & Miller, so dividend irrelevance theory considered as a framework for testing the consequences of violating any of the assumptions.

B. Dividend Relevance Theory

Dividend relevance theory generally argue that dividend decision is active variable the effect the value of the firm. Under this theory there are two extreme views, dividends are goods as they

increase the shareholders' value while others argue that dividends are bad since they reduce the shareholder value. The following are some of the theories that support those point of views.

a. Bird in Hand Theory

"**Bird in hand is worth more than two in the bush**" is the underline principle of this theory. In finance term, this implies that equities that pay present dividends are more appealing to investors than those that retain earning and pay dividend in the future. Investors prefer dividend which is certain to retained earnings which explicitly include uncertainty. Bird in hand theory is proposed by Gordon (1959) and Lintner (1956), they argue that when a firm increase its payout ratio, investor become concerned that the firm's future capital gains will diminish, since the retained earnings that the firm reinvest into the business is reduced.

Dividends are relevant and have favorable correlation with the value of the company. Investor prefer stock that pays a high and stable dividend. Because dividend payments are seen by shareholders as more predictable than capital gains, they reduce investor uncertainty because they are risk averse and prefer to receive them. Other things remain constant, investors prefer high dividend payout ratios, the stock prices of companies with comparatively high payout rates will also be relatively high. On the opposite side, companies with comparatively low payout ratios will have comparatively low stock values.

b. Agency Theory

In modern corporations, corporate managers do not always behave in the best interest of shareholders. Which lead to the principal agent problem since ownership and management are separated. The primary responsibility of the manager is to manage the company effectively and efficiently in order to optimize the shareholder returns. But managers and shareholders have difference interest, so mangers did not act in the shareholders' best interest. Agency theory assume that companies pay dividend to solve this kind of problem (Rozeff, 1982). There is a tradeoff between the floatation costs of raising external capital and the benefit of reducing agency cost when the firm increases the dividend payout.

In 1976, Jensen and Meckling developed a model that took dividends into account as a way to lower agency costs. Since free cash flows present chances for overinvestment, dividends are viewed as a tool to lower agency costs. After financing all of its assets with positive net present value, a company should pay out all of its free cash flow as dividends. As a result, the agency problem and agency costs of equity will decrease. According to Jensen (1986), a high level of

retained earnings will encourage managers to pursue their interests; as a result, shareholders will reduce the amount of money available to managers by paying dividends.

c. Signaling Theory

Signaling theory derived from the level of information asymmetry, managers know far more about the firm prospects than investors or outsiders. Dividend is used as information transferring device about the firm prospects. Increasing dividend payments provide good signal about the future performance of the firms whereas dividend cuts are perceived as bad news and provide negative message about future earnings. Miller and Modiglaini,1961 also suggest that when markets are imperfect share price may respond to change in dividend (Arnold, 2005).

According to Akerlof (1970), when a company has strong future profitability which is interpreted as an increase in dividend payments, the share price will respond favorably. In a similar vein, dividend reductions indicate bad prospects, which could cause the share price to decline. The most cost-effective tactic employed by management to reassure investors about the company's value is the corporate dividend. Miller and Rock (1985) and Bhattacharya (1979) used dividend payments as an indication of expected cash flows because external investors have little knowledge of the firm's profitability. As a result, management are more inclined to increase dividend amounts than decrease them.

d. Tax Preference Theory

In order to explain corporate dividend policy under the influence of taxes, Brennan (1970) proposed tax preference theory, which is based on an after-tax capital asset pricing model. When deciding whether to purchase the investment, investors consider taxes. According to this idea, because dividends are taxed more heavily than capital gains, investors prefer smaller dividend payouts over high ones. Investors are more inclined to buy stock in companies that don't pay dividends or have low dividend payout ratios when dividends have a higher tax burden than long-term capital gains. In order to boost their stock prices, companies often limit their dividends under tax discrimination against them (Miller & Scholes, 1978).

Additionally, different investors fall into various tax categories. As a result, their levels of dividend preference differ. Investors who have a lower marginal tax rate on dividends than capital gains are more inclined to choose dividends. Conversely, investors favor capital gains if their dividend

marginal tax rate is higher than their capital gain marginal tax rate. However, investors no longer care about either if and only if the marginal tax rates on capital gains and dividends are similar or equivalent. Because of the higher tax involved in dividend most of investors are better off without dividends. The tax-preference theory suggests that low dividend payout ratios lower the cost of capital and increase the stock price (Al-Malkawi, et. al., 2010).

e. Pecking Order Hypothesis

An alternative theory called the pecking order theory of financing decisions was developed by Myers (1984). The term "pecking order" describes a financial hierarchy that starts with retained earnings, moves on to debt financing, and ends with external equity financing. If the expenses of issuing new securities outweigh the advantages and disadvantages of debt and dividends, a pecking order results. The transaction costs related to new issues and the costs resulting from management's superior knowledge of the company's prospects and the value of its hazardous securities are among the financing expenses that induce pecking order behavior. When investments are consistently high in relation to earnings, pecking order can help corporations reduce their leverage, allowing dividend payers to maintain a low payment ratio.

The idea focuses on the reasons why businesses favor one form of funding over another. The primary cause is that when the degree of asymmetric knowledge increases, financing costs tend to rise as well. According to Fama and French (2002), companies that pay dividends have high earnings in relation to their investment. As a result, companies with higher planned investments are predicted to have lower present leverage for dividend payers. Accordingly, businesses will favor internal financing (retained earnings) first and then debt and finally new equity.

Businesses should, whenever feasible, use retained earnings to finance their activities, according to Myers (1984). If there is not enough return on investment, debt is used. Only the direst situations will prompt businesses to use new equity funding. Therefore, earnings were the primary source of internal funds, followed by debt, short-term securities, preferred stock, and common stock. The idea states that issuing common stock or equity is the last resort for raising money.

f. Life Cycle Theory

Grullon.et.al, (2002) proposed the life cycle theory to explain dividend payments. The company life cycle hypothesis of dividends is based on the fact that firms have a well-defined life cycle.

According to this theory, businesses typically modify their dividend policies as they progress through different phases of their existence, taking into account the varying financial requirements of each stage. Businesses with rapid expansion and limited profitability are less likely to pay dividends. They contend that while new businesses are less profitable, they have more investment prospects and keep more of their earnings rather than paying dividends. Mature and established firms, on the other hand, have more resources since they have a harder time finding successful initiatives and have fewer development prospects to support. In order to increase their economic efficiency, companies are therefore more inclined to pay out cash or dividends (Deangelo.et.al ,2006).

g. Clientele Theory

This theory explains that a company's stock price fluctuates in response to the demand and objectives of its investors. Different corporate policies have an impact on investors, and they will modify their shareholdings in response to changes in the firm's policies. Demands from investors arise in response to changes in dividends, taxes, or other policies that impact the shares. Such an adjustment could lead to changes in stock prices. Different clientele results from the tax preference between dividends and capital gains. The clientele effect is when some investors desire bigger dividends than others who want lower ones. Companies can therefore modify their dividend policies to satisfy investor demands for higher dividend yields and other's lower dividend yields if they are aware of them. Additionally, a firm will have a tendency to draw in a group of investors who are comfortable with its dividend policy (Miller & Scholes, 1978).

The clientele effect is the tendency of a corporation to attract the type of investor who loves its dividend policy. Black & Scholes (1974) presume that if companies were paying dividends, investors must gain some benefits from the payouts that offset the negative effects.

To sum up, the two main schools of thought about dividend policy are dividend relevance theory and dividend irrelevance theory. According to the dividend relevance theory, which is supported by academics like Walter and Gordon, dividends have a major influence on a company's value because investors prefer immediate cash payments because future capital gain is uncertain. According to this theory, investors who consistently receive dividend payments can increase the market value of the company by reducing uncertainty. However, according to Modigliani and Miller's, dividend payments have no effect on a company's stock price because it is solely based

on its earnings and available investment possibilities. The existence of perfect capital market and rational investor behavior are the two of underlining assumption of this theory.

To address the limitations of dividend irrelevance theory, additional theories on dividend policy is emerged such as bird in hand, agency, signaling, tax preference, pecking order, life cycle and clientele theory. Bird in hand theory reveals that because the future capital gain in uncertain, investor prefer current dividend payment. Agency theory states that dividend payment is used as a tool to address the problem that exist because of the separation of ownership and control. Signaling theory suggest that dividend payment have information content while tax preference theory address that tax impact, investors prefer low dividend, because dividend payment is highly taxed than capital gain. Pecking order theory states that internal financing is the cheapest source of finance than debt and equity. Life cycle theory argues that dividend policy should be differ depends on the life cycle of the firms and clientele theory suggest that forming dividend policy by taking into account investor demand which further affect corporate policies and stock price.

2.1.5. Factors Affecting Share Price

Share prices in the stock market fluctuate constantly, reflecting the inherently volatile nature of financial markets. Because of this volatility, it is essential for investors to understand the key forces that influence share prices in order to make informed and optimal investment decisions. Both internal and external factors contribute to the movement of stock prices. Some of these influencing factors are discussed below.

I. Internal Factors

Dividend: Dividend refers to cash payment or distribution of a firm's income among its stockholders, in the form of additional fully-paid shares. After the announcement of a dividend the stock price may increase by an amount close to the dividend per share value. However, the stock price may drop on the ex-dividend date by the dividend per share amount (Allahawiah & Al-Amro, 2012).

Earnings Per Share (EPS): it is a key indicator of a company's profitability and efficiency. When a company operates effectively, its EPS tends to increase, signaling that the capital invested is generating higher returns over time. An increase in EPS reflects greater enterprise value and typically leads to a rise in the company’s stock price. Investors regard EPS as a critical measure of

a firm's financial performance and a key signal of future investment potential. It is also a fundamental input in stock valuation models. Notably, two companies may report identical EPS figures, but the one with lower equity may be deemed more efficient in capital utilization, offering a potentially better return on investment (Sharma, 2011).

Audit Quality: In the stock market, stakeholders heavily rely on a company's financial position, primarily derived from audited financial statements to make informed decisions. Audit reports serve as a critical source of reliable and credible information, directly influencing investor confidence and, consequently, share prices. The disclosure of audited financial statements reduces discrepancies in investors' valuation of firms and fosters transparency. Companies audited by reputable, large audit firms often experience higher market valuations, as these firms are perceived to enhance the credibility and reliability of financial disclosures. As a result, markets tend to respond more positively to firms associated with high audit quality. Given the risk of earnings management—where management may manipulate financial results—independent external audits are essential in ensuring the accuracy, fairness, and transparency of financial reporting. Studies shows that firms that present high quality audit reports have good trends in their stock prices compared to those with poor audit reports (Karaibrahimoglu & Ozkan, 2011).

Financial performance: the financial performance is one of the most important factors affecting stock prices. If the company generates sufficient profits which is higher than previous years, many investors will be interested in buying shares and this increases stock price (Lee & Zhao, 2014). However, if the company fails to record sufficient profits or incur losses in the period, investors will avoid buying such company's share, as well as investors who have bought the company's share before will sell those shares fearing loss.

Return on Asset (ROA): the other fundamental factor affecting stock price is ROA. It is an indicator of how profitable a company is relative to its total assets. It gives an investor an idea as to how efficient a company's management is at using its asset to generate earnings. A high ROA shows that the company has a solid performance as far as finance and operation of the company is concerned (Ullah et.al, 2020).

Net profit margin (NIM): stock price also influenced by the company's debt policy and ability to generate profits which are reflected by net profit margin. NIM shows how much net income or profit is generated as a percentage of revenue. The larger the company, the more it has the ability

to make profits and increase the firm value. This in turn attract investors to invest in the company (Apsari et.al,2015).

Firm Size: big firms that have large amounts of assets tend to be more trusted by investors because they are considered to have the ability to manage the assets efficiently and indicates they are good at converting their investments into profits. Investors' confidence in the company can increase the value of the company and the price of the company's shares. Ha and Minh (2018) stated that there is a positive relationship between company size and firm value.

II. External factors

Interest rate: when analyzing the economy in general to arrive at a decision to invest in the stock market, it is necessary to take into account interest rate, the basis factors that determine the investment. Interest rate simply mean the price paid by borrowers to lenders (Uddin et al, 2013). Short term interest rates rise and stock prices fall. Studies shows that the relationship between interest rates and stock prices that is often in the opposite direction in the short term, especially in the long term is positively related to stock price (Hirak & Joy, 2014).

Inflation: Like other sectors of the economy, inflation has a significant impact on the stock market, particularly on stock prices. Analyzing the influence of inflation is essential when evaluating securities, especially in terms of supply and demand dynamics and trading of fixed-income instruments. The value of investment securities is directly influenced by inflation trends, making it one of the fundamental risks associated with stock market investments (Al-Tamimi, 2007). Inflation also affects the production and operational costs of listed companies, which in turn contributes to stock price volatility. Additionally, rising inflation can influence investor sentiment, often leading to cautious or adverse reactions in the stock market.

Exchange Rates: Exchange rates have a direct impact on the price and value of stocks in home as well as it will affect the price of stocks in abroad. Long-term movements in exchange rates are affected by fundamental market forces of supply and demand.

Gross Domestic Product (GDP): it is a key macroeconomic indicator that reflects the overall level of economic activity and economic health of a country. GDP growth influences share prices through its impact on corporate earnings, investor expectations and market confidence. During periods of strong economic growth, increased production, higher consumer spending and improved business performance tend to enhance firm's revenue and profitability, which in turn raise

expected future cash flows. As share prices are fundamentally linked to the present value of expected future earnings, higher GDP growth is generally associated with rising share prices and vice versa (Kulhanek, 2011).

2.1.6. Measurement of Dividend Policy

The dividend payout ratio and the dividend yield ratio are the two most widely used metrics for measuring dividends; both offer reliable measurement, but they do so in different ways.

Dividend payout ratio: The dividend payout ratio is the percentage of the total earnings that is distributed to shareholders. Dividends paid are linked to the companies' earnings. Because it considers internal characteristics, it is not influenced by external factors. This metric is employed in valuation to project dividends for next periods. Additionally, it signals a firm's maturity and tends to follow its life cycle Labhane & Das (2015). McManus et al. (2004) claim that the dividend payout ratio is more likely to account for returns than dividend yield. The dividend payout ratio's signaling effect is more useful than dividend yields because it just takes into account internal company considerations.

Dividend payout ratio = Dividend per share/ Earning per share

Dividend yield – Dividend yield is a metric that accounts for stock price. External influences have an impact on it (Stevens & Jose, 1992). It calculates the risk of investing in stocks as well as the returns in the form of dividends and price growth. According to Fama & French (1988), dividend yield offers more information than dividend payment ratio since it can forecast stock returns. Furthermore, the corporation has little control over the dividend yield because it fluctuates in tandem with stock prices. Because it gives a measure of the portion of total returns that come from dividends, with the other portion coming from price appreciation, the dividend yield is important.

Dividend yield = dividend per share/stock price

2.2. Empirical Literature Review

A comprehensive review of empirical studies on the connection between dividend policy and share price is provided under this subsection. In order to gain a thorough understanding of how dividend policies impact share prices across different nations, the review incorporates empirical evidence from both global and African economies.

Global Context

A study on the impact of dividends on stock prices in Nepal was conducted by Rabindra Joshi (2012). Using yearly data from 2005 to 2010, the researcher studied banking and non-banking companies registered on the Nepal Stock Exchange. The study included multivariate linear regression model analysis in addition to descriptive and analytical research methods. Dividends per share, earnings per share, lagged market price per share, and lagged price earnings ratio were the independent variables in the study, while market share price was the dependent variable. The study's findings demonstrate that the market price of shares is significantly positively impacted by dividends per share, earnings per share, and lagging market price per share. According to the study's findings, dividends have a big impact on share prices in Nepal's banking and non-banking sectors.

Ganeesha, Dona (2019) carried out a study to investigate how dividend announcements affect stock prices. Twenty S&P businesses listed on the Colombo Stock Exchange (CSE) were the subject of the investigation. Additionally, the study used the event study approach from 2013 to 2017. The results demonstrate that dividend deceleration has a positive correlation with changes in share price, since the price of shares may rise during the dividend announcement time and vice versa. The study also discovered that current market conditions have an impact on how share prices respond to dividend announcements.

Mohammed and Abdelgani's (2019) study sought to evaluate Malaysia's dividend policy and payout practices. Six fund managers in Malaysia participated in semi-structured interviews as part of the study's qualitative analytical techniques. According to the study's findings, dividend payouts are not used by Malaysian fund managers as a means of recommending stocks or assessing businesses. Moreover, taxation was the primary determinant of dividend decisions for the vast majority of the country's businesses. The study also discovered that the dividend signaling idea isn't always accurate when it comes to Malaysia. The traits of the companies and their industry have a greater influence on stock prices than dividend policies. Furthermore, the stock price is more affected by dividend payout trends, historical size, and sustainability. The dividend irrelevance theory is supported by their data.

Bachmeier and Sinha conducted an empirical study on the connection between dividend policy and stock market volatility, concentrating on the S&P 100 (2023). From 2010 to 2020, the study looked at a sample of 34 businesses every three months. Both random and fixed effects models were used in panel data analysis. The study uses payout ratio and dividend yield as independent variables and share price volatility as a dependent variable. The results show that whereas payout ratio had a positive but negligible impact on share price volatility, dividend yield had a positive and considerable impact. Furthermore, there was a notable and adverse correlation between firm size and share price volatility. The results of the study are consistent with the dividend relevance theory, which contends that dividend policy, specifically dividend yield, affects share price.

Usman et al. (2020) investigate how dividend policies affect Indonesian manufacturing companies' stock values. For the study, which covered the years 2014–2018, 36 listed manufacturing companies from the Indonesia Stock Exchange were selected using a purposive sample technique. Dividend per share, profits per share, return on equity, retention ratio, and dividend yield were the independent variables, while share price was the dependent variable. They discovered that while earnings per share, return on equity, and retention ratio had negligible effects on share price, dividend yield and dividend per share had significant positive and negative effects, respectively.

Singh and Tandon (2019) conducted a study to look into how dividend policy affects stock prices in the Indian market. The study looked at how, between 2008 and 2017, the dividend policy of 50 businesses listed on the National Stock Exchange affected the market price of their shares. The effect was evaluated using a regression model with multiple panel data. The findings indicated that EPS and MSP have a substantial positive association. However, MSP was significantly impacted negatively by PAT, ROE, and DY. MSP, however, was not significantly impacted by RR or DPS. According to the study, shareholders focus on the dividend yield that the stock provides rather than the exact number of dividends per share. In general, the market price of shares was impacted by the dividend policy.

Africa Context

The impact of dividend policies on the stock prices of companies listed on the Nairobi Stock Exchange is examined by Michael (2016). The researcher employs both regression and descriptive analysis. The study's time frame runs from 2007 to 2011. Out of 59 listed companies, 30 were

selected based on the criterion of having been listed for five years. The results showed a substantial positive correlation between dividend payout and share price. When a corporation releases positive or negative dividend news, the share price instantly changes, either rising or decreasing. The findings support the efficient market hypothesis, which maintains that anytime positive news is released, the share price must increase and vice versa. Additionally, before deciding on a dividend, businesses consider a variety of factors, including prior dividend payments, preferred shareholder dividends, competition payouts, net profitability, investment opportunities, and other considerations.

Ponsian et al. (2015) examine the connection between share prices and dividend policies, concentrating on businesses that are listed on the Tanzania Dar Es Salaam Stock Exchange (DSE). Thirteen listed firms were examined in the five-year investigation, which ran from 2007 to 2011. The study considered factors including dividend yield, dividend payout ratio, earnings per share, and price-earnings ratio in order to gauge the dividend policy. To evaluate the link between these variables, the study used correlation, regression analysis, and descriptive approaches. The results showed that while the dividend yield has a negative association with share prices, the share price has a positive relationship with the dividend payout ratio, earnings per share, and price-earnings ratio. The study also investigated whether the price-earnings ratio is the best indicator of dividend policy. The study came to the conclusion that dividend policy significantly raises share prices based on these findings.

Bamidele and Luqman's (2018) study looked into how dividend policies affected the market value of common stocks of companies that were listed on the Nigerian Stock Exchange. Three models were created by the researchers and tested using fixed effects, random, and pooled regression. The Hausman test was used to choose the random effects model, and a panel data technique was used. The years 2011-2014 were included in the analysis. The results showed that stock prices were positively, although statistically significantly, impacted by the dividend payout ratio. On the other hand, it was discovered that firm size and earnings per share significantly boosted stock prices. Moreover, leverage had a negligible detrimental impact on stock prices. While, a positive but statistically insignificant correlation between stock prices and the market-to-book value ratio.

Adekunle et al. (2022) conducted a second study to investigate the impact of dividend policy on the volatility of the share prices of specific businesses listed on the Nigerian Stock Exchange

(NGX). To evaluate share price volatility, the researchers used the EGARCH model and an ex post facto study design. Out of the 162 listed companies on the NGX, 49 firms were chosen using a random selection technique. The investigation was conducted between 2010 and 2020. The results showed that share price volatility was positively and significantly impacted by the dividend distribution ratio. On the other hand, it was discovered that financial leverage, dividend yield, and dividend per share all had a negative but statistically insignificant effect on share price volatility. The study concluded that share price volatility on the Nigerian Stock Exchange is substantially correlated with dividend policy.

The factors influencing dividend policy and stock price volatility in a few African stock markets are evaluated by Ajao and Robinson (2022). The study used the Generalized Autoregressive Conditional Heteroskedastic (GARCH) model to assess the volatility features of the stock price and the Panel Autoregressive Distributed Lag (ARDL) model to capture the relationship between dividend policy variables and stock price. The study looks at the economies of South Africa, Kenya, and Nigeria between 2011 and 2019. According to the study's findings, there is a considerable long-term correlation between share price volatility and dividend payout, leverage, company size, dividend yield, and earnings per share. The study came to the conclusion that earnings per share, dividend yield, and dividend payout are important variables influencing share price movement in the three African economies.

With a focus on companies listed on the Nigerian stock exchange market, Kayode et al. (2022) investigated the impact of dividend policy on share price movement. Panel regression analysis and generalized methods of moments (GMM) were used in the investigation. The financial statements of twenty companies listed on NSX provided the panel data, which covered the years 2011 through 2020. According to the study, there is a considerable negative correlation between dividend yield and changes in share price. On the other hand, there is a strong positive correlation between firm size and share price volatility.

In order to find out how dividend policy affected the share prices of Nigerian listed conglomerate businesses, Abu and Adebayo conducted a study in 2016. The study, which spanned the years 2007–2016, used multiple regression analysis to assess the data. The outcome demonstrates that the share price is significantly impacted positively and negatively by dividend yield and earnings per share, respectively. On the other hand, the dividend payout ratio has a negligible negative

impact on the share price. The study concludes that dividend policies in Nigerian conglomerate businesses have a major impact on share prices.

The impact of dividend policies on the share prices of firms listed on the Nairobi Stock Exchange is examined by Kibret (2015). The study uses multivariate analysis and spans the years 2001–2011. The weighted average price served as the study's dependent variable, and cash and share dividends served as independent variables. As control variables, the debt-to-equity ratio, earnings per share, net asset per share, and retained earnings are also considered in this study. According to the study's findings, the price of shares is only significantly positively impacted by cash dividends.

Table 1: Summary of empirical literature review

Author	Variable employed	Estimation technique	Time period	Finding
Rabindra Joshi (2012)	**Dep:** market share price **Indep:** DPS, retained earnings per share, lagged market price per share and lagged P/E ratio.	Descriptive& Multivariate linear regression analysis	2005-2010	The market price of shares in Nepal's banking and non-banking sectors is significantly impacted by dividends.
Mohammed & Abdelgani (2019)	Dep: share price Indep: dividend payout, historical magnitude of dividend.	Qualitative method of analysis		Malaysian stock prices are not significantly impacted by dividend rules. Instead, the traits of the businesses and their sectors do.
Bachmeier & Sinha (2023)	Dep: stock price volatility Indep: dividend yield and payout ratio.	Panel data analysis	2010-2020	Dividend policy has positive effect on share price volatility. Moreover, firm size exhibited a negative and significant effect on share price volatility.
Usman et.al (2020)	Dep: share price Indep: DPS, EPS, return on equity, retention ratio and dividend yield.		2014-2018	The share prices of manufacturing companies listed on the Indonesian stock exchange are significantly correlated with dividend yield and DPS, respectively.
Singh & Tandon (2019)	Dep: Market share price. Indep: EPS, profit after tax, return on equity, dividend yield, retention ratio and DPS.	Panel data regression model	2008-2017	Dividend policy had effect on the market price of shares listed on national stock exchange of India.
Michael. (2016)	**Dep:** Market Share price **Indep:** Dividend payout ratio	Descriptive and regression analysis	2007-2011	Dividend payout ratio has a significant positive effect on the market share price of listed firms in the Nairobi stock exchange.
Ponsian.et.al (2015)	Dep: Market share price	Descriptive, regression	2007 - 2011	Dividend policy has a significant positive impact on share prices in

	Indep: dividend yield, dividend payout ratio, EPS, and P/E ratio.	analysis and correlation		Tanzania. Moreover, P/E ratio is the most effective measure of dividend policy.
Bamidele & Luqman (2018)	Dep: Share price Indep: Dividend payout ratio, EPS, firm size, Market-to-book value ratio, and leverage.	Panel data regression	2011-2014	Dividend policy has a positive effect on the price of shares listed on the Nigeria stock exchange. Moreover, firm size has a positive significant effect on the share price.
Adekunle et.al (2022)	Dep: Market share price Indep: dividend payout ratio, dividend yield, DPS, and financial leverage.	Ex-post facto and EGARCH model	2010-2020	Dividend policy is significantly related to the share price volatility on the Nigeria stock exchange.
Ajao & Robinson (2022)	Dep: Market share price Indep: dividend payout, leverage, firm size, dividend yield, and EPS.	ARDL and GARCH	2011 – 2019	Dividend yield, dividend payout, and EPS have a long-run significant relationship with share price volatility in three African economies such as Nigeria, Kenya, and South Africa.
Kayode et.al (2022)	Dep: Market share price Indep: Dividend yield and firm size	Panel regression analysis & generalized method of moments	2011 – 2020	Dividend yield has negative significant relationship with share price movement in the Nigeria stock exchange. Moreover, firm size has a positive significant relationship with share price volatility.
Abu & Adebayo (2016)	Dep: Market Share price Indep: dividend yield, EPS, and dividend payout ratio.	Multiple regression analysis	2007 - 2016	Share prices are significantly influenced by dividend policy in Nigerian conglomerate companies.
Kibret (2015)	Dep: Weighted average share price Indep: Cash dividend, share dividend, Debt to equity ratio, EPS, Net asset per share, and Retained earnings.	Multivariate analysis	2001 – 2011	Only cash dividend has a positive significant effect on the price of shares in companies listed on the Nairobi stock exchange.

Dona Ganeesha (2019)	**Dep:** Share price after dividend announcement date. **Indep:** Share price before the dividend announcement date	Event Study Method	2013-2017	Dividend announcements positively affect share price. Moreover, other market information and market conditions influence share price change.
Ahmad et.al (2018)	**Dep:** **S**hare price volatility **Indep:** dividend yield, payout ratio, earning volatility, firm size, financial leverage and growth.	Generalized Method of moment	2010-2016	Dividend yield and payout ratio were significant negative relation with share price volatility.
Shah & Noreen (2016)	**Dep: S**hare price volatility **Indep:** dividend yield, dividend payout ratio, firm size, asset growth, long term debt, earning volatility and EPS.	Multiple regression analysis	2005 - 2012	Negative relationship between dividend policy and share price volatility of listed non-financial firms in Pakistan.
Abrar ul-haq.et.al (2015)	**Dep:** Price volatility **Indep:** dividend yield, earning volatility, payout ratio, firm size, growth in Assets and long-term debt.		2001-2014	Dividend policy had no impact on stock price volatility in Pakistan.

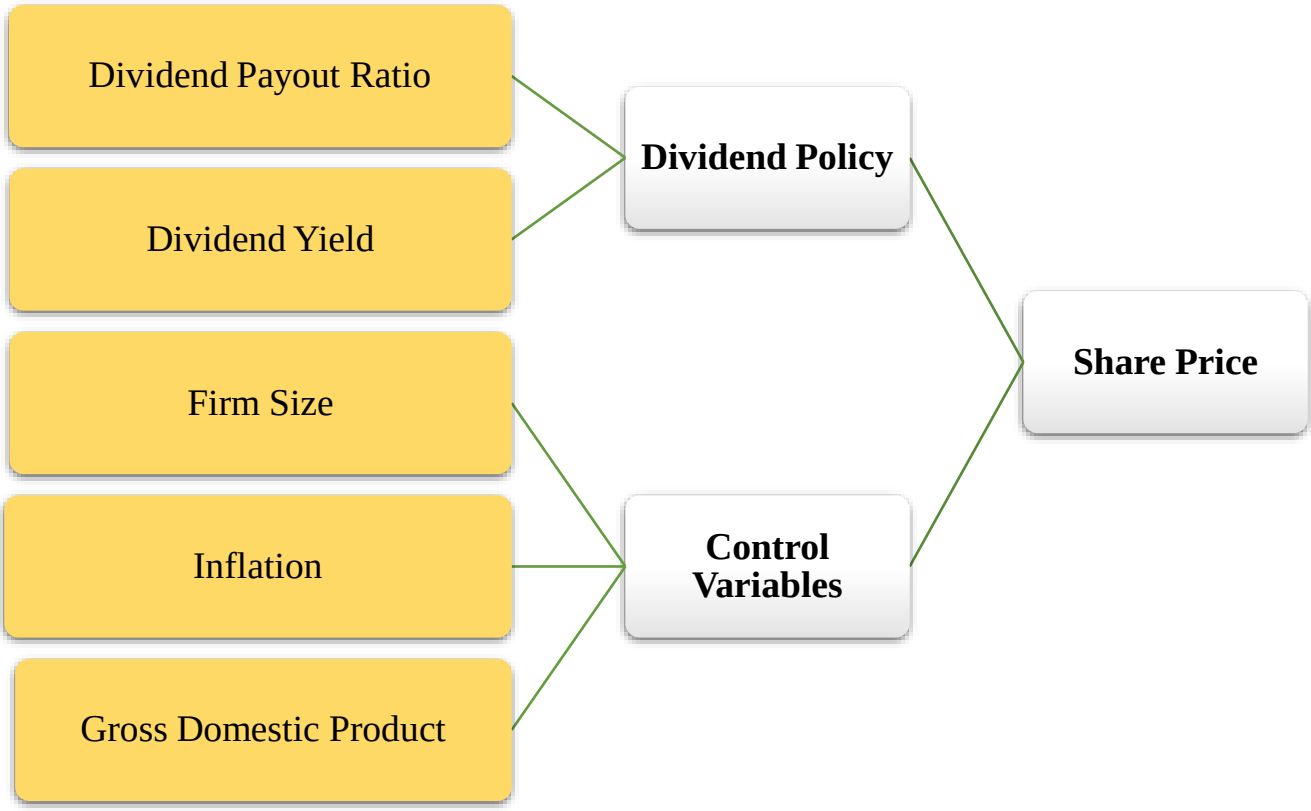
Source: From Different Empirical Literatures

2.3. Conceptual Framework

The researcher created the following conceptual framework based on the review of theoretical and empirical literature. This methodology was created in order to investigate how dividend policies affect listed companies' share prices in particular African stock markets. Dividend policy is an independent variable in this conceptual framework, and it is quantified by the dividend payout ratio and dividend yield. On the other hand, the average market share price of listed companies serves as a measure for the dependent variable, share price. Additionally, the study considers GDP, inflation, and firm size as control variables. These control variables are incorporated into the study based on unique characteristics that may be attributed to the companies. Certain reasons can cause changes to a company's dividend policy and financial policies. Based on the assets they own; companies vary in their nature and level of financial strength. Greater dividends are paid by large, regionally diverse enterprises than by smaller ones. First, larger businesses are typically in the mature stage and have fewer fresh investment opportunities with positive net present value (NPV). Second, big businesses can get good terms on loans. Therefore, firm size is included in the study as a control variable in order to realize the effect of size on share price.

Two macro- economic variables were also included as a control variable. The domestic and global economic conditions that are happening or that the market is anticipating have an impact on changes in stock values. Future dividend rates, discount rates, and stock prices can all be greatly impacted by changes in macroeconomic factors (Hong et al, 2021). Although the relationship's sign varies by economy, some empirical investigations have established a high correlation between macroeconomic indicators and stock prices (Gyamfi et al., 2021; Riaz et al., 2022). In order to examine the impact of dividend policy on share price, the study uses macroeconomic factors, specifically GDP and inflation, as a control variable.

Figure 1: Conceptual Framework of The Study



Source: Developed by The Researcher, 2025

CHAPTER THREE: RESEARCH METHODOLOGY

This section provided a description of the research methods that may be used for this investigation. This covers the target population and sampling technique, design and approach, the data type and source, the data analysis, and the model formulation.

3.1. Research Design

To investigate the causal relationship between stock price and dividend policy of listed firms in selected Africa stock market, the study employed Explanatory research design. The primary aim is to understand how dividend policy influence share price, while controlling for firm specific and macroeconomic factors. Explanatory research is a research design suitable for research types that looks for causes and effect relationship and provides evidence either to confirm or deny theory or prediction. So, to meet the research objective the study employed explanatory research design.

3.2. Research Approach

The type of research questions being examined is the most crucial factor to take into account while choosing a suitable research approach. In order to investigate the relationship between dividend policy and stock prices utilizing data from selected African stock markets, a quantitative research approach has been used for this study. This method makes it easier to gather numerical data, which can then be examined using mathematical models and statistical methods. Furthermore, when it comes to testing and validating pre-established theories or hypotheses on the causal linkages between variables, the quantitative technique works very well. As a result, it is deemed the most suitable methodology for achieving the study objectives.

3.3. Target Population of the Study

The African continent has witnessed tremendous growth and improvement in its capital markets during the last many years. Currently, there are 29 stock exchanges running throughout Africa, with a blended market capitalization predicted at about USD 1.6 trillion. Given the scope and objectives of the study, not all 29 stock markets had been deemed appropriate for inclusion. The selection criteria hired targeted on markets with large market size, establishment year, no of listed firms, and data availability. Based on these criteria, initially five African country stock markets meet the selection criteria namely South Africa, Nigeria, Kenya, Egypt, and Morocco.

However, despite meeting the inclusion criteria, Egypt and Morocco were ultimately excluded from the final sample due to data accessibility challenges, particularly those related to language barriers and limited availability of translated or English-language financial reports. Consequently, the final target population of the study comprises three major African stock markets: the Johannesburg Stock Exchange (South Africa), the Nigerian Exchange Group (Nigeria), and the Nairobi Securities Exchange (Kenya). These markets represent a significant portion of the African capital market landscape and provide a robust foundation for analyzing the relationship between dividend policy and share price dynamics within the region.

3.4. Sampling Technique and Sample Size

This study focused on firms listed in three major African stock markets—South Africa, Nigeria, and Kenya. Within these markets, a purposive sampling approach was applied to define the sample size based on clearly established inclusion criteria. To ensure the relevance and reliability of the data, firms were selected based on the following conditions: they must have been listed prior to 2013 to ensure sufficient historical data coverage; they must have maintained a consistent record of dividend payments throughout the study period; and they must have accessible and complete stock price and financial data for the specified years.

Based on these criteria, a total of 52 listed companies were identified across the three stock markets. While the sampling approach does not follow a probability-based framework, it was deemed appropriate for the context of this study, which prioritizes high quality panel data for robust econometric modeling. In particular, the use of System Generalized Method of Moments estimation benefits from a balanced panel dataset to effectively address issues such as endogeneity and dynamic relationships among variables. Although the use of non-probability sampling may limit the generalizability of the results, the methodological rigor applied in defining and transparently implementing the inclusion criteria mitigates potential concerns related to selection bias. The sampling approach, therefore, supports both the validity of the findings and the practical feasibility of the research design.

3.5. Data Type and Source

The study employed secondary data from 2013 to 2023 on the yearly base, with a focus on stock price and dividend policy in selected African stock markets. The nature of the data employed in this study was panel data or longitudinal data. Kothari (2009) emphasizes that panel data is a useful

information source because it integrates cross-sectional and time-series data, capturing both the data's dynamic nature and individual variability. Additionally, there are more degrees of freedom, greater efficiency, and less collinearity across variables with this kind of data. The required data for this study, dividend policy proxies, firm-specific variable, and market stock price was obtained from the annual reports of those listed firms in their respective stock market. Moreover, for macroeconomic variables included in this study, such as GDP and inflation, the data was collected from the World Bank development indicator dataset. Although these macroeconomic indicators are cross sectionally invariant within each country, their inclusion captures the broader economic context in which firms operate, and they help account for macro level influence that may affect firm behavior and stock prices. By varying overtime and across countries, they provide valuable between group variation that enhances the explanatory power of the model, particularly in a multi-country panel dataset. Therefore, even though GDP and inflation do not vary across firms within the same country and time, their temporal and cross-country variation still contributes meaningful explanatory power in a panel data setting involving multiple markets.

3.6. Method of Analysis

Analysis involves the computation of specific metrics as well as exploring the relationship and patterns within datasets (Kothari, 2009). In this work, the collected data was examined utilizing statistical approaches, including descriptive statistics and regression analysis. Descriptive statistics was employed to summarizes the data, specifically calculating the minimum, maximum, mean and standard deviation in total, between and within statistics. To investigate the effect of various explanatory variables such as Dividend payout ratio, Dividend yield, Firm Size, GDP and Inflation on the dependent variable- market stock price in selected African stock markets the study utilized Generalized Method of Moments (GMM) estimation technique.

In panel data analysis, for the regression model to yield valid causal inferences, one of the most critical assumptions is the exogeneity of the regressors. When this assumption is violated, endogeneity arises, leading to biased and inconsistent estimators, and consequently, unreliable inferences. The endogeneity problem rises from missing variables, measurement errors and independent and dependent variables simultaneity (Dang et al,2015). Traditional panel estimation methods, such as ordinary least squares (OLS), Random effect (RE) and Fixed effect (FE) are inadequate in dealing with endogeneity. To overcome these limitations, panel data estimator based

on the Generalized Method of Moments (GMM) have been developed. GMM estimators are specifically designed to address endogeneity and are capable of producing more reliable and consistent estimates. The GMM model incorporates lagged values of the dependent variable and internally transforms the data to account for endogeneity. Compared to the other panel data models, the GMM model provides a better estimation method in this regard.

Among the GMM estimators, two are particularly prominent due to their efficiency and adaptability to various data structures. The first is the Arellano-Bond estimator, or first-difference GMM (GMM-DIF), introduced by Arellano and Bond (1991). This method eliminates unobserved individual-specific effects by transforming the data through first-differencing. The second, more advanced approach is the System GMM estimator (GMM-Sys) developed by (Blundell & Bond, 1998), which extends the first-differenced GMM by incorporating additional moment conditions. This enhances efficiency and improves finite-sample performance.

Thus, the effect of dividend policy on share price is analyzed by using a dynamic panel model, specifically system Generalized Methods of Moments (Sys-GMM) which accounts to measurement errors, omitted variable bias, endogeneity, autocorrelation and unobserved panel heterogeneity (Ullah et al, 2018). Furthermore, System GMM is generally considered to be the best method since it is efficient and has minimal bias, which make it ideal for modeling causal links in corporate finance research. Accordingly, the researcher conducted or test for endogeneity using Durbin Wu-Hausman test. Therefore, it is better to apply system GMM to capture and address the problem of endogeneity.

3.6.1. Research Variables

Market Share Price: in this study, share price was used as a dependent variable. The interaction between demand and supply on the stock exchange determines a share price. When demand for shares is higher, share prices often rise, while supply is higher share price tends to fall. Because it represents the company worth, the share price is a crucial factor for investors to take into account when making capital market investments (Saptadi, 2007). It can be computed by taking the average market price of shares.

Dividend Yield: The dividend per share as a proportion of the market share price is how this is expressed. Dividend yield is the outcome of stock investments that investors can enjoy based on

their equity and acts as a signal when making investment decisions (Malhotra & Tandon ,2013). Dividend yield has a beneficial impact on stock prices; a company's increased dividend yield may draw in more potential investors, which raises the price of its shares (Brijlal & Enow ,2016). However, Aribaba et al. (2017) discovered a negative correlation between stock prices and dividend yield. A decrease in dividend yield can increase stock price. Companies reduce dividend distribution and retain the profit for investment and get more profit in future and can share more profits with investor in future, then increasing demand for company share and increase share prices. This study expects positive relationship between dividend yield and market share price.

Dividend Payout Ratio: It is the portion of profits that are distributed to shareholders each year as dividends. It can be computed as the dividend to earnings ratio per share. According to Cozorici (2015), the act of paying dividends presents a picture of a company's viability, and a consistent dividend payment boosts public confidence, which raises the firm's market value. The dividend payout ratio and firm share price were found to be positively correlated by Baskin (1989), Rashid and Rahman (2008), and Zakaria et al (2012). Additionally, this analysis anticipates a strong correlation between market share price and dividend payout ratio.

Firm Size: it is a measure of the company's size that is derived from the overall asset worth of the business. The firm's size is one of the internal corporate elements that might affect share price. Businesses with substantial assets show that their cash flow is promising and that they are more reliable and profitable than those with smaller assets. Share prices can therefore be influenced by a business's size; the larger the firm, as measured by its total assets, the higher the share price, and the smaller the company, the lower the share price. Additionally, Jeong (2013) and Asadi & Oladi (2015) discovered a favorable correlation between firm size and share price as well as dividend policy. The size of the firm showed significant relationship between the market share price of firms. Mukhtar & Asad (2016) examined the influence of firm size to determine the share price of firms; size of firms has been found to have an important relationship with share price. The natural logarithm of total asset will be used as a proxy for firm size. This study expects positive relationship between firm size and market share price of firms.

Gross Domestic Product (GDP): measured by the GDP growth rate, is a key indicator of a country's economic health and activity. According to the Organization for Economic Co-operation and Development, GDP is "an aggregate measure of production equal to the sum of the gross

values added by all resident and institutional units engaged in production, plus any taxes and minus any subsidies on products not included in the value of their outputs" (as cited in Nwanna et al., 2023). Higher GDP growth typically signals economic expansion, boosting corporate earnings and investor confidence, which in turn drives up stock prices. Conversely, slower GDP growth or economic contraction can negatively affect stock markets by reducing corporate profitability and dampening investment sentiment. This study expects positive relationship between GDP and Market share price of firms.

Inflation Rate: The percentage of price increases over a certain time period that results in a decline in the purchasing power of money is known as the inflation rate. According to studies, the stock market may suffer from inflation, and smaller and less liquid stock markets are associated with greater rates of inflation (Flannery et al., 2002). Current income becomes more significant in an inflationary environment, and shareholders often place a higher value on current yield than on long-term capital growth. As a result, they would anticipate a greater payout ratio (Natsir, 2014). This analysis anticipates a negative correlation between the market share price of company and the rate of inflation.

3.6.2. Model Specification

The following variables were incorporated to investigate the impact of dividend policy on share price in selected African stock markets, drawing from literature and empirical research. Dividend payout ratio, Dividend yield, Firm size, GDP and Inflation was taken as explanatory variables. Panel data regression relates heterogeneity issues are likely to arise over time for specific firms. The Generalized method of moments (GMM) specifically the system GMM was applied which take such heterogeneity in to account. The GMM model incorporates lagged values of the dependent variable and internally transforms the data to account for endogeneity. The relationship between the explanatory variables and the time-invariant individual specific fixed effects that are included in the error term is also taken into consideration by GMM. Additionally, the model considers the potential for autocorrelation caused by a lagged dependent variable. Moreover, the GMM model is the best fit for panel data with a large N and a short T (Mileva ,2007). Compared to the other panel data models, the GMM model provides a better estimation method in this regard.

The empirical model specified in this study is primarily grounded in dividend relevance theories, which argue that dividend policy has significant influence on firms share price. The bird in hand

theory posits that investors prefer certain and immediate dividend over uncertain future capital gains, thereby valuing firms with higher dividends more favorably. Similarly, the signaling theory suggests that dividends serve as a signal of firm profitability and future prospects, influencing investor behavior and market valuation. The inclusion of dividend payout ratio and dividend yield as a proxy for dividend policy is supported by bird in hand theory (Gordon, 1963) and the signaling theory (Linter, 1956). Besides, the dynamic nature of the model, represented by the inclusion of the lagged dependent variable, is consistent with theories suggesting that stock prices exhibit persistence and adjust over time. Firms specific factors such as firm size is included to control for variations in financial strength, market power, and investor perception. Macroeconomic variables including gross domestic product and inflation are incorporate based on broader capital market theories, which highlight the influence of economic condition on stock market performance.

Panel regression models take the general form:

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}$$

The empirical model adapting sys- GMM estimation technique is specified as follows:

$$MSP_{it} = \alpha + \beta_1 DY_{it} + \beta_2 DPR_{it} + \beta_3 FS_{it} + \beta_4 GDP_{it} + \beta_5 INF_{it} + \beta_6 MSP_{it-1} + \eta_i + \lambda_t + \varepsilon_{it}$$

Where,

- MSP_{it} = Market Share price and MSP_{it-1} is its lagged value.
- DY= Dividend Yield
- DPR= Dividend Payout Ratio
- FS = Firm Size
- GDP = Gross Domestic Product
- INF= Inflation
- α= are constant term
- All βs (β_1, β_2, β_3, β_4, β_5, and β_6) are coefficients of explanatory variables
- i and t = cross section and time respectively
- η_i = unobserved heterogeneity of the firms (Firm Specific effect)

- λ = time-specific fixed
- $\varepsilon_{it=}$ Error term

The Description of the variables, together with their measurement and expected sign, are shows in the following table.

Table 2: Summary of The Study Variables

Variables	Measurement	Expected sign
Dependent Variable		
Market Stock price	Average market share price	
Independent Variables		
Dividend Payout ratio	Dividend per share /Earnings per share	+
Dividend Yield	Dividend per share / Share Price	+
Control Variables		
Firm size	Log of total asset	+
GDP	GDP Growth Rate	+
Inflation	CPI	-

3.7. Model Diagnostic Test

3.7.1. Endogeneity Test

Before estimating the dynamic panel model, it is essential to examine whether endogeneity exists among the explanatory variables. Endogeneity may arise due to simultaneity, omitted variables, or the inclusion of a lagged dependent variable, which can bias and render OLS or fixed effects estimates inconsistent. To address this concern, statistical procedures such as the Durbin and Wu–Hausman (DWH) tests are commonly employed to detect the presence of endogeneity. The null hypothesis in these tests assumes that the regressors are exogenous, while rejection of the null indicates endogeneity. Establishing the existence of endogeneity is a critical diagnostic step, as it provides the justification for employing advanced estimation techniques such as System GMM, which are specifically designed to correct for such issues in dynamic panel settings.

3.7.1. Unit root Test for Panel Data

To examine the long-run relationships and causality among the dependent and explanatory variables, it is essential to first assess the stationarity of the data series. Non-stationary data can

produce spurious regression results; thus, unit root testing is a critical first step before further undertaking econometric analysis. For this reason, the Levin, Lin, and Chu (LLC) panel unit root test was employed.

The general model specification used for the LLC test is as follows:

$$\Delta Y_{it} = \alpha_i + \rho Y_{it} - 1 + \sum_{k=1}^{\rho} \gamma_{ik} \Delta Y_{it} - k + \varepsilon_{it}$$

Where: ΔY_{it} is the first difference of the variable of interest for entity i at time t, α_i captures individual specific fixed effects, ρ is the parameter of interest that tests for stationarity(null hypothesis: ρ=0, i.e. unit root), γik are coefficients on lagged differences to control for serial correlation, εit is the error term assumed to be white noise.

3.7.2. Arellano-Bond test for serial correlation

The Arellano-Bond test is one statistical method used to ascertain whether serial correlation is exists in the errors of a generalized method of moments (GMM) model. One problem with serial correlation in GMM models is that it might lead to skewed estimates. The Arellano-Bond test, a Lagrange multiplier test, is based on the notion that the errors in the GMM model are serially uncorrelated. If the Arellano-Bond test is significant, it indicates that the errors show serial correlation, which could distort the GMM estimations. The researcher carried out this test.

3.7.3. Sargan Test of Overidentification

A statistical test for determining if overidentifying limitations in the generalized method of moments (GMM) model are genuine is the Sargan test, a Lagrange multiplier test predicated on the idea that the restrictions are legitimate. The overidentifying limits may not be legitimate, and the GMM estimations may be skewed, if the Sargan test is significant. This test was also conducted by the researcher.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

The study findings were covered in this section. The dependent and independent variables' descriptive statistics are discussed in the first subsection. The results of several diagnostic tests and econometric research pertaining to the impact of dividend policy on the share price of listed companies in particular African stock markets are shown and explained in the second subsection.

4.1. Descriptive Statistics

Table 3 presents the descriptive statistics for the variables used in the study, based on a balanced panel of 572 observations. To better understand the structure of variation in the panel dataset, the statistics are decomposed into Overall, Between, and Within components. This approach allows for the identification of whether the variability in each variable is primarily attributed to differences across firms or changes over time.

The variables included in the analysis are Market Share Price (MSP), Dividend Yield (DY), Dividend Payout Ratio (DPR), Inflation Rate (INF), Gross Domestic Product (GDP), and Firm Size (logarithm of total assets). The table reports the mean, minimum, maximum, and standard deviation for each variable across the three components of variation.

Table 3: Summary Statistics of Variables

Variable		Mean	St.dev	Min	Max
MSP	Overall	3453.535	4252.849	84	28500
	Between		3881.283	202.9327	18433.27
	Within		1812.786	-4989.739	16345.68
DY	Overall	7.50474	10.60444	.02	116.01
	Between		8.175324	.7090909	44.83455
	Within		6.840225	-27.31981	89.09474
DPR	Overall	45.44353	38.59329	.3	403.2
	Between		26.01878	1.212727	121.9018
	Within		28.71099	-68.49829	371.2272
Inf	Overall	7.767288	4.503677	3.232388	24.65955
	Between		3.714332	5.254524	14.08623
	Within		2.593928	1.728464	18.3406
GDP	Overall	2.291985	2.825082	-6.168918	7.590489
	Between		1.530989	.9324051	4.575713
	Within		2.3829	-4.809338	6.516158
Log Total asset	Overall	10.57033	2.128899	6.240276	16.84338
	Between		2.114612	6.613163	15.67726
	Within		.3727391	9.422888	11.92658

Source: Stata 15 results, own computation

As indicated in Table 3, the average market share price of the sampled firms across the selected African stock markets is 3,453.53, with a standard deviation of 4,252.85. This relatively large standard deviation indicates a wide dispersion in stock prices both across firms and over time, suggesting substantial heterogeneity in firm valuation among the sampled markets. The between-firm standard deviation (3,881.28) exceeds the within-firm standard deviation (1,812.79), implying that most of the variation in stock prices is attributed to differences across firms rather than over time fluctuations within firms. This pattern highlights that firm-specific characteristics—such as profitability, growth opportunities, and financial policies—play a more dominant role in explaining stock price differences.

The average dividend yield of the sampled firms is 7.35, with an overall standard deviation of 10.60, indicating considerable variation in dividend yield among firms and over time. The between-firm standard deviation (8.17) is slightly higher than the within-firm standard deviation (6.84), suggesting that cross-sectional differences account for a larger share of the total variation in dividend yield. Firms with consistently strong financial performance or stable earnings tend to maintain higher dividend yields compared to others, underscoring the role of firm-specific characteristics in shaping dividend distribution behavior across the sample.

The average dividend payout ratio of the sampled firms is 45.44, with a standard deviation of 38.59, indicating a high degree of variability in firms' dividend distribution policies. The between-firm standard deviation (26.02) is smaller than the within-firm standard deviation (28.71), suggesting that the variation in dividend payout ratios is primarily driven by changes within firms over time rather than persistent differences across firms. This pattern reflects firms' flexibility in adjusting their dividend decisions in response to fluctuations in profitability, cash flow conditions, or broader economic circumstances. The dividend payout ratio ranges from a minimum of 0.3 to a maximum of 403.2, demonstrating significant heterogeneity in dividend behavior across the sample. The exceptionally high payout ratios observed during the COVID-19 pandemic period may indicate that some firms increased dividend payments to maintain investor confidence despite declining corporate earnings.

Inflation has a mean value of 7.76 and a standard deviation of 4.50, indicating that, on average, firms operate in a moderately inflationary environment with a moderate degree of variability in

price levels. The between-country standard deviation (3.71) is slightly higher than the within-country standard deviation (2.59), suggesting that variations in average inflation rates across countries contribute more to the overall variability than temporal changes within individual countries. This implies that the sampled countries experience distinct inflationary conditions, which may differently influence firm performance and stock market dynamics. The inflation rate ranges from a minimum of 3.23 to a maximum of 24.65, reflecting that while some firms operated in relatively stable price environments, others faced high inflationary conditions—factors that likely affect their financial decisions, including share price behavior.

Gross Domestic Product (GDP), measured as the annual percentage growth rate, has a mean value of 2.29 with a standard deviation of 2.82, indicating notable variation in economic performance among the sampled countries. The within-country standard deviation (2.38) is higher than the between-country standard deviation (1.53), suggesting that GDP growth fluctuates more significantly over time within individual countries than it differs on average across countries. The GDP growth rate ranges from a minimum of -6.16 to a maximum of 7.59, reflecting periods of both economic contraction and expansion within the sample period. This variation implies that some firms operated in economies experiencing downturns, while others benefited from stronger economic growth, which could influence corporate performance and ultimately affect share price movements.

Firm size, measured as the natural logarithm of total assets, has a mean value of 10.57 with a standard deviation of 2.12, indicating a considerable dispersion in firm size among the sampled companies. The between-firm standard deviation (2.11) is substantially larger than the within-firm standard deviation (0.37), suggesting that variations in firm size are primarily attributed to differences across firms rather than changes over time. The minimum and maximum values of 6.24 and 16.84, respectively, further illustrate the coexistence of both relatively small and large firms within the sampled stock markets. This heterogeneity in firm size implies structural differences in resource capacity, market reach, and growth potential, which may influence their financial performance and share price behavior.

4.2. Correlation Analysis

The findings of Pearson correlation analysis are presented in this portion of the study. To determine the direction and degree of the association between two or more variables, correlation analysis is

utilized. A correlation coefficient of zero reflects no linear relation between the variable, while the coefficient -1 may be, reflects an ideal negative correlation, to +1, indicates an ideal positive correlation. Based on these the result of the correlation analysis is discussed below.

Table 4: Correlation Analysis of Variables

	MSP	Lag MSP	DY	DPR	INF	GDP	Log Asset
MSP	1.0000						
Lag MSP	0.9144	1.0000					
DY	-0.1295	-0.1075	1.0000				
DPR	0.0799	0.0876	-0.0102	1.0000			
INF	-0.1199	-0.1512	-0.0903	0.0309	1.0000		
GDP	-0.0806	-0.1186	0.0378	0.0241	0.0674	1.0000	
Log Asset	-0.1061	-0.0932	0.1692	0.0198	0.3293	0.1312	1.0000

Source: Stata 15 results, own computation

The dependent variable Market Share Price coefficient has a strong positive correlation with its lagged values, which is 0.914, as seen in Table 4 above. This suggests that the current level of the market share price of listed firms is affected by its past value. The past value of the share price is usually highly predictive of its current value due to price momentum and persistence in financial markets.

While the dividend payout ratio has a positive association with market share price, the market share price has a negative, negligible, or weak correlation with dividend yield, GDP, inflation, and firm size (Log Asset). Overall, there is no significant correlation between the explanatory variables and the dependent variable. However, correlation analysis only shows the strength and direction of connections between variables; it does not allow the researcher to make inferences regarding the cause-and-effect relationship between the variables that have been identified. The econometric regression analysis discussed in the following section of this paper is certain to resolve the limitations of correlation analysis.

4.3. Econometric Analysis

4.3.1. Model Diagnostics and Robustness Test

4.3.1.1. Panel Unit Root Test

Panel data cannot be used in regression analysis until a stationarity test has been completed. Unit root tests are essential for determining whether a particular variable or series is stationary. The series is not stationary if there is a unit root. Unit root checks are essential before performing regression in panel data analysis because non-stationary data might produce inaccurate or deceptive regression results. To verify the stationarity of the variables, the Levin-Lin-Chu panel data unit root test was utilized. As seen in Table 5 below, the outcome shows that every variable is stationary at level. Now it is possible to move on to econometric analysis.

Table 5: Unit root test result based on Levin, Lin and Chu test

Variables	P-Value	Test for Unit Root
MPS	0.0095	Stationary at level
DY	0.0000	Stationary at level
DPR	0.0000	Stationary at level
INF	0.0007	Stationary at level
GDP	0.0000	Stationary at level
Log Total Asset	0.0033	Stationary at level

Source: Stata 15 results, own computation

4.3.1.2. Arellano Bond Test For Serial Correlation

After estimating the dynamic panel model using system GMM estimator, Arellano bond test is applied to check for serial autocorrelation. If the p-value is below 0.05, positive autocorrelation exists and reject null hypothesis of no autocorrelation. The test result shows that the Arellano bond AR (1) test has a p- value of 0.0138, which is significant. Indicating that the error terms contain first order autocorrelation. The null hypothesis of no autocorrelation, however, cannot be rejected by the Arellano-bond AR (2) because the 0.3779 p- value is greater than 0.05. This indicate that non- existence of second order autocorrelation means that moment conditions are likely valid and the GMM results are reliable with respect to serial correlation.

4.3.1.3. Sargan Test For Over Identifying Restrictions

The Sargan test is used to examine the validity of the over identifying restriction in system GMM models by testing whether the instruments are uncorrelated with the error term. The test result shows a p- value (0.6967) greater than 0.05, indicating that the instruments employed are valid and do not exhibit a correlation with the error term.

4.3.1.4. Endogeneity Test

To assess the presence of endogeneity, a Durbin-Wu-Hausman test was conducted. The null hypothesis states that the regressors are exogenous while rejection of the null hypothesis indicates the presence of endogeneity. The test result rejected the null hypothesis of exogeneity at the 5% level of significance (P-0.05), confirming the presence of endogeneity. Moreover, this result provide justification for the use of the system GMM estimator, which effectively address endogeneity issues.

4.3.1.5. Model Fit

The Wald chi-square test indicate the overall significance of the model. A large Wald chi-square value with an extremely significant value (0.000) confirm that the overall model is statistically significant, indicating that the explanatory variables collectively account for the variation in the dependent variables.

4.3.2. System GMM Estimation

Given the dynamic nature of the model and the potential endogeneity among explanatory variables, this study employed the System Generalized Method of Moments (System GMM) estimator to analyze the effect of dividend policy on share price in selected African stock markets. As discussed in the methodology section, traditional panel data estimators such as pooled OLS, Fixed Effects, and Random Effects are limited in addressing key econometric concerns, particularly simultaneity, omitted variable bias, and unobserved firm-level heterogeneity. System GMM offers a more robust framework by using internal instruments (lagged values of the variables) to control for endogeneity and dynamic panel bias, making it a suitable and reliable approach for this analysis. The results presented below are based on the two-step System GMM estimation, ensuring efficient and consistent parameter estimates.

Table 6: Two-step system GMM, dynamic panel-data estimation result

MSP	Coefficient	Std_error	Z	P>[Z]	(95% Confidence interval)	
MPS L1.	.6437382	.0011494	560.06	0.000	.6414854	.6459911
DY	-102.964	1.685419	-61.06	0.000	-106.2674	-99.66065
DPR	-3.596193	.1302621	-27.61	0.000	-3.851502	-3.340884
INF	90.77246	2.288417	39.67	0.000	86.28724	95.25767
GDP	86.04287	.6129702	140.37	0.000	84.84147	87.24427
Log Asset	-773.7715	19.47699	-39.73	0.000	-811.9457	-735.5973
_cons	9639.427	191.6629	50.29	0.000	9263.774	10015.08

Source: Stata 15 results, own computation

The market share price of companies listed on the selected African stock markets is significantly impacted negatively by the dividend yield. Assuming ceteris paribus, a one-unit rise or decrease in dividend yield results in a 102.96-unit change in the market share price of companies. A decline in market share price is linked to higher dividend yields, and vice versa. A high dividend yield may be a signal of low growth opportunities and investors may shift from high dividend-paying firms expecting stagnation. The study thus disproves the null hypothesis, according to which dividend yield significantly raises the share price of listed companies on a few African stock exchanges. This indicates that the positive correlation between market share price and dividend yield is not sufficiently supported by the available data. The study's conclusions align with those of Usman et al. (2020), Shah & Noreen (2016), Ahmad et al. (2018), and Kayode et al. (2022). Furthermore, the findings contradict the research findings of Abu &Adebayo (2016), Singh & Tandon (2019), and Ponsian et.al (2015).

The dividend payout ratio's coefficient is negative and significant at the 5% level of significance, as seen in table 6 above. This indicates that, assuming all other factors remain unchanged, a one-unit rise in the dividend payout ratio may result in a 3.596-unit drop in the market share prices of the company, and vice versa. Consequently, the analysis disproves the null hypothesis that the dividend payout ratio has a substantial positive influence on the market price of shares. This indicates that the positive correlation between the market share price of companies and the dividend payout ratio is not sufficiently supported by the available data. Firms paying out more of their earnings may be perceived as having lower future growth opportunities, leading to lower share value. The finding of this study is similar with those of previous study finding of by Abu &

Adebayo (2016) and Usman et al. (2020). While runs counter to the findings of Rashid & Rahman (2018), Michael (2016) and Adekunle et al. (2022), discovered a positive correlation between the dividend payout ratio and market share price.

Overall, the results show a statistically significant negative correlation between market share price and both dividend yield and dividend payout ratio. These findings run counter to Modigliani and Miller's dividend irrelevance argument, which contends that payout policy has no bearing on business value. However, the outcome supports Lintner's (1962) and Gordon's (1959) dividend relevance hypothesis. Furthermore, the results are consistent with a negative valuation perspective, which holds that listed corporations' share prices are negatively impacted by dividend policies. Investors might interpret the higher dividend payment of firms shows a signal of fewer investment growth opportunities, which leads to a decline in share price. Additionally, in African countries external financing is limited, investors may consider higher dividends as a reduction in retained earnings and future profitability, thereby discounting the firm's share price.

Moreover, the study includes the firm's unique variable, firm size, as well as the control macroeconomic variables, such as GDP and inflation. The outcome demonstrates that the market share price is significantly impacted by each control variable. The market share price rises as GDP and inflation rates rise, and vice versa, according to the positive and strong relationship between inflation and GDP. In terms of inflation, a one-unit increase in inflation is linked to a 90.77-unit gain in market share price; this is an unexpected or exceptional outcome, as typically high inflation lowers stock prices and real returns. Consequently, the analysis disproves the null hypothesis, which holds that inflation has a substantial negative impact on share price. Whereas, GDP has a positive significant effect on market share price, a one-unit increase in GDP leads to 86.04 unit increase in market share price. A growing economy boosts firm earnings and investor confidence. GDP's positive impact indicates that macroeconomic growth positively influences stock valuations, as expanding economies foster higher corporate earnings and investor confidence. As a result, the null hypothesis that there is a positive and significant correlation between GDP and firms market share price is not rejected by the study. Overall, the significant effect of macroeconomic control variables such as inflation and GDP highlight the need to consider the broader economic conditions when assessing dividend policy impacts.

Furthermore, a firm's market share price is significantly impacted negatively by its size. The share price decreases by 773.7 units for every unit rise in the firm's size. Keeping everything else equal, the market share price of businesses falls as their size grows. This may indicate that in certain stock markets, investors prefer smaller, growth-oriented companies over larger, more established ones that might prioritize consistent dividends over expansion. Thus, the study rejects the null hypothesis, according to which the market share price of listed firms is positively and significantly impacted by firm size. This finding is similar with finding of Guizani & Abaoub (2011) and Khaled &Rehman (2015) while, contradict the results found or reported by Asaid & Oladi (2015), Jeong (2013), and Koyode et. al (2022).

The dependent variable's lag coefficient (Lag_MSP) is substantial and positive. This suggests a correlation between present market share price and past year market share price. The market share price's historical value has a favorable impact on its current value. Keeping everything else equal, a one unit increase in the market price of shares during the prior period results in a 0.643 unit increase in the present market share price. This significant positive relationship shows that there is strong market persistence or momentum, meaning that the market doesn’t adjust instantly but partially over time.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1. Conclusion

This study examines the impact of dividend policy on the share prices of listed companies across selected African stock markets—South Africa, Nigeria, and Kenya—using panel data covering the period from 2013 to 2023. A dynamic panel data approach, specifically the two-step System Generalized Method of Moments (System GMM), was employed to account for endogeneity, autocorrelation, and firm-specific effects. The robustness of the model was validated through standard diagnostic tests, including the Sargan test for instrument validity and the Arellano-Bond test for autocorrelation.

The study primary independent variables are dividend yield and dividend payout ratio, whereas the control variables include firm specific variable, firm size and macroeconomic variables including inflation and GDP. The study finds that dividend policy as measured by dividend payout ratio and dividend yield, has a negative and significantly affect share price in the selected African stock markets. The finding supports dividend relevance theory, suggesting that dividend decisions are not neutral but play an active role in shaping investor expectation and firm valuation. The observed negative relationship can be explained by several market specific dynamics. In developing markets such as those in Africa, investor may prefer firms that retain and reinvest earnings over those that distribute dividends, especially where external financing options are limited or costly. High dividend payments may signal a lack of profitable investment opportunities thereby lowering expectations for future growth and reducing share valuation. Moreover, in markets characterized by economic uncertainty or volatility, frequent or high dividend distribution can place pressure on firm's liquidity position, leading investors to perceive such firms as less financially resilient. With a few exceptions, the study's results generally consistent with those of a number of earlier studies.

Similarly, the study reveals a negative and significant effect of firm size on share price. This implies that larger firms may not necessarily be perceived as more profitable or attractive to investors, possibly due to inefficiencies or limited transparency. Larger firms tend to experience slower growth opportunities or lose strategic focus, which reduce investor confidence and also

affect share price. In contrast investors can view smaller firms as more agile and innovative especially in rapidly changing markets like Africa.

Additionally, the study demonstrates that macroeconomic factors such as GDP and inflation have a statistically significant positive impact on share price. The positive impact of GDP indicate that economic growth improves corporate earnings potential and investor sentiment, thereby boosting share prices. In periods of rising GDP, businesses often experience increased demand, higher profitability, and improved investor confidence, all of which contribute to upward pressure on stock valuations. Likewise, the positive relationship between inflation and share price is explained by during inflationary periods, equities are often considered better hedges compared to fixed income assets, attracting investors toward the stock markets. Although, share price are determined by market demand and supply, a firm's ability to maintain profitability during inflation such as by-passing rising input costs onto customers, signaling financial resilience. This, in turn shapes investor expectations and increases the attractiveness of such firms, ultimately exerting a positive influence on share prices. Moreover, inflation can boost nominal corporate earnings, especially for firms with strong pricing power, thereby enhancing their perceived profitability and valuation in the eyes of investors.

Generally, this research adds to the expanding corpus of literature emphasizing the significance of dividend policy in developing markets. From a policy standpoint, firms in African markets should consider how dividend decisions signal internal financing conditions and growth potential to investors. From an academic perspective, this study adds to the evolving literature by employing a dynamic panel data model and a cross-country sample to more robustly test dividend theories in the African context.

5.2. Recommendation

The study's findings led to the following recommendation being made:

- ✓ For company manager, they should carefully balance dividend yield and payout ratio as these significantly influence market share price. Dividend may serve as a signal for financial health. Paying too much dividend is not advisable since it indicate the company limited investment opportunities. Companies should assess their dividend policies and aim for a balance between satisfying investors expectation and preserving sufficient retained earnings for reinvestment and growth.

- ✓ For investors, those invest in Africa stock markets should consider that high dividend payouts may not always signal strong performance, firms may be sacrificing future growth potential to distribute earnings as dividend today. Additionally, in time of making investment decision investor not only consider dividend policy of firms rather take into account other factors including macroeconomic conditions as well firm specific attributes.
- ✓ For future research, it is recommended to incorporate other African stock markets to improve the generalizability of the research findings. Furthermore, sector-level analysis of the impact of dividend policy on share price should be conducted.

REFERENCE

Adnan. A, Farzand A.J, & Ilyas, S. (2015). The effect of dividend policy on stock price. International Journal of business and management studies,3(1). pp.56-87.

Ajao, M. G., & Robinson, F. E. (2022). Dividend Policy Determinants and Stock Price Volatility in selected African stock markets. International Journal of finance research,3(1). pp.27-48.

Arnold, G. (2005). Corporate financial management, (4th ed). Great Britain: Bell & Bain Ltd.

Akerlof, G. A. (1970). The market for "Lemons": Quality uncertainty and the market mechanism. The Quarterly Journal of Economics, 84(3), pp.488-500.

Al-Malkawi, H.N., Rafferty, M. & Pillai, R. (2010) Dividend Policy: A Review of Theories and Empirical evidence. International bulletin of business administration,9, pp,171-199.

Al-Tamimi, Hussein (2007). Factors affecting stock price in the UAE financial markets. The Business Review, 5(2), pp.225-233.

Allahawiah, S., & Al-Amro, S. (2012). Factors affecting Stock Market Prices in Amman Stock Exchange. European Journal of Business and Management, 4(8), pp.236-245.

Asadi, A. & Oladi, M. (2015). Dynamic determinants of dividend in affiliated and unaffiliated firms to government in Tehran stock exchange. Iranian Journal of Management Studies, 8(1), pp.139-155.

Adekunle, O, K., Ishola, R, A. & Ayodeji, T, A., (2022). The effect of dividend policy on share price volatility of some selected companies on the Nigerian exchange, journal of Accounting, Business and Finance Research, 15(1), pp.10-20.

Ahmad, M. A, Alrjoub, A .M & Alrabba, H .M, (2018). The Effect of Dividend Policy on Stock Price Volatility: Empirical Evidence from Amman Stock Exchange', Academy of Accounting and Financial Studies Journal, 22(2), pp. 1-8.

Apsari, I. A., Dwiatmoko, B., & Azizah, D. F. (2015). Return on equity, net profit margin, debt to equity ratio, and long-term debt to equity ratio, and price book value. Journal of business administration, 27(2), pp.23-33.

Araoye, F. E., Aruwaji, A. M., &Ajya, E. O. (2019). Effect of dividend policy on stock price volatility in Nigeria Stock Exchange. International Journal of Accounting and Financial Reporting, 9(2), pp. 219-231.

Aribaba, F. O., Ahmodu, O. I., Ogbeide, S. O., & Olaleye, J. O. (2017). Dividend policy and share price changes in the stock market: Evidence from Nigeria. Journal of Business and Organizational Development, 9(4), pp. 30-47.

Bachmeier, M., & Sinha, T. (2023). The Effect of Dividend Policy on Stock Price Volatility: Empirical Analysis of the S&P 100. International Journal of Public Administration, Management and Economic Development, *8*(1), pp. 18–33.

Bamidele M. I & Luqman S. O, (2018). The effect of Dividend policy on stock price in Nigeria, Danubius University of Galati, issue 14(6), pp. 55-71.

Baskin, J. (1989). Dividend Policy and the Volatility of Common Stock. Journal of Portfolio Management, 15, pp.19-25.

Brigham, E.F. & Houston, J.F. (2004). Fundamentals of Financial Management, tenth edition, Thomson, South-Western, Ohio.

Bhattacharya, S. (1979), Imperfect information, dividend policy, and "the bird in hand" fallacy, The Bell Journal of Economics, 10(1), pp. 259-270.

Brennan, M., (1970), "Taxes, Market Valuation and Corporation Financial Policy", National Tax Journal, Vol 23, pp. 417-427.

Black F. & Scholes M., (1974). The effect of dividend yield and dividend policy on common stock price and returns. Journal of Financial Economics, 1(1), pp.1-22.

Blundell, R., & Bond, S. R. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics, 87(1), pp. 115–143.

Cozorici, A.N. (2015). Dividend policy, signal information for the capital market. The USV Annals of Economics and Public Administration, 15, pp.87-94.

Dang, V. A., Kim, M., & Shin, Y. (2015). In search of robust methods for dynamic panel data models in empirical corporate finance. Journal of Banking & Finance, 53, pp. 84–98.

DeAngelo.H, Linda.D, & Rene. S. (2006). "Dividend Policy and the Earned/Contributed Capital Mix: A Test of the Life-Cycle Theory." Journal of Financial Economics 81(2), pp.227–254.

Dickens, R., Casey, K. & Newman, J. (2002). Bank Dividend Policy: Explanatory Factors. Quarterly Journal of Business and Economics, 41(1), pp.3-12.

Droughty, (2000), The Joy of Money. London: Simon &Schuster Ltd.

Dona. G, (2019). Impact of dividend announcement on stock price; empirical evidence of Colombo Stock Exchange. Journal of Accounting, Finance, & Auditing Studies, 5(1), pp.213 – 225.

Enow.S, & Brijlal, P. (2016). Determinants of share price: a case of listed firms on Johannesburg stock exchange. Journal of Accounting and management,6(1), pp.85-92.

Fama, Eugene F., and Kenneth R. French, (2002). Testing trade-off and pecking order predictions about dividends and debt, Review of Financial Studies 15, pp.1-33.

Flannery, M & Protopapadakis, A. (2002). Macroeconomic Factors Do Influence Aggregate Stock Returns.

Gwaska, D. (2017) Dividend and Dividend policy, 15-20.

Grullon. G, Roni. M, & Bhaskaran.S.(2002). "Are Dividend Changes a Sign of Firm Maturity?" Journal of Business 75(3), pp.387–424.

Gordon, M. J. (1976) "Optimal investment and financing policy" in D'Ambiosio, C and Archer, S. the theory of Business finance: A Book of Reedings (2nd Ed), New York, Collier Macmillan.

Gordon, M. J (1962). The investment, financing and valuation of the corporation, Illinois, Richard D. Irwin.

Gordon M. J. (1963). Optimal Investment and Financing Policy, Journal of Finance, pp. 264-272

Guizani, M.& Abaoub, E. (2011). Does the contribution of dividends to firm value depend on controlling shareholders? International Journal of Disclosure and Governance, 9(1), pp.62-77.

Hamdouni, A. (2012). Dividend Policy and Corporate Governance in Saudi Stock Market. Archives Des Sciences Journal, pp.24-65.

Ha, N, & Minh, B. (2018). Determinants of firm value in Vietnam: A research framework. International Journal of Science and Research, 9(1), pp.11-23.

Hirak, R & Joy, S. (2014). Macroeconomic link to Indian capital market: a post liberalization evidence. Journal of modern economy,5(4), pp.79-96.

Hong, H., Bian, Z., & Lee, C. C. (2021). COVID-19 and instability of stock market performance: Evidence from the US. Financial Innovation, 7(1), pp.12.

Hunjra, A.I. (2018). The mediating role of dividend policy between determining factors and organizational financial performance. Compelling Economics & Finance, 6(1).

Jakarta, O., & Nyamugure, P. (2015). The effects of dividend policy on share prices: Empirical evidence from Zimbabwe stock exchange. International Journal of Science and Research, 4(10), pp.674-683.

Jensen, M. (1986). Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review*, 76*(2), pp.323–329.

Jensen, M. & Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure, Journal of Financial Economics*, (4*), pp.30-60.

Jeong J. (2013). Determinants of dividend smoothing in an emerging market: The case of Korea. Emerging Markets Review, 17(1), pp.76–88.

Kayode, K., Gbenga, O. & Ayobami, R. (2022). Effect of Dividend Policy on Share Price Movement: Focusing on Companies Listed on the Nigerian Stock Exchange Market. Financial Markets, Institutions and Risks, *6*(4), pp.101-108.

Karaibrahimoglu, Y & Ozkan, S. (2011). "Audit Quality and Earnings Management in Interim Financial Reports" (In The 34th Annual Congress of European Accounting Association, 2011), pp. 20–22.

Khalid, S., & Rehman, M. (2015). Determination of factors affecting the dividend policy of organizations. International Journal of Information, Business and Management, 8 (3), pp.319-333.

Kolb, R.W & Rodrigez, R.J (1996). Financial management, 2nd edition. Wiley

Kulhanek, L. (2011). Money, Stock Prices and Economic Activity in Selected European Countries. Journal of Advanced Studies in Finance, 2 (4), pp. 101-115

Labhane. B, & Das, C. (2015). Determinants of dividend payout ratio: evidence from Indian companies. Business and Economic Research,5(2), pp.217-241.

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. The American Economic Review.

Lintner, J. (1962). Dividends, Earnings, Leverage, Stock Prices and the Supply of Capital to Corporations. The Review of Economics and Statistics, 44(3), pp.243.

Mafiejor, M. (2021). Analysis of Dividend Policies, Theories, And Models. International Journal of Business & Law Research 9(3): pp.185-197.

McManus, D., Gwilym. A & Thomas, S. (2004). The role of payout ratio in the relationship between stock return and dividend yield. Journal of Business finance and Accounting, 31(9), pp,1355-1387.

Mileva, E. (2007). Using Arellano-Bond Dynamic Panel GMM Estimators in Stata. Fordham University.

Myers, S. (1984). The capital structure puzzle, The Journal of Finance, 39(3), pp. 575–592.

Miller, M. & Modigliani, F. (1961). Dividend policy, growth and the valuation of shares. The Journal of Business, *34*(4), pp.411-433.

Miller M. & Rock K. (1985) "Dividend Policy under Asymmetric Information" The Journal of Finance, 40, pp.1118-1141.

Miller, M., & Scholes, M. (1978), "Dividends and Taxes." Journal of Financial Economics, (6), pp. 333-364.

Murniati, S., Mus, H., Semmaila, H., & Nur, A. (2019). Effect of investment decisions, financing decisions and dividend policy on profitability and value of the firm. International Journal of Accounting & Finance in Asia Pacific *(IJAFAP), 2*(1), pp.1-10.

Mohammed. M & Abdelghani. E (2019). Dividend policy and payout practice in Malaysia: a qualitative analysis. Journal of Accounting, Finance and Auditing studies. 5(1); pp. 226- 240.

Michael. M. (2016). The effect of dividend policy on share prices: a case study of companies listed in the Nairobi securities exchange. United States International University Africa.

Narula, R., Rao, P., & Rao, A. (2023). The impact of ESG on firm value: a conceptual review of the literature. Journal of Social and Economic Development, 25, pp.162–179.

Natsir. M, (2014) Monetary Economics and Central Bank, Jakarta: Mitra Wacana Media.

Omerhodzic, S (2014). Identification and Evaluation of Factors of Dividend Policy, Scientific review 47(1): pp.42-58.

Ponsian, N., Prosper, K., Yuda, T., & Samwel, G. (2015). Relationship between dividend policy and share price. Archives of Business Research,3(3), pp.11-20.

Rabindra .J. (2012). Effects of Dividends on Stock Prices in Nepal. NRB Economic Review, pp.62- 74.

Rashid, A., & Rahman, A. (2008). Dividend Policy and Stock Volatility: Evidence from Bangladesh.

Rehman, O. U. (2016). Impact of capital structure and dividend policy on firm value. Journal of Poverty, Investment and Development, 21(1), pp.40-57.

Ross, S.A, Westerfield, R.W. & Jaffe, J. (2002). Corporate Finance,1(6). New York: McGraw-Hill/Irwin.

Rozeff, M. (1982). Growth, beta, and agency costs as determinants of dividend payout ratios.

Journal of Financial Research 5(3): pp.249- 259.

Rustagi, R. P. (2001). Financial Management, Galgotia Publishing Company, 806.

Riaz, F., Parveen, S., & Khan, A. (2022). Fiscal consolidation and, current-account dynamics in South-Asian countries. Journal of Contemporary Macroeconomic Issues, 3(2), pp.13–29.

Stevens, J. L., & Jose, M. L. (1992). The effects of dividend payout, stability, and smoothing on firm value. Journal of Accounting, Auditing & Finance, 7(2), pp.195-212.

Shah, S. & Noreen, U. (2016). Stock price volatility and role of dividend policy: Empirical evidence from Pakistan. International Journal of Economics and Financial Issues, 6(2), pp.461-472.

Sharma, S. (2011). Determinants of Equity Share Prices in India. Journal of Arts, Science and Commerce, 2(4), pp. 51-60.

Singh, N., & Tandon, A. (2019). The Effect of Dividend Policy on Stock Price: Evidence from the Indian Market. Asia-Pacific Journal of Management Research and Innovation, *15*(1-2), pp.7-15.

Tandon, K., & Malhotra, N. (2013). Determinants of stock prices: Empirical evidence from NSE 100 companies. International Journal of Research in Management & Technology (IJRMT), ISSN,2249-9563.

Uddin, R., Rahman, Z., & Hossain, R. (2013). Determinants of stock prices in financial sector companies in Bangladesh: A study on Dhaka Stock Exchange. Interdisciplinary Journal of Contemporary Research in Business, 5(3), pp.471-480.

Ullah, A., Pinglu, C., Ullah, S., Zaman, M., & Hashmi, S. H. (2020). The nexus between capital structure, firm-specific factors, macroeconomic factors, and financial performance in the textile sector of Pakistan, 6(8), pp.231-241.

Usman. B, Lestari. H & Sofyan. S (2020). The effect of dividend policy on share price manufacturing companies in Indonesia.

Watson & Head, W. D. (2010). Corporate Finance: Principles & Practice. (5. ed.) Pearson Education Limited.

Wang.X, Xie.J, Zhang.B & Zhao.X, (2024). Unreveling the dividend Puzzle: a field experiment. Working papers 202406, University of Macau, facility of business administration.

Zakaria, Z., Muhammad, T., & Zulkifli, A. H. (2012). The Impact of Dividend Policy on the Share Price Volatility: Malaysian Construction and Material Companies. International Journal

Economics and Management Sciences, 2, pp.1-8

APPENDEX

Annex I: African Stock Markets Data

Economy	Exchange	Founded	Listings	Market capitalization %GDP
Algeria	Algiers Stock Exchange	1997	6	0.280
Botswana	Botswana Stock Exchange	1989	44	18.174
Cameroon	Douala Stock Exchange	2001	2	
CapeVerde	Bolsa de Valores	1998		
Egypt	Egyptian Exchange	1883	265	14.000
Gabon	Bourse des Valeurs Mobilières de	2003		16.700
Ghana	Ghana Stock Exchange	1990	37	8.324
Ivory Coast	Bourse Régionale des	1998	39	
Kenya	Nairobi Securities Exchange	1954	64	9.524
Libya	Libyan Stock Market	2007	7	
Malawi	Malawi Stock Exchange	1995	14	
Mauritius	Stock Exchange of Mauritius	1988	170	40.201
Morocco	Casablanca Stock Exchange	1929	81	42.800
Mozambique	de Moçambique	1999		
Namibia	Namibian Stock Exchange	1992	47	18.253
Nigeria	Nigerian Exchange Group	1960	148	17.797
Rwanda	Rwanda Stock Exchange	2011/2008	10	23.675
South Africa	JSE Limited	1887	295	320.600
Sudan	Khartoum Stock Exchange	1994	54	
Eswatini	Eswatini Stock Exchange	1990	10	
Tanzania	Dar es Salaam Stock Exchange	1998	29	9.800
Tunisia	Bourse de Tunis	1969	56	16.397
Uganda	Uganda Securities Exchange	1997	17	
Zambia	Lusaka Stock Exchange	1994	24	18.452
Zimbabwe	Zimbabwe Stock Exchange	1948	59	

Annex II: Sample Firms from selected stock Markets

company name		
South Africa	**Nigerian**	**Kenya**
Afrimat Limited	Fidelity Bank Plc	Kapchorua Tea Kenya Plc.
Avi Limited	Nem Insurance Plc	Kakuzi Plc
Bowler Metcalf Limited	Npf Microfinance Bank Plc	Williamson Tea Kenya Plc.
Capitec Bank Holdings Limited	United Bank for Africa Plc	Total Kenya Ltd.
Capricorn Group Limited	Zenith Bank Plc	Jubilee Holdings Ltd
Clientele Limited	Nigerian Aviation Handling Company Plc	Stanbic Holdings Ltd.
Compagnie Financiere Richemont Sa	Red Star Express Plc	I & M Holdings Plc.
Drdgold Limited	University Press Plc.	Diamond Trust Bank Kenya Ltd
Firstrand Limited	Conoil Plc	NCBA Group Plc.
Firstrand Namibia Limited	TotalEnergies Marketing Nigeria Plc	Standard Chartered Bank Kenya Ltd.
Italtile Limited	Berger Paints Plc	The Co-operative Bank of Kenya Ltd
Kumba Iron Ore Limited	beta glass plc	Kenya Re - Insurance Corporation Ltd.
Lewis Group Limited	Dangote Cement Plc.	B.O.C Kenya Plc.
Mondi Plc		Safaricom Plc.
Mr Price Group Limited		
Mustek Limited		
Netcare Limited		
Oceana Group Limited		
Out-surance GROUP LIMITED		
Pick N Pay Stores Limited		
Raubex Group Limited		
Remgro Limited		
Resilient Reit Limited		
Reunert Limited		
Jse Limited		

Annex III: Descriptive statistics

```
. summarize MSP DY DPR INF GDP log_Asset
```

Variable	Obs	Mean	Std. Dev.	Min	Max
MSP	572	3453.535	4252.849	84	28500
DY	572	7.50474	10.60444	.02	116.01
DPR	572	45.44353	38.59329	.3	403.2
INF	572	7.767288	4.503677	3.232388	24.65955
GDP	572	2.291985	2.825082	-6.168918	7.590489
log_Asset	572	10.57033	2.128899	6.240276	16.84338

Annex IV: Correlation analysis

```
. corr MSP lag_MSP DY DPR INF GDP log_Asset
(obs=520)
```

	MSP	lag_MSP	DY	DPR	INF	GDP	log_As~t
MSP	1.0000						
lag_MSP	0.9144	1.0000					
DY	-0.1295	-0.1075	1.0000				
DPR	0.0799	0.0876	-0.0102	1.0000			
INF	-0.1199	-0.1512	-0.0903	0.0309	1.0000		
GDP	-0.0806	-0.1186	0.0378	0.0241	0.0674	1.0000	
log_Asset	-0.1061	-0.0932	0.1692	0.0198	0.3293	0.1312	1.0000

Annex VI: Unit root test results

```
. xtunitroot llc MSP

Levin-Lin-Chu unit-root test for MSP
------------------------------------

Ho: Panels contain unit roots               Number of panels  =     52
Ha: Panels are stationary                   Number of periods =     11

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 7.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t         -9.5187
 Adjusted t*          -2.3457        0.0095
------------------------------------------------------------------------------

. xtunitroot llc DY

Levin-Lin-Chu unit-root test for DY
-----------------------------------

Ho: Panels contain unit roots               Number of panels  =     52
Ha: Panels are stationary                   Number of periods =     11

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 7.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t        -12.5565
 Adjusted t*          -5.0418        0.0000
------------------------------------------------------------------------------
```

```
. xtunitroot llc DPR

Levin-Lin-Chu unit-root test for DPR
-------------------------------------
Ho: Panels contain unit roots               Number of panels  =     52
Ha: Panels are stationary                   Number of periods =     11

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 7.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -20.7075
 Adjusted t*        -14.3770        0.0000
------------------------------------------------------------------------------

. xtunitroot llc INF

Levin-Lin-Chu unit-root test for INF
-------------------------------------
Ho: Panels contain unit roots               Number of panels  =     52
Ha: Panels are stationary                   Number of periods =     11

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 7.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -11.7719
 Adjusted t*         -3.2003        0.0007
------------------------------------------------------------------------------

. xtunitroot llc GDP

Levin-Lin-Chu unit-root test for GDP
-------------------------------------
Ho: Panels contain unit roots               Number of panels  =     52
Ha: Panels are stationary                   Number of periods =     11

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 7.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -24.7706
 Adjusted t*        -16.5773        0.0000
------------------------------------------------------------------------------

. xtunitroot llc log_Asset

Levin-Lin-Chu unit-root test for log_Asset
-------------------------------------------
Ho: Panels contain unit roots               Number of panels  =     52
Ha: Panels are stationary                   Number of periods =     11

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 7.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t        -5.0092
 Adjusted t*         -2.7200        0.0033
------------------------------------------------------------------------------
```

Annex VII: Pooled OLS regression

```
. reg MSP DY DPR INF GDP log_Asset
```

Source	SS	df	MS		
				Number of obs	= 572
				F(5, 566)	= 5.78
Model	501373624	5	100274725	Prob > F	= 0.0000
Residual	9.8261e+09	566	17360682.5	R-squared	= 0.0485
				Adj R-squared	= 0.0401
Total	1.0328e+10	571	18086724.9	Root MSE	= 4166.6

MSP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DY	-51.92251	16.83659	-3.08	0.002	-84.99233	-18.85268
DPR	10.37182	4.524565	2.29	0.022	1.484827	19.2588
INF	-104.8973	41.41856	-2.53	0.012	-186.2501	-23.54442
GDP	-126.4073	62.27736	-2.03	0.043	-248.7303	-4.084353
log_Asset	-63.74839	88.97062	-0.72	0.474	-238.5013	111.0045
_cons	5150.2	900.9615	5.72	0.000	3380.564	6919.836

Annex VIII: Fixed and random effect model selection

```
. xtreg MSP DY DPR INF GDP log_Asset,fe

Fixed-effects (within) regression               Number of obs      =       572
Group variable: companycode                     Number of groups   =        52

R-sq:                                           Obs per group:
     within  = 0.1034                                         min =        11
     between = 0.0153                                         avg =      11.0
     overall = 0.0054                                         max =        11

                                                F(5,515)           =     11.88
corr(u_i, Xb)  = -0.5570                        Prob > F           =    0.0000
```

MSP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DY	-54.61316	11.14903	-4.90	0.000	-76.51633	-32.70999
DPR	3.865216	2.667503	1.45	0.148	-1.375311	9.105742
INF	64.79758	32.24855	2.01	0.045	1.442693	128.1525
GDP	58.44022	32.01316	1.83	0.069	-4.452221	121.3327
log_Asset	1008.406	224.3251	4.50	0.000	567.7009	1449.111
_cons	-7608.681	2287.417	-3.33	0.001	-12102.5	-3114.865
sigma_u	4711.3452					
sigma_e	1807.4204					
rho	.87170801	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(51, 515) = 48.88                     Prob > F = 0.0000

. xtreg MSP DY DPR INF GDP log_Asset,re

Random-effects GLS regression                   Number of obs      =       572
Group variable: companycode                     Number of groups   =        52

R-sq:                                           Obs per group:
     within  = 0.0954                                         min =        11
     between = 0.0136                                         avg =      11.0
     overall = 0.0025                                         max =        11

                                                Wald chi2(5)       =     43.12
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
```

MSP	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DY	-53.07919	11.15394	-4.76	0.000	-74.94051	-31.21787
DPR	3.902217	2.681463	1.46	0.146	-1.353354	9.157788
INF	78.29475	31.28906	2.50	0.012	16.96932	139.6202
GDP	43.76427	32.25371	1.36	0.175	-19.45185	106.9804
log_Asset	482.2677	172.6295	2.79	0.005	143.92	820.6154
_cons	-2131.622	1837.122	-1.16	0.246	-5732.316	1469.071
sigma_u	3763.9076					
sigma_e	1807.4204					
rho	.81261834	(fraction of variance due to u_i)				

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
DY	-54.61316	-53.07919	-1.533972	.
DPR	3.865216	3.902217	-.0370013	.
INF	64.79758	78.29475	-13.49717	7.807923
GDP	58.44022	43.76427	14.67594	.
log_Asset	1008.406	482.2677	526.1381	143.2509

```
                b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                        =       16.20
              Prob>chi2 =      0.0063
              (V_b-V_B is not positive definite)
```

Annex IX: System GMM result

```
. xtdpdsys MSP DY DPR INF GDP log_Asset, lags(1) twostep artests(2)

System dynamic panel-data estimation            Number of obs     =        520
Group variable: companycode                     Number of groups  =         52
Time variable: year
                                                Obs per group:
                                                              min =         10
                                                              avg =         10
                                                              max =         10

Number of instruments =     60                  Wald chi2(6)      =   2.53e+06
                                                Prob > chi2       =     0.0000
Two-step results
```

MSP	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
MSP						
L1.	.6437382	.0011494	560.06	0.000	.6414854	.6459911
DY	-102.964	1.685419	-61.09	0.000	-106.2674	-99.66065
DPR	-3.596193	.1302621	-27.61	0.000	-3.851502	-3.340884
INF	90.77246	2.288417	39.67	0.000	86.28724	95.25767
GDP	86.04287	.6129702	140.37	0.000	84.84147	87.24427
log_Asset	-773.7715	19.47699	-39.73	0.000	-811.9457	-735.5973
_cons	9639.427	191.6629	50.29	0.000	9263.774	10015.08

```
Warning: gmm two-step standard errors are biased; robust standard
         errors are recommended.
Instruments for differenced equation
        GMM-type: L(2/.).MSP
        Standard: D.DY D.DPR D.INF D.GDP D.log_Asset
Instruments for level equation
        GMM-type: LD.MSP
        Standard: _cons
```

Annex X: Arellano- Bond test result – Autocorrelation

```
.  estat abond

Arellano-Bond test for zero autocorrelation in first-differenced errors
```

Order	z	Prob > z
1	-2.4616	0.0138
2	-.88181	0.3779

H0: no autocorrelation

Annex xi: Sargan Test: Over identification

```
. estat sargan
Sargan test of overidentifying restrictions
        H0: overidentifying restrictions are valid

        chi2(53)     =  47.24655
        Prob > chi2  =    0.6967
```

Testparm result

```
       F( 51,   515) =   48.88
            Prob > F =    0.0000
```

Annex xii: Endogeneity Test Result

```
. estat endogenous

  Tests of endogeneity
  Ho: variables are exogenous

  Durbin (score) chi2(3)          =   45.258  (p = 0.0000)
  Wu-Hausman F(3,458)             =  16.3442  (p = 0.0000)
```