

**ASSESSING THE EFFECTIVENESS OF THE DIVIDEND
YIELD BASED INVESTMENT STRATEGY: A CASE STUDY
OF THE DOGS OF THE DOW STRATEGY IN THE
INDONESIA STOCK EXCHANGE (IDX) LQ45 INDEX FROM
2012 TO 2022**

FINAL PROJECT

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for the master's degree
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(Master of Business Administration Program)**



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ABSTRACT

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The DoD strategy, traditionally applied in the context of the Dow Jones Industrial Average, is predicated on purchasing the ten highest dividend-yielding stocks at the start of each year. It is a methodology that promises a simple, yet effective, strategy for stock investment. However, its efficacy in different markets and over varying time horizons remains a topic of robust debate among scholars and practitioners alike.

This research undertakes a rigorous examination of the Dogs of the Dow (DoD) strategy within the specific framework of the Indonesian stock market, particularly focusing on the performance within the LQ45 index from 2012 to 2022 with objective to provide an updated evaluation of the DoD strategy's effectiveness within the Indonesian market, specifically the LQ45 index. In addition, it assesses whether the DoD strategy, with its focus on high dividend-yielding stocks, can offer a suitable and potentially profitable investment approach for individual who are relatively late to join the stock market or near retirement as well as adding depth to the existing body of knowledge on dividend yield-based investment strategies in emerging markets.

Although not all of the Dogs of the Dow portfolio manages to outperform the IDX composite Index (IHSG) and the LQ45 Index, the empirical finding suggests that the Fund Allocation portfolio and the Penultimate Profit Prospect have outperformed the mentioned indices.

Keywords: Indonesia Stock Exchange, Dividend Yield, Dogs of the Dow, Investment Strategy

ABSTRAK

MENILAI EFEKTIVITAS STRATEGI INVESTASI BERBASIS DIVIDEND YIELD: STUDI KASUS STRATEGI DOGS OF THE DOW DI BURSA EFEK INDONESIA (BEI) INDEKS LQ45 DARI TAHUN 2012 HINGGA 2022

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Strategi Dogs of the Dow, yang secara tradisional diterapkan dalam konteks Dow Jones Industrial Average, didasarkan pada pembelian sepuluh saham dengan dividen tertinggi di awal setiap tahun. Ini adalah metodologi yang menjanjikan strategi investasi saham yang sederhana, namun efektif. Namun, efektivitasnya dalam pasar yang berbeda dan rentang waktu yang beragam tetap menjadi topik perdebatan yang kuat di antara para ilmuwan dan praktisi.

Penelitian ini melakukan pemeriksaan teliti terhadap strategi Dogs of the Dow (DoD) dalam kerangka pasar saham Indonesia yang spesifik, terutama berfokus pada kinerja dalam indeks LQ45 dari tahun 2012 hingga 2022 dengan tujuan untuk memberikan evaluasi terkini tentang efektivitas strategi DoD dalam pasar Indonesia, khususnya indeks LQ45. Selain itu, penelitian ini menilai apakah strategi DoD, dengan fokusnya pada saham yang memberikan dividen tinggi, dapat menawarkan pendekatan investasi yang sesuai dan berpotensi menguntungkan bagi individu yang relatif terlambat bergabung dengan pasar saham atau mendekati masa pensiun serta menambah kedalaman pada pengetahuan yang ada tentang strategi investasi berbasis dividen di pasar yang sedang berkembang.

Meskipun tidak semua portofolio Dogs of the Dow berhasil mengungguli Indeks IDX Composite (IHSG) dan Indeks LQ45, temuan empiris pada riset ini menunjukkan bahwa portofolio Fund Allocation dan Penultimate Profit Prospect berhasil mengungguli indeks yang disebutkan di atas.

Keywords: Bursa Efek Indonesia, Dividend Yield, Dogs of the Dow, Strategi Investasi

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*To the unwavering support of my Mother, Wife, Son, Brother, and Sister, who
have been my pillars of strength throughout this journey*

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LIST OF ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS	Name	Page of initial usage
DJIA	Dow Jones Industrial Average	1
DOD	Dogs of the Dow	1
IDX	Indonesia Stock Exchange	1
IHSG	Index Harga Saham Gabungan (IDX Composite Index)	2

SYMBOLS	Name	Page of initial usage
R_t	Total return of the portfolio	22
W_i	Weight of each stock,	22
R_i	Return of each stock.	22
R_f	Risk free rate	23
R_p	Average return of the portfolio	23
σ_p	Standard deviation of the portfolio's return	23

Chapter I Introduction

Dividend Yield Based investment strategies have gained popularity among investors worldwide, with the Dogs of the Dow strategy being one of the well-known approaches. The strategy focuses on selecting high-dividend-yielding stocks from the Dow Jones Industrial Average (DJIA) components. The name "Dogs of the Dow" was coined by Michael B. O'Higgins, an investment manager, in his book "Beating the Dow" published in 1991.

However, despite the widespread use of the Dogs of the Dow strategy, there is a lack of comprehensive research on their effectiveness in the Indonesian stock market. Therefore, this research aims to assess the application and performance of the Dogs of the Dow strategy-as one of the alternative investment strategies-in the IDX's LQ45 index which represents the top 45 companies listed on the Indonesia Stock Exchange (IDX), from 2012 to 2022 to complement the previous research on the subject with the latest findings.

I.1 Background

In today's dynamic economic landscape, the need for a steady income and job security is crucial for individuals. Whether they are seeking to cover living expenses, plan for the future, or maintain a certain standard of living, a reliable income stream is essential. In Indonesia, this condition can be seen by the vast growing numbers of individual investors in Indonesia from approximately 2.5 Million investors in 2019 to 11.2 Million investors in June 2023 as reported by PT Kustodian Sentral Efek Indonesia (KSEI), the Indonesia Central Securities Depository. The demographic breakdown of June 2023 data includes household wife, student, and employees or teacher, constituting 6.65%, 26.86%, and 32.92%, respectively. It is clearly seen that the stock market presents itself as a viable avenue for individuals to pursue additional sources of income while maintaining job security.

Investing in the stock market can offer the potential for income generation through dividends. Dividend-paying stocks distribute a portion of a company's profits to shareholders on a regular basis. These dividends can provide a consistent income stream, supplementing other sources of income and helping to meet financial obligations. By carefully selecting dividend-paying stocks with a history of stable or increasing dividends, investors can position themselves to receive reliable income over time.

The Dogs of the Dow strategy is a popular dividend yield-based investment strategy that offers simplicity and ease of implementation, making it attractive to a wide range of investors, including new joiners to the stock market and individuals who are nearing retirement. This strategy focuses on selecting the highest-dividend-yielding stocks from a specific index, typically the Dow Jones Industrial Average (DJIA). The appeal of this strategy lies in its straightforward approach, as it involves choosing a handful of stocks with high dividend yields and holding them for a predetermined period, typically a year.

New joiners to the stock market, individuals approaching retirement, and even inexperienced investors often seek investment strategies that are relatively simple to understand and implement. The Dogs of the Dow strategy caters to this need, as it provides a systematic and rules-based approach to stock selection, reducing the complexity often associated with stock market investing. By investing in high-dividend-yielding stocks from a well-established index such as the IDX Composite Index (IHSG) in the Indonesia Stock Exchange (IDX), individuals can potentially earn attractive income from dividends while minimizing the need for active stock picking and constant portfolio monitoring.

The Indonesia Stock Exchange (IDX) serves as the primary platform for trading stocks in Indonesia, facilitating the participation of both domestic and international investors. As one of the largest stock exchanges in Southeast

Asia, the IDX plays a crucial role in the country's economic development and capital market growth. The Indonesia Stock Exchange (IDX) is a dynamic and growing market that attracts local and international investors seeking investment opportunities, where the application of the Dogs of the Dow strategy can be assessed.

I.2 Business Issue

The business issue that prompted this research is the need for investment strategies that cater to the unique circumstances and objectives of investors in the Indonesian stock market. Specifically, there is a demand for investment approaches that are relatively simple, provide stable income, and offer potential for long-term wealth accumulation.

New joiners to the stock market, individuals nearing retirement, and potentially other investor segments may face challenges in navigating the complexities of stock market investing. As reported in the National Financial Literacy and Inclusion Survey in 2022 in Indonesia, the level of public financial literacy level in the capital market not only remained at a low level but has even declined in 2022 compared to the year 2019. Investment strategies that are easy to understand, implement, and monitor could be the solution that meets these individuals' needs.

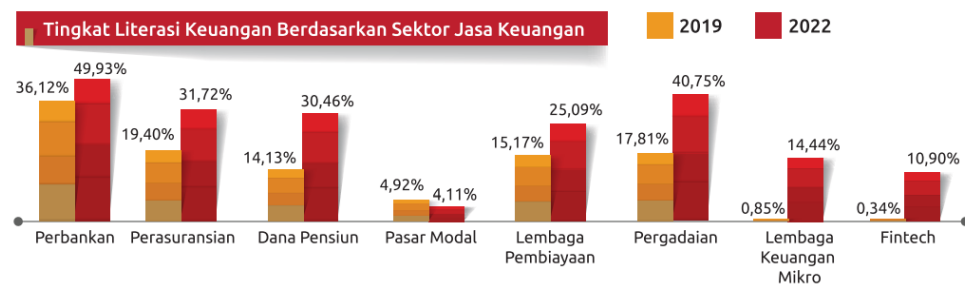


Figure I.1 Individual Investor Financial Literacy Chart

The Dogs of the Dow strategy, known for its simplicity and focus on dividend yield, may have gained attention as a potential investment approach to address these needs. Investors in the Indonesian market may have expressed interest

in understanding whether this strategy can be effective in their local context, specifically within the stocks in LQ45 index.

The research aims to address this business issue by assessing the effectiveness of the Dogs of the Dow strategy in the Indonesian stock market. The study will provide empirical evidence and insights into the performance, risk characteristics, and suitability of this strategy for new joiners and individuals nearing retirement, potentially offering them a viable investment approach that aligns with their objectives.

In summary, the business issue that prompted this research is the demand for investment strategies that are simple, generate stable income, and cater to the specific needs of investors in the Indonesian stock market, particularly new joiners and individuals nearing retirement. The research aims to explore whether the Dogs of the Dow strategy can meet these requirements and provide a valuable solution for these investor segments.

I.3 Research Questions and Research Objectives

This research aims to answer the following questions.

1. How is the implementation of the Dogs of the Dow strategy within the LQ45 index for period of 2011-2022?
2. How has the Dogs of the Dow strategy performed in the Indonesian stock market, specifically within the LQ45 index, from 2012 to 2022?
3. What is the comparative effectiveness of the Dogs of the Dow strategy in generating returns and income compared to the overall performance of the IDX Composite Index in the Indonesian stock market?

By addressing these elaborated research questions, this research aims to serve the following objectives.

1. To analyze the historical performance of the Dogs of the Dow strategy in the Indonesian stock market, specifically within the LQ45 stock index, from 2012 to 2022 as a continuation of the previous study by Ekaputra and

- Sukarno (2012) to evaluate the effectiveness of the Dogs of the Dow strategy in generating returns and income compared to the overall performance of the IDX Composite Index in the Indonesian stock market.
2. To provide insights and recommendations for new joiners to the stock market and individuals nearing retirement on the applicability and potential benefits of implementing the Dogs of the Dow strategy in their investment portfolios.
 3. To improve the understanding of the application of the Dogs of the Dow strategy by contributing to the existing body of knowledge on dividend yield-based investment strategies in emerging markets, specifically the Indonesian stock market, by providing empirical evidence on the performance and effectiveness of the Dogs of the Dow strategy.

I.4 Research Scope and Limitation

The scope of the research encompasses the application and effectiveness of the Dogs of the Dow strategy within the Indonesian stock market, specifically focusing on the LQ45 stock index as continuation of the previous study by Ekaputra and Sukarno (2012). The study will analyse the performance of the strategy from 2012 to 2022, to provide additional insight into the application of the strategy in the Indonesia Stock Exchange (IDX)

The research will involve collecting and analysing relevant financial data, such as stock prices and dividend yields, to assess the performance and outcomes of the Dogs of the Dow strategy. The analysis will primarily focus on comparing the performance of the strategy within the LQ45 stock index to the performance of the IDX Composite Index (IHSG).

Additionally, the research will consider the practical implications of implementing the Dogs of the Dow strategy for new joiners to the stock market and individuals nearing retirement. It aims to provide insights and

recommendations regarding the applicability and potential benefits of this strategy for these specific investor groups.

As for the limitation of the research, it is crucial to acknowledge the following limitations and interpret the research findings within their context.

1. The research covers the period from 2012 to 2022, which provides 11 years of analysis. However, the selected timeframe may not capture all possible market conditions or longer-term trends that could affect the performance of the Dogs of the Dow strategy.
2. The accuracy and availability of historical financial data, including stock prices and dividend yields which were downloaded from the Yahoo Finance website, can impact the quality and reliability of the analysis.
3. The findings and conclusions of the research may be specific to the Indonesian stock market and the LQ45 index. The applicability of the Dogs of the Dow strategy in other markets or different indices may vary due to factors such as market structure, regulatory environment, and investor behaviour.
4. The performance of investment strategies can be influenced by external factors such as economic conditions, geopolitical events, and policy changes. The research may not fully account for these external factors and their impact on the Dogs of the Dow strategy.
5. The research aims to focus on new joiners to the stock market and individuals nearing retirement as potential beneficiaries of the Dogs of the Dow strategy. However, individual investor risk profiles, financial goals, and investment preferences may vary, which could affect the strategy's suitability for different investors.

Chapter II Literature Review

Investment strategies provide a potent pathway for money multiplication and accumulation of wealth. Holding cash reserves and placing savings in bank accounts represent traditional safety mechanisms, yet the active process of investing creates opportunities for wealth expansion over time. This expansion leverages the power of compounding and the potential for long-term growth.

Investment opportunities span various sectors, including stocks, bonds, mutual funds, options, futures, precious metals, real estate, or small businesses. Engaging in such activities plays a crucial role in generating future income, increasing value and equity, and constructing a solid financial base.

The objective of investing depends on multiple determinants such as age, income, and risk tolerance levels. Age, in particular, can be further categorized into three segments:

1. Early career stage with a focus on wealth accumulation
2. Middle-aged stage with a priority on family nurturing
3. Retirement stage, characterized by self-directed financial management.

These segments occasionally miss intended financial milestones, with middle-aged individuals contemplating investment strategies for the first time, or retirees resorting to strict budgeting due to prior lapses in financial discipline.

While preserving money in cash reserves or savings accounts provides a safety net, active engagement in stock market investment can spur capital appreciation over the long haul. Investing in the stock market through a dividend yield strategy constitutes an advantageous approach for capital enhancement and wealth accumulation or simply for steady income generation.

II.1 Problem Exploration

In the vast landscape of stock market investment opportunities, the focus here is specifically on dividend-yielding stocks. These are the shares of companies

that regularly distribute a portion of their profits to shareholders. Such a strategy is instrumental in fostering future income, building value and equity, and establishing a robust financial portfolio.

New joiners to the stock market, individuals nearing retirement, and potentially other investor segments may face challenges in navigating the complexities of stock market investing, namely investing in the Indonesia Stock Exchange (IDX). There is clearly a need for investment strategies that are relatively simple, provide stable income, and offer potential for long-term wealth accumulation.

The Dogs of the Dow strategy, known for its simplicity and focus on dividend yield, may have gained attention as a potential investment approach to address this need. The research to assess the effectiveness of the Dogs of the Dow strategy in the Indonesian stock market will provide empirical evidence and insights into the performance, risk characteristics, and suitability of this strategy for new joiners and individuals nearing retirement, potentially offering them a viable investment approach that aligns with their objectives.

II.2 Overview of the Indonesia Stock Exchange and LQ45 Index

Indonesia Stock Exchange (IDX) is a stock exchange based in Jakarta, Indonesia that was previously known as the Jakarta Stock Exchange (JSX) before its name changed in 2007 after merging with the Surabaya Stock Exchange (SSX). Although the capital market has been in existence since 1912, the development and growth of the capital market have not progressed as expected, even experiencing periods of stagnation. This is due to several factors such as World War I and II, the transfer of power from colonial government to the government of the Republic of Indonesia, and various conditions that hindered the proper functioning of the stock exchange operations.

The Government of the Republic of Indonesia reactivated the capital market in 1977, the Stock Exchange was inaugurated by President Soeharto on August 10th, 1977 and it was run under the management of the Capital Market Supervisory Agency (Badan Pengawas Pasar Modal or BAPEPAM). The reactivation of the capital market was also marked by the go public of PT Semen Cibinong as the first issuer listed in the JSX.

As of July 2023, the Indonesia Stock Exchange had 873 listed companies and 43 stock Indices. Among those Indices are listed below:

1. IDX Composite/ Indeks Harga Saham Gabungan (IHSG), An index that measures the stock price performance of all listed companies in Main Board and Development Board of the Indonesia Stock Exchange.
2. LQ45, An index that measures the stock price performance of 45 stocks with relatively large market capitalization, high liquidity, and good fundamentals.
3. IDX30, An index that measures the stock price performance of 30 stocks with relatively large market capitalization, high liquidity, and good fundamentals.
4. IDX Quality30, An index that measures the stock price performance of 30 stocks that historically have relatively high profitability, good solvency, and stable profit growth with high trading liquidity and good financial
5. IDX High Dividend 20, An index that measures the stock price performance of 20 stocks that have distributed cash dividends every year over the past 3 years and have relatively high dividend yields.
6. IDX BUMN20, An index that measures the stock price performance of 20 stocks of BUMNs (State-Owned Enterprises), BUMDs (Municipal-Owned Enterprises) and their affiliates with relatively large market capitalization and high liquidity.
7. Indonesia Sharia Stock Index (ISSI), An index that measures the stock price performance of all listed stocks in Main Board and Development

Board of the IDX that included on Sharia Securities List issued by the Financial Services Authority.

8. Jakarta Islamic Index 70 (JII70), An index that measures the stock price performance of 70 sharia stocks with relatively large market capitalization and high liquidity.
9. Jakarta Islamic Index (JII), An index that measures the stock price performance of 30 sharia stocks with relatively large market capitalization and high liquidity.
10. KOMPAS100, An index that measures the stock price performance of 100 stocks with relatively large market capitalization, high liquidity, and good fundamentals. KOMPAS100 is a jointly developed index with Kompas Gramedia Group, an Indonesia media corporation.
11. Sectoral Index, an index that measures the price performance of all shares of each industrial sector contained in the Jakarta Stock Industrial Classification (JASICA). Sectoral Index (IDX-IC) which consists of 11 sectors, namely: Energy Sector IDX (IDXENERGY), IDX Raw Goods Sector (IDXBASIC), IDX Industrial Sector (IDXINDUST), IDX Primary Consumer Goods Sector (IDXNONCYC), IDX Non-Primary Consumer Goods Sector (IDXCYCLIC), IDX Health Sector (IDXHEALTH), Financial Sector IDX (IDXFİNANCE), IDX Property & Real Estate Sector (IDXPROPERT), IDX Technology Sector (IDXTECHNO), IDX Infrastructure Sector (IDXINFRA), IDX Transportation & Logistics Sector (IDXTRANS).

The indices are performance indicators that indicate the performance of a certain market segment or the market as a whole. A financial index produces a numeric score based on inputs such as a variety of asset prices. It can be used to track the performance of a group of assets in a standardized way. Indexes typically measure the performance of a basket of securities intended to replicate a certain area of the market.

Indexes are useful for providing valid benchmarks against which to measure investment performance for a given strategy or portfolio. By understanding how a strategy does relative to a benchmark, one can understand its true performance. Indexes also provide investors with a simplified snapshot of a large market sector, without having to examine every single asset in that index. For example, it would be impractical for an ordinary investor to study hundreds of different stock prices in order to understand the changing fortunes of different technology companies. A sector-specific index can show the average trend for the sector.

The LQ45 index in the Indonesia Stock Exchange (IDX) is comprised of the 45 most liquid stocks and is often used as a benchmark for portfolio performance. The 45 stocks selected to be LQ45 constituents are selected from the 80 stocks of the IDX80¹ constituents that have been selected in the given period, by considering the factors below:

1. Liquidity: transaction value, transaction frequency, number of days of transactions in regular market and free float market capitalization,
2. Fundamentals: financial performance, compliance, and others

II.3 Investment Strategies

Investment strategies are systematic approaches to portfolio management to achieve specific financial goals. The choice of an investment strategy depends on various factors such as the investor's risk tolerance level, financial goals, and need for liquidity, among others. There are various types of investment strategies available, each with its own approach and objectives. The following are some common investment strategies, which in practice may have many variations and combinations.

¹ An index that measures the stock price performance of 80 stocks with relatively large market capitalization, high liquidity, and good fundamentals.

1. Value Investing

Value investing involves identifying undervalued assets or securities that are trading below their intrinsic value. Investors following this strategy believe that the market has temporarily mispriced these assets and that their true value will be recognized in the future.

2. Growth Investing

Growth investing involves selecting companies that are expected to experience significant earnings or revenue growth in the future. Investors following this strategy focus on the potential for capital appreciation, even if the current valuation appears high.

3. Dividend Investing

Dividend investing revolves around investing in stocks or assets that provide regular income in the form of dividends. Investors following this strategy prioritize stable, well-established companies that consistently distribute a portion of their profits to shareholders.

4. Index Investing

Index investing, also known as passive investing, involves investing in index funds or ETFs that aim to replicate the performance of a specific market index. This strategy assumes that the overall market will appreciate over the long term, and investors seek to match its returns.

5. Momentum Investing

Momentum investing involves identifying assets that have recently demonstrated upward price trends and expecting those trends to continue in the short term. Investors following this strategy believe that assets that have performed well recently will likely continue to do so.

6. Contrarian Investing

Contrarian investing involves taking positions opposite to prevailing market trends. Contrarian investors actively seek opportunities in undervalued assets or sectors that are out of favor with the general market sentiment.

7. Income Investing

Income investing focuses on generating a steady income stream from investments. Investors following this strategy often invest in assets like bonds, rental properties, or dividend-paying stocks that provide regular cash flow.

II.4 Dogs of the Dow Strategy

The investment strategy known as "Dogs of the Dow" (DOD) has been a subject of ongoing interest since its inception in the book "Beating the Dow" by Michael O'Higgins in 1991. The strategy directs investors to annually select the ten highest dividend-yielding stocks from the Dow Jones Industrial Average (DJIA), representing thirty significant companies, with the assumption that these underperforming entities will likely recover, leading to considerable returns.

The concept of 'Dogs' in this strategy pertains to the underperforming blue-chip companies that typically exhibit higher dividend yields due to their comparatively lower stock prices. The foundational philosophy of this strategy lies in the 'mean reversion' principle, which hypothesizes an eventual recovery and robust performance of these underperforming stocks. The strategy assumes that blue-chip companies are intrinsically resilient, and their depressed stock prices are likely transient.

The belief system driving the DOD strategy heavily emphasizes dividends as the crucial yardstick to measure the mean value of blue-chip companies. Since dividend payments are considered a reliable indicator of a company's fiscal

health and are generally less susceptible to market fluctuations, a higher dividend yield often indicates an undervalued company poised for a rebound.

The subsequent analysis in this study pertains to the exploration of various portfolios following the Dogs of the Dow (DOD) strategy. The portfolios are as follows:

II.4.1 Top 10 Yield

This strategy necessitates the procurement of equal shares of the ten stocks that yield the highest dividends within the LQ45 stock index at the onset of the year. Following a period of one year, the portfolio is rebalanced to include the newly identified 'dogs.' Despite the simplicity of this strategy on the surface, it warrants consideration of transaction costs, which could potentially detract from the aggregate returns. Therefore, the assessment of this strategy's efficacy must factor in these associated costs.

II.4.2 Top Low 5

This strategy adopts a more refined approach, targeting investments in the five lowest-priced stocks from the ten companies yielding the highest dividends as identified in the Top 10 Yield strategy. This approach encapsulates both the elements of high dividend yield and relatively low stock prices, aiming to optimize returns.

II.4.3 Best 4

This strategy further refines the Top Low 5 portfolio by eliminating the lowest-priced stock from the selection. The rationale behind this decision is premised on the potential risk associated with the lowest-priced stock. It's often the case that stocks with the lowest prices can be subject to higher volatility or may be priced low due to underlying issues with the company's financial health, future outlook, or industry dynamics.

Removing the lowest-priced stock helps to mitigate the inherent risk associated with these potential challenges. By focusing on the remaining four stocks that still have high dividend yields but aren't priced at the absolute bottom of the range, this strategy seeks to strike a balance between pursuing high returns and maintaining an acceptable risk profile. Thus, the Best 4 strategy represents a risk-mitigated variant of the DOD strategy.

II.4.4 Fund Allocation 4

This strategy involves a variant approach to the Best 4 strategy, in which the lowest-priced stock is accorded a larger share of the investment fund—specifically, 40%. The remaining stocks each receive an allocation of 20% of the investment fund. This approach entails a differential allocation of resources with the intention of maximizing returns from the identified 'dog' stocks.

II.4.5 Penultimate Profit Prospect (PPP)

This strategy focuses on selecting the second lowest-priced stock among the ten highest dividend-yielding stocks identified in the Top 10 Yield strategy. This stock is considered to have the highest potential to outperform the average returns of the portfolio (where 'penultimate' denotes the second last in a series). In this approach, the identified stock is allocated the entirety of the investment fund, signifying a highly concentrated investment approach.

Each of these strategies represents a nuanced variation of the DOD strategy, each with its own unique risk-return profile, thus providing a diverse range of portfolios for further analysis.

II.5 Past Relevant Studies

The scholarly discussion surrounding the efficacy of the Dogs of the Dow (DoD) strategy in different share markets around the world is vast and multifaceted, with a plethora of researchers seeking to test its applicability across various geographical regions. It's a strategy based on buying the ten highest dividend-yielding stocks in the Dow Jones Industrial Average at the beginning of each year. While the central principle is straightforward, empirical evidence varies considerably, leading to a rich debate among financial scholars.

Numerous studies have taken an empirical approach to the DoD strategy, notably the research undertaken by Clavenger and Baker (2004), Alles and Sheng (2008), Rinne and Vahamaa (2011), as well as Tissayakorn et. Al (2013), all concurred on a significant point: DoD portfolios were statistically outperforming the market. These reports bolstered the argument for the DoD strategy, substantiating its efficacy across diverse economic contexts and fostering confidence in its application globally.

In the Indonesian context, investigation by Ekaputra and Sukarno (2012), Gunawan (2017) in Indonesia produced similar findings: DoD portfolios were outperforming the market statistically. There is a relative dearth of literature specifically examining dividend yield-based investment strategies in the IDX in which spurring further interest in this investment approach and different time span.

Contrary to the above findings, number of studies found that the DoD portfolio fell short against the stock index performance. Silva (2001) conducted an evaluation of the DoD investment strategy in the Latin American stock markets (excluding Brazil) over the period from 1994 to 1999, found no strong statistical evidence that the strategy outperformed the market. Bruce and Bhabra (2006) tested the performance of DoD strategy in

New Zealand over 11 years sample period between 1992 to 2002 found that the strategy consistently underperformed against the stock exchange.

In conclusion, the academic discourse surrounding the DoD strategy in different global share markets is far from homogeneous. The consensus varies, with some researchers finding statistical evidence of outperformance, while others suggest conditional outcomes based on factors such as holding period. These differing perspectives emphasizes the need for continued empirical research in this subject.

II.6 Conceptual Framework

The conceptual framework for this study can be described in the flowchart below.



Figure II.1 Conceptual Framework

The Dogs of the Dow strategy is a simple, yet effective, investing strategy that has garnered considerable attention since its introduction by Michael O'Higgins in his 1991 book, "Beating the Dow". This strategy advocates the purchase of the ten highest dividend-yielding stocks of the thirty listed on the Dow Jones Industrial Average (DJIA) at the start of each year.

The term "Dogs" in this context refers to the underperforming blue-chip companies that have higher dividend yields due to their relatively lower stock prices. The premise of this strategy is rooted in the principle of "mean reversion," which suggests that these underperforming stocks are likely to bounce back and provide robust returns. It works on the assumption that blue-chip companies are fundamentally strong entities, and their low stock prices are temporary.

The rationale behind the Dogs of the Dow strategy relies heavily on dividends as the primary indicator for assessing the average value of blue-chip companies. Dividend payments are considered a sign of a company's financial health and tend to be relatively stable and less influenced by market volatility. Therefore, a higher dividend yield is seen as a sign of an undervalued company that is expected to rebound.

As describe in the figure 1 above, the study will assess the effectiveness of the Dogs of the Dow strategy application in the Indonesia Stock Exchange by analysing the performance of the selected stocks from LQ45 stock index and determine the portfolio of the Dogs of the Dow strategy that yields the most return.

Chapter III Research Methodology

This section outlines the comprehensive research methodology employed in this study. First, it details the data collection process, discussing the data's categorization, sources, covered period, and the representation of samples and population. Subsequently, it highlights the main research methodology employed, explaining the analytical tools used for examining the data.

After this, the discussion proceeds to present the research design, detailing the interconnected process of data collection, analysis, and the formulation of conclusions based on the research questions presented in the previous chapter. This segment of the study seeks to offer a clear, thorough blueprint of the research process, thereby affirming the reliability and validity of the findings yielded by the study.

III.1 Data Collection

This study relies heavily on secondary data, which is comprised of historical stock prices, dividends, and market indices. The utilization of secondary data sources enables a comprehensive overview of past trends, fluctuations, and financial patterns of the stocks under examination. These data elements are critical in providing a broad, temporal landscape of stock performance and for assessing the potential applicability and effectiveness of the Dogs of the Dow strategy.

The data is derived from Yahoo Finance, an online platform that serves as a publicly accessible and widely accepted repository of financial data. Yahoo Finance is recognized for its accurate, up-to-date, and comprehensive dataset on global financial markets. Thus, it is deemed to provide credible and reliable data for the purpose of this research study.

The scope of the data collection for this study is explicitly focused on companies that are listed on the LQ45 Index in the Indonesia Stock Exchange

(IDX) with the temporal range for the data collection extends from 2011 to 2022, as a continuation of the previous study by Ekaputra and Subiakto (2012). This 12-year timeframe has been selected to ensure that the research incorporates a period substantial enough to encapsulate the ebb and flow of at least one complete economic cycle. This timeframe is anticipated to capture various phases of the economic cycle - periods of growth, peak, decline, and trough - thereby providing a comprehensive picture of the Dogs of the Dow strategy's performance under varying market conditions. The length and breadth of this period ensures the data collected provides a robust basis for the analysis, allowing for the extraction of reliable conclusions and insightful observations.

III.2 Research Methodology

The research aims to assess the effectiveness of the "Dogs of the Dow" investment strategy applied to the Indonesia Stock Exchange's LQ45 Index over the period of 2012 to 2022. The nature of this investigation necessitates the use of a quantitative research approach. This methodology choice is guided by several key considerations:

1. Data Characteristics

The data, derived from Yahoo Finance, consists of numerical variables such as stock prices and dividend yields across time. Numerical data of this type is inherently suited to quantitative analysis, which facilitates the application of statistical techniques for comprehensive examination and predictions.

2. Unbiased Analysis

A key advantage of the quantitative approach lies in its capacity for objective analysis. The research objective does not seek to interpret subjective experiences or understand human behaviors but rather to evaluate an investment strategy's effectiveness using quantifiable information.

3. Testing Hypotheses

This research is predicated on a testable hypothesis, potentially positing that the "Dogs of the Dow" strategy yields superior returns compared to other investment strategies or the general market performance. Quantitative methodology excels in such hypothesis testing scenarios, providing unequivocal, numeric evidence either supporting or refuting the hypothesis.

4. Reproducibility

The procedures inherent in quantitative methods are explicitly defined, allowing for replication by other researchers. This is particularly critical in financial research, where replication of the methodological process allows for testing the strategy's effectiveness in different contexts or temporal spans.

III.3 Research Design

To implement the Dogs of the DOW strategy in the LQ45 Index, series of data from 2011 to 2022 was collected from the Yahoo Finance and other reliable sources such as the IDX website. The data collected includes the LQ45 stock list (Appendix A), closing price (Appendix B) and dividend (Appendix C), and Indonesia 10-year bond history.

The LQ45 stock lists issued by the IDX on the second half of the year were selected for the base of the stock selection. With the closing price and dividend data, dividend yield for each stock was calculated with below formula.

$$\text{Dividend Yield} = \frac{\text{Annual Dividend}}{\text{Current Stock Price}} \quad (\text{III.1})$$

Upon the completion of dividend yield calculations for all the stocks under consideration, these stocks were organized based on their respective yields, commencing with the highest.

Subsequently, these organized data sets were thoroughly analyzed in line with the diverse portfolio alternatives previously outlined in the prior chapter. These portfolio alternatives, each representing a different approach to the implementation of the Dogs of the Dow strategy, were examined to understand their relative effectiveness within the selected timeframe. The formula to calculate the total portfolio return is as follows.

$$R_t = \sum W_i \times R_i \quad (\text{III.2})$$

Where:

R_t = total return of the portfolio,

W_i = weight of each stock,

R_i = return of each stock.

In addition to the return, the risk will need to be considered to complete the analysis of portfolio performance. Risk quantification plays an integral role in investment analysis and decision-making. It is a cornerstone concept in finance that allows for a more comprehensive understanding of an investment's potential outcomes. Quantifying risk allows investors to make more informed decisions by understanding the potential for loss associated with each investment. While an investment might offer attractive returns, it may also carry a high level of risk, which can result in substantial losses. Risk quantification helps balance the potential for returns against the risk of loss.

Investment performance measurement is a critical aspect of portfolio management and investment analysis. Three of the most widely used measures for assessing investment performance are the Sharpe Ratio, Jensen's Alpha, and the Treynor Ratio. These metrics have been developed to enable

investors to determine how well their investments are performing, taking into account factors such as risk and market volatility.

The widely used Sharpe Ratio was selected among the before-mentioned risk-adjusted metrics in this research for its certain advantages, such as the straightforward interpretation and broad applicability. The ratio is the average return earned in excess of the risk-free rate divided by the standard deviation of the investment's returns. It provides a risk-adjusted measure of return, enabling an investor to understand how much excess return is being earned for the additional volatility that is undertaken for holding a riskier asset. It is commonly used to compare the change in a portfolio's overall risk-return characteristics when a new asset or asset class is added to it. The Sharpe Ratio can be defined as follows.

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p} \quad (\text{III.3})$$

Where:

R_p = average return of the portfolio,

R_f = risk-free rate,

σ_p = standard deviation of the portfolio's returns.

A higher Sharpe Ratio indicates that the investment provides more return per unit of risk, making it an attractive option for risk-averse investors. By comparing the Sharpe Ratios of the "Dogs of the Dow" strategy and other investment strategies, the strategy that provides the best risk-adjusted return can be identified, thereby informing more efficient investment decisions.

Chapter IV Findings: Business Solution

This chapter will discuss the analysis of expected return of the various Dogs of the Dow portfolios implementation within the Indonesia Stock Exchange (IDX), namely Top 10 Yield, Top Low 5, Best 4, Fund Allocation 4, and PPP. Each portfolio was analysed to gauge its respective financial performance and compared against the benchmarks of the LQ45 and IHSG indices. Critical to this evaluation will be the use of the Sharpe Ratio, a powerful tool for measuring risk-adjusted returns.

IV.1 Analysis of the Dogs of the Dow Portfolio Alternatives

Based on the data collected, ten stocks from the LQ45 stock index list were selected by calculating their dividend yields. In order to generate the proposed 2012 stock list, for example, dividend yield was calculated for each stock in the 2011 LQ45 stock index list and the 10 highest-yielder stocks were selected as shown in the Table IV.1 below. Total return for the year 2012 were then calculated for those portfolio stocks considering the transactional cost of selling (0.25%) and buying (0.15%), which results will be discussed in the following sub-chapters.

Table IV.1 Example of 10 Highest Dividend Yield in 2011 LQ45 Index

Periode Agustus 2011 – Januari 2012
(Lampiran Pengumuman BEI No. Peng-00434/BEI.PSH/07-2011 tanggal 25 Juli 2011)

No	Kode Saham	Nama Emiten	Dividend	Close price 2011	DivYield
1	INCO	International Nickel Indonesia Tbk	214	3,200	6.7%
2	BJBR	BPD Jawa Barat & Banten Tbk	60	910	6.5%
3	TINS	Timah (Persero) Tbk	64	1,129	5.6%
4	PGAS	Perusahaan Gas Negara (Persero)Tbk	155	3,175	4.9%
5	ANTM	Aneka Tambang (Persero) Tbk	59	1,361	4.4%
6	AALI	Astra Agro Lestari Tbk	896	20,677	4.3%
7	TLKM	Telekomunikasi Indonesia (Persero) Tbk	59	1,410	4.2%
8	ITMG	Indo Tambangraya Megah Tbk	1,575	38,650	4.1%
9	HRUM	Harum Energy Tbk	49	1,370	3.6%
10	BBNI	Bank Negara Indonesia (Persero) Tbk	66	1,870	3.5%
11	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk	112	3,470	3.2%
..
..
43	DOID	Delta Dunia Makmur Tbk	-	670	-
44	ELTY	Bakrieland Development Tbk	-	1,190	-
45	ENRG	Energi Mega Persada Tbk	-	1,424	-

Table IV.4 Summary of Stocks in the Best 4 Portfolio (continued)

Rank	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
1	23.2%	-42.2%	31.9%	-59.3%	237.3%	-10.4%	-45.1%	-13.2%	-17.0%	73.2%	75.4%	
2	-2.4%	6.7%	96.4%	9.0%	182.6%	13.0%	22.9%	-3.7%	52.3%	-30.0%	-7.8%	
3	-15.4%	-9.6%	-37.9%	-61.2%	34.6%	13.2%	-29.3%	32.6%	-2.8%	-16.9%	88.6%	
4	-6.9%	-11.2%	43.0%	8.9%	-3.1%	59.2%	-10.8%	-17.7%	-3.3%	-0.9%	-3.5%	
5	29.2%	-48.3%	0.3%	-54.9%	1.7%	-32.4%	-29.9%	-37.8%	-22.6%	14.5%	18.1%	
Total Return	1.1%	-15.6%	25.5%	-24.5%	54.0%	13.3%	-11.8%	-6.7%	5.9%	-8.3%	23.8%	
LQ45	9.1%	-3.3%	26.4%	-11.9%	11.7%	22.0%	-9.0%	3.2%	-7.8%	-0.4%	0.6%	
IHSG	12.9%	-1.0%	22.3%	-12.1%	15.3%	20.0%	-2.5%	1.7%	-5.1%	10.1%	4.1%	
		Total Portfolio Return Outperformed Indices						Total Portfolio Return Underperformed				

IV.1.4 Fund Allocation 4 Portfolio Result

This strategy involves a variant approach to the Best 4 strategy, in which the lowest-priced stock is accorded a larger share of the investment fund—specifically, 40%. The remaining stocks each receive an allocation of 20% of the investment fund. Based on the results below, it shows that the Fund Allocation 4 Portfolio were underperformed against the indices, with the exception of the year 2014, 2016, 2020, and 2022.

Table IV.5 Summary of Stocks in the Fund Allocation 4 Portfolio

Rank	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
1	BJBR	INTA	ASRI	HRUM	ADRO	ELSA	MNCN	WSBP	AKRA	ADRO	AKRA	
2	TINS	TINS	SSIA	BBTN	PTBA	KLBF	PGAS	AKRA	INDY	HMSP	HMSP	
3	ANTM	BJBR	HRUM	PTBA	LSIP	ADRO	ADRO	WSKT	PGAS	ADRO	ADRO	
4	HRUM	ANTM	BBTN	TLKM	MNCN	BBRI	BJBR	INDY	JPFA	PTBA	TLKM	
5	TLKM	HRUM	LSIP	INCO	PGAS	PGAS	PTPP	BJBR	HMSP	BMRI	UNVR	
Total Return	0.4%	-11.1%	39.7%	-17.8%	79.7%	13.2%	-4.8%	-6.1%	15.2%	-12.7%	17.5%	
LQ45	9.1%	-3.3%	26.4%	-11.9%	11.7%	22.0%	-9.0%	3.2%	-7.8%	-0.4%	0.6%	
IHSG	12.9%	-1.0%	22.3%	-12.1%	15.3%	20.0%	-2.5%	1.7%	-5.1%	10.1%	4.1%	
		Total Portfolio Return Outperformed Indices						Total Portfolio Return Underperformed				

IV.1.5 Penultimate Profit Prospect (PPP) Portfolio Result

This strategy involves a variant approach to the Best 4 strategy, in which the lowest-priced stock is accorded a larger share of the investment fund—specifically, 40%. The remaining stocks each receive an allocation of 20% of the investment fund. Based on the results below, it shows that the PPP Portfolio has outperformed the indices in more years compared with the other portfolios, with the exception of the year 2012, 2017, 2019, 2021, and 2022.

Table IV.6 Summary of Stocks in the PPP Portfolio

Rank	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	BJBR	INTA	ASRI	HRUM	ADRO	ELSA	MNCN	WSBP	AKRA	ADRO	AKRA
2	TINS	TINS	SSIA	BBTN	PTBA	KLBF	PGAS	AKRA	INDY	HMSP	HMSP
3	ANTM	BJBR	HRUM	PTBA	LSIP	ADRO	ADRO	ADRO	WSKT	PGAS	ADRO
4	HRUM	ANTM	BBTN	TLKM	MNCN	BBRI	BJBR	INDY	JPFA	PTBA	TLKM
5	TLKM	HRUM	LSIP	INCO	PGAS	PGAS	PTPP	BJBR	HMSP	BMRI	UNVR

Rank	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	23.2%	-42.2%	31.9%	-59.3%	237.3%	-10.4%	-45.1%	-13.2%	-17.0%	73.2%	75.4%
2	-2.4%	6.7%	96.4%	9.0%	182.6%	13.0%	22.9%	-3.7%	52.3%	-30.0%	-7.8%
3	-15.4%	-9.6%	-37.9%	-61.2%	34.6%	13.2%	-29.3%	32.6%	-2.8%	-16.9%	88.6%
4	-6.9%	-11.2%	43.0%	8.9%	-3.1%	59.2%	-10.8%	-17.7%	-3.3%	-0.9%	-3.5%
5	29.2%	-48.3%	0.3%	-54.9%	1.7%	-32.4%	-29.9%	-37.8%	-22.6%	14.5%	18.1%

Total Return	-2.4%	6.7%	96.4%	9.0%	182.6%	13.0%	22.9%	-3.7%	52.3%	-30.0%	-7.8%
LQ45	9.1%	-3.3%	26.4%	-11.9%	11.7%	22.0%	-9.0%	3.2%	-7.8%	-0.4%	0.6%
IHSG	12.9%	-1.0%	22.3%	-12.1%	15.3%	20.0%	-2.5%	1.7%	-5.1%	10.1%	4.1%
	Total Portfolio Return Outperformed Indices						Total Portfolio Return Underperformed				

Figure IV.1 shows the summary of all the portfolio's return with the indices. Notice that the performance of the Dogs of the Dows portfolios gave an outstanding performance in the year 2016 which could be the effect of the global economy during the year. The global economy in 2016 was influenced by several significant factors, including:

1. **Brexit.** In June 2016, the United Kingdom voted to leave the European Union, an event known as Brexit. This caused considerable uncertainty and market volatility worldwide, as investors worried about the potential economic impact of the separation.

2. **Federal Reserve Policy.** The Federal Reserve in the United States began to gradually raise interest rates in 2016, following nearly a decade of near-zero rates in the wake of the 2008 financial crisis. The shift in policy had implications for global financial markets and economies, especially for emerging markets vulnerable to capital outflows.

3. **Chinese Economic Slowdown.** China, the world's second-largest economy, continued to experience a slowdown in its growth rate in 2016. This raised concerns about the potential impact on global economic growth, especially given China's significant role in international trade.

4. **Oil Prices.** The global economy in 2016 was also influenced by fluctuations in oil prices. After plummeting in 2014 and 2015, oil prices stabilized somewhat in 2016, but remained relatively low. This had a significant impact on oil-exporting countries and influenced global inflation and monetary policy.

These events and trends had complex and interrelated effects on the global economy in 2016, influencing things like trade flows, exchange rates, inflation rates, and monetary policy decisions around the world.

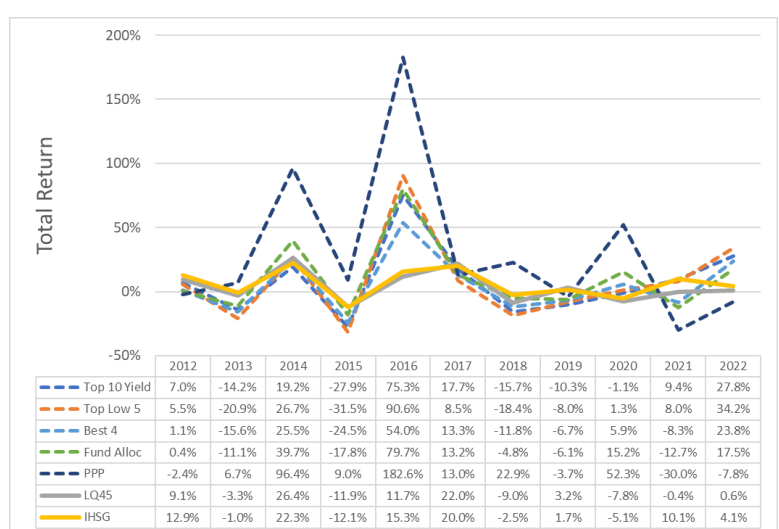


Figure IV.1 The Portfolios and Indices Return

IV.2 Portfolio Performance Analysis

The Sharpe Ratio was used to provide a risk-adjusted view of performance, offering a more comprehensive picture of the previously calculated portfolio's performance than raw returns alone. To calculate the Sharpe Ratio, the Indonesia 10-Yr bond rate shown in the Table IV.6 has been identified as a suitable risk-free rate reference for a comparable investment duration. Given that the bond yield is not risk free, the default rate must be captured and subtract it from the government bond rate to have a risk free rate (Damodaran, 2015). For example, the 10-yr Indonesia Bond rate in 2012 was 5.7%, the risk free rate for the year becomes 3.4% after netting out the country default spread.

Table IV.7 Indonesia 10-Yr Bond Rate and Risk Free Rate

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
10-Yr Bond Rate	5.80	7.04	8.14	8.24	7.65	6.90	7.49	7.49	6.94	6.40	7.01
CDS	2.40	2.00	3.19	2.82	2.47	2.54	2.26	2.15	1.59	1.68	1.62
Risk Free	3.40	5.04	4.95	5.42	5.18	4.36	5.23	5.34	5.35	4.72	5.39

Another component that needs to be calculated is the standard deviation which was calculated from the portfolio's return as the measurement of the volatility or risk associated with the investment. The results of the portfolio's return and the Sharpe Ratio calculation can be seen in the table IV.7 below.

The table clearly illustrate superior performance by both the Fund Allocation 4 and the PPP portfolio when compared to the LQ45 and IHSG Indices. The superior risk-adjusted performance is evidenced by the PPP portfolio's Sharpe Ratio, which is the highest amongst the considered portfolios, highlighting its effective risk management in the pursuit of returns.

Table IV.8 Portfolio's Return and Sharpe Ratio

Year	Risk free	Annual Return						
		Top 10 Yield	Top Low 5	Best 4	Fund Alloc	PPP	LQ45	IHSG
2012	3.4%	7.0%	5.5%	1.1%	0.4%	-2.4%	9.1%	12.9%
2013	5.0%	-14.2%	-20.9%	-15.6%	-11.1%	6.7%	-3.3%	-1.0%
2014	4.9%	19.2%	26.7%	25.5%	39.7%	96.4%	26.4%	22.3%
2015	5.4%	-27.9%	-31.5%	-24.5%	-17.8%	9.0%	-11.9%	-12.1%
2016	5.2%	75.3%	90.6%	54.0%	79.7%	182.6%	11.7%	15.3%
2017	4.4%	17.7%	8.5%	13.3%	13.2%	13.0%	22.0%	20.0%
2018	5.2%	-15.7%	-18.4%	-11.8%	-4.8%	22.9%	-9.0%	-2.5%
2019	5.3%	-10.3%	-8.0%	-6.7%	-6.1%	-3.7%	3.2%	1.7%
2020	5.3%	-1.1%	1.3%	5.9%	15.2%	52.3%	-7.8%	-5.1%
2021	4.7%	9.4%	8.0%	-8.3%	-12.7%	-30.0%	-0.4%	10.1%
2022	5.4%	27.8%	34.2%	23.8%	17.5%	-7.8%	0.6%	4.1%
Arithmetic Avg	4.9%	7.9%	8.7%	5.1%	10.3%	30.8%	3.7%	6.0%
Geometric Avg	2.5%	4.56%	4.26%	2.67%	7.03%	20.78%	3.05%	5.45%
STDev		28.1%	33.6%	22.7%	28.5%	60.6%	12.5%	11.0%
Sharpe Ratio		0.07	0.05	0.01	0.16	0.30	0.04	0.27

IV.3 Return Simulation of The Portfolio

The Penultimate Profit Prospect (PPP) Portfolio performance has shown to be superior to the market indices, with the Fund Allocation 4 portfolio following on the second place. Although the PPP is not actually a portfolio as it is only a single stock, nevertheless the result can be used as an alternative to the Fund Allocation 4 portfolio depending on the risk appetite of the investor.

Given the innate risk associated with single stock investments, an additional layer of prudence is necessitated when implementing the PPP strategy. The selection process must be conducted meticulously, taking into account various financial indicators, market trends, and economic outlooks to mitigate potential risks. A rigorous and robust risk assessment framework is imperative to navigate through this strategy effectively.

For example, the PPP stock selection in the 2021 and 2022 merits the extra cautiousness. The HMSP stock price has plummeted from 3,790 in March 2019 to 925 in 3 years. In addition to the effect of the Covid-19 pandemic which weakens the buying power of the people in Indonesia, the taxes and duties represent the largest burden of a company's cost of goods sold (COGS).

This warrants a fundamental analysis which relies on financial information reported by the company, prior to selecting the stock.

Despite of the underperformance of some of the selected stocks in the PPP, based on the Dogs of the Dow strategy implementation, the simulation of the PPP still provides favourable result as illustrated in the simulation table below.

Table IV.9 PPP Return Simulation

Year	Stocks	Name	Return			Return Simulation With Investment Value Rp. 100,000,000			
			Portfolio	IHSG	LQ45	Starting Point	After Buy	End Year	After Sell
2012	TINS	Timah (Persero) Tbk	-2.4%	12.9%	9.1%	100,000,000	98,500,000	96,087,045	93,684,869
2013	TINS	Timah (Persero) Tbk	6.7%	-1.0%	-3.3%	93,684,869	92,279,596	98,443,757	95,982,663
2014	SSIA	Surya Semesta Internusa Tbk	96.4%	22.3%	26.4%	95,982,663	94,542,923	185,709,313	181,066,580
2015	BBTN	Bank Tabungan Negara (Persero) Tbk	9.0%	-12.1%	-11.9%	181,066,580	178,350,581	194,447,577	189,586,388
2016	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk	182.6%	15.3%	11.7%	189,586,388	186,742,592	527,820,405	514,624,895
2017	KLBF	Kalbe Farma Tbk	13.0%	20.0%	22.0%	514,624,895	506,905,522	572,819,969	558,499,470
2018	PGAS	Perusahaan Gas Negara (Persero) Tbk.	22.9%	-2.5%	-9.0%	558,499,470	550,121,978	676,370,257	659,461,000
2019	AKRA	AKR Corporindo Tbk.	-3.7%	1.7%	3.2%	659,461,000	649,569,085	625,342,732	609,709,164
2020	INDY	Indika Energy Tbk.	52.3%	-5.1%	-7.8%	609,709,164	600,563,527	914,481,818	891,619,772
2021	HMSP	H.M. Sampoerna Tbk.	-31.0%	10.1%	-0.4%	891,619,772	878,245,476	605,610,071	590,469,820
2022	HMSP	H.M. Sampoerna Tbk.	-6.4%	4.1%	0.6%	590,469,820	581,612,772	544,425,717	530,815,074

Chapter V Conclusion and Recommendation

This chapter details the conclusion drawn from the analysis in relation with the objective of the study. The practical implication of the study and suggestion for further study will also be elaborated.

V.1 Conclusion

The study has successfully analysed the historical performance of the Dogs of the Dow strategy in the Indonesian stock market, specifically within the LQ45 stock index, from 2012 to 2022 as a continuation of the previous study by Ekaputra and Sukarno (2012) to evaluate the effectiveness of the Dogs of the Dow strategy in generating returns and income compared to the overall performance of the IDX Composite Index in the Indonesian stock market.

Empirical evidence from this research has shown that not all portfolio performed better when compared against the LQ45 and IHSG Indices. Unlike the result of Ekaputra and Subiako (2012) study, only PPP and Fund allocation 4 out of the five portfolios evaluated showed better performance than the indices. Nevertheless, this study has expanded the understanding of the implementation of the Dogs of the Dow investment strategy in the Indonesia Stock Exchange (IDX) to the year of 2022.

The Dogs of the Dow strategy has proved to be simple alternative investment strategy which application in the Indonesia Stock Exchange (IDX) could potentially benefit the late-joiners to the stock market and individuals nearing retirement in their investment portfolios.

This study provides empirical evidence on the performance and effectiveness of the Dogs of the Dow strategy, which improve the understanding of the application of the strategy by contributing to the existing body of knowledge on dividend yield-based investment strategies in emerging markets, specifically the Indonesian stock market.

V.2 Recommendation

Although the Dogs of the Dow strategy has proven to be simple investment strategy to implement in the Indonesia Stock Exchange (IDX) and potentially generate steady income, an additional layer of prudence is necessitated when implementing the strategy, especially the PPP portfolio. The selection process must be conducted meticulously, taking into account various financial indicators, market trends, and economic outlooks to mitigate potential risks.

Prior to adopting the Dogs of the Dow strategy, potential investor should understand the limitation of the strategy. The strategy evaluates historical data to propose the portfolio(s) with no guarantee of the future result. In addition, the strategy requires re-balancing in yearly basis to take advantage of the dividend distribution.

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APPENDICES

Appendix A Example of LQ45 Stock Index List

Periode Agustus 2011 – Januari 2012

(Lampiran Pengumuman BEI No. Peng-00434/BEI.PSH/07-2011 tanggal 25 Juli 2011)

No	Kode Saham	Nama Emiten	Keterangan
1	INCO	International Nickel Indonesia Tbk	Tetap
2	BJBR	BPD Jawa Barat & Banten Tbk	Tetap
3	TINS	Timah (Persero) Tbk	Tetap
4	PGAS	Perusahaan Gas Negara (Persero)Tbk	Tetap
5	ANTM	Aneka Tambang (Persero) Tbk	Tetap
6	AALI	Astra Agro Lestari Tbk	Tetap
7	TLKM	Telekomunikasi Indonesia (Persero) Tbk	Tetap
8	ITMG	Indo Tambangraya Megah Tbk	Tetap
9	HRUM	Harum Energy Tbk	Baru
10	BBNI	Bank Negara Indonesia (Persero) Tbk	Tetap
11	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk	Tetap
12	UNVR	Unilever Indonesia Tbk	Tetap
13	CPIN	Charoen Pokphan Indonesia Tbk	Tetap
14	INDF	Indofoof Sukses Makmur Tbk	Tetap
15	BDMN	Bank Danamon Tbk	Tetap
16	LSIP	London Sumatera Plantation Tbk	Tetap
17	JSMR	Jasa Marga (Persero) Tbk	Tetap
18	EXCL	XL Axiata Tbk	Baru
19	ADRO	Adaro Energy Tbk	Tetap
20	ASII	Astra International Tbk	Tetap
21	BBTN	Bank Tabungan Negara (Persero) Tbk	Tetap
22	ICBP	Indofoof CBP Sukses Makmur Tbk	Baru
23	SMGR	Semen Gresik (Persero) Tbk	Tetap
24	SMCB	Holcim Indonesia Tbk	Tetap
25	GGRM	Gudang Garam Tbk	Tetap
26	KLBF	Kalbe Farma Tbk	Tetap
27	BUMI	Bumi Resources Tbk	Tetap
28	BMRI	Bank Mandiri (Perseri) Tbk	Tetap
29	UNTR	United Tractors Tbk	Tetap
30	INTP	Indocement Tunggal Prakasa Tbk	Tetap
31	UNSP	Bakrie Sumatera Plantation Tbk	Tetap
32	BBCA	Bank Central Asia Tbk	Tetap
33	KRAS	Krakatau Steel	Baru
34	INDY	Indika Energy Tbk	Tetap
35	ISAT	Indosat Tbk	Tetap
36	BBRI	Bank Rakyat Indonesia (Persero) Tbk	Tetap
37	LPKR	Lippo Karawaci Tbk	Tetap
38	GJTL	Gajah Tunggal Tbk	Tetap
39	MEDC	Medco Energi International Tbk	Tetap
40	BNBR	Bakrie & Brothers Tk	Tetap
41	BORN	Borneo Lumbung Energy Tbk	Baru
42	BRAU	Berau Coal Energy Tbk	Tetap
43	DOID	Delta Dunia Makmur Tbk	Tetap
44	ELTY	Bakrieland Development Tbk	Tetap
45	ENRG	Energi Mega Persada Tbk	Tetap

Daftar saham yang keluar dari perhitungan indeks LQ 45 2011

1	ASRI	Alam Sutera Realty Tbk
2	BBKP	Bank Bukopin Tbk
3	BSDE	Bumi Serpong Damai Tbk
4	BTEL	Bakrie Telecom Tbk
5	ELSA	Elnusa Tbk

Appendix B Example of Historical Price Extraction from Yahoo Finance

PT Hanjaya Mandala Sampoerna Tbk (HMSP.JK) ☆ Follow
 Jakarta - Jakarta Delayed Price. Currency in IDR

945.00 +5.00 (+0.53%)
 As of 09:37AM WIB. Market open.

Summary Chart Conversations Statistics **Historical Data** Profile Financials Analysis Options Holders Sustainability

Time Period: Dec 01, 2010 - Jan 13, 2023 Show: Historical Prices Frequency: Daily Apply

Currency in IDR [Download](#)

Date	Open	High	Low	Close*	Adj Close**	Volume
Jan 12, 2023	830.00	835.00	825.00	825.00	779.65	2,586,400
Jan 11, 2023	830.00	840.00	825.00	835.00	789.10	10,781,300
Jan 10, 2023	830.00	840.00	815.00	830.00	784.37	12,925,300
Jan 09, 2023	840.00	840.00	815.00	830.00	784.37	17,663,900
Jan 06, 2023	780.00	840.00	780.00	840.00	793.82	22,719,100
Jan 05, 2023	805.00	805.00	790.00	795.00	751.29	20,539,000
Jan 04, 2023	810.00	820.00	800.00	805.00	760.75	24,866,200
Jan 03, 2023	825.00	830.00	805.00	810.00	765.47	34,154,600
Jan 02, 2023	840.00	850.00	820.00	825.00	779.65	23,910,800
Dec 30, 2022	850.00	860.00	835.00	840.00	793.82	21,451,700
...
...
Dec 10, 2010	1,094.70	1,102.23	1,072.09	1,094.70	619.76	3,197,711
Dec 09, 2010	1,072.09	1,073.97	1,055.13	1,072.09	606.96	3,489,618
Dec 08, 2010	1,053.25	1,055.13	1,043.82	1,053.25	596.29	623,620
Dec 06, 2010	1,055.13	1,064.55	1,055.13	1,055.13	597.36	265,370
Dec 03, 2010	1,047.59	1,047.59	1,040.06	1,047.59	593.09	451,129
Dec 02, 2010	1,045.71	1,055.13	1,040.06	1,045.71	592.03	1,393,193
Dec 01, 2010	1,036.29	1,038.17	1,036.29	1,036.29	586.69	119,416

*Close price adjusted for splits. **Adjusted close price adjusted for splits and dividend and/or capital gain distributions.

Appendix C Example of Historical Dividend Extraction from Yahoo Finance

Time Period: [Dec 01, 2010 - Jan 13, 2023](#) Show: [Dividends Only](#) Frequency: [Daily](#) [Apply](#)

Currency in IDR [Download](#)

Date	Dividends
Jun 20, 2022	63.3 Dividend
Jun 08, 2021	72.8 Dividend
Jun 02, 2020	119.8 Dividend
May 20, 2019	117.2 Dividend
May 08, 2018	107.3 Dividend
May 08, 2017	107.7 Dividend
May 09, 2016	89 Dividend
Aug 19, 2015	38.926746 Dividend
May 06, 2015	36.74112 Dividend
Dec 05, 2014	43.071896 Dividend
Sep 12, 2014	13.565952 Dividend
Jun 04, 2014	34.932327 Dividend
Dec 03, 2013	36.51502 Dividend
Jun 11, 2013	48.98816 Dividend
Dec 07, 2012	18.8416 Dividend
May 23, 2012	39.56736 Dividend
Dec 07, 2011	17.334272 Dividend
Sep 13, 2011	10.174464 Dividend
Jun 13, 2011	41.82835 Dividend
Dec 30, 2010	34.29171 Dividend

*Close price adjusted for splits. **Adjusted close price adjusted for splits and dividend and/or capital gain distributions.