

The Evolution of Sectoral Risk Return Profiles in the Indonesian Stock Market: Evidence from 2023–2026

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ABSTRACT

This paper reviews the formation of sectoral risk-return profiles of the Indonesian stock market for 2023-2026. This research is a quantitative descriptive comparative study that explains the Jakarta Composite Index and IDX sectoral indices in terms of return, risk, risk-adjusted performance, and sectoral positioning. Data were collected from publications of Indonesia Stock Exchange and processed by Excel and R software. The results show that the sectoral investment attractiveness was dynamic, not static. The Jakarta Composite Index was a useful market benchmark, but it did not fully reflect the sectoral differences. Energy, Properties & Real Estate, Healthcare and Infrastructures displayed relatively efficient risk-adjusted profiles over the entire observation period. Yet, the annual results revealed that sectoral attractiveness varied according to market phases. Technology was the best performing sector in 2025 and Industrials had an exceptional position in the interim period of 2026. This study adds to the literature by proposing the Sectoral Investment Positioning Matrix, a practical framework for understanding the concepts of sectoral repositioning, sector rotation, portfolio allocation, and risk management, in an emerging market context.

Keywords : Indonesian stock market; risk-return profile; sectoral indices; sectoral repositioning; portfolio allocation; emerging market.

INTRODUCTION

Not all the stock market sectors react equally to uncertainty. Heterogeneous effects across industries can be created by economic recovery, monetary tightening, geopolitical tensions, commodity price volatility and changes in investor sentiment. Certain sectors may behave defensively and have relatively stable performance, while other sectors may generate higher returns but with significantly higher volatility. This sectoral heterogeneity indicates that aggregate market indicators may not be sufficient to capture the changing attractiveness of investment opportunities across industries. Knowledge of the differences between sectors is important for investors and portfolio managers, as asset allocation decisions are made not only on the market level, but also through the selection and rotation of capital across sectors.

Indonesia is a relevant context to study sectoral risk-return dynamics. The Indonesian stock market is one of the major emerging markets in Southeast Asia that is increasingly exposed to domestic and global sources of uncertainty. The period 2023-2026 is especially critical as it marks the transition from post-pandemic recovery to a more complex market environment of high interest rates, inflationary pressures, exchange rate movements, geopolitical conflicts, commodity price fluctuations and changing global capital flows. During such a period the performance of the sectoral indices may deviate significantly from the aggregated movement of the Jakarta Composite Index. Recent evidence suggests that global risk factors, such as geopolitical risk, economic policy uncertainty, global volatility, and oil price movements, may affect the Indonesian composite index differently, indicating that aggregate market performance may mask more specific sectoral patterns (Andriyani et al., 2025).

Figure 1 illustrates the cumulative return movements of the JCI and IDX sectoral indices from January 2023 to early May 2026. The figure shows that sectoral indices did not move uniformly during the observation period. While the JCI displayed a relatively moderate cumulative return pattern, several sectoral indices experienced sharper increases and deeper

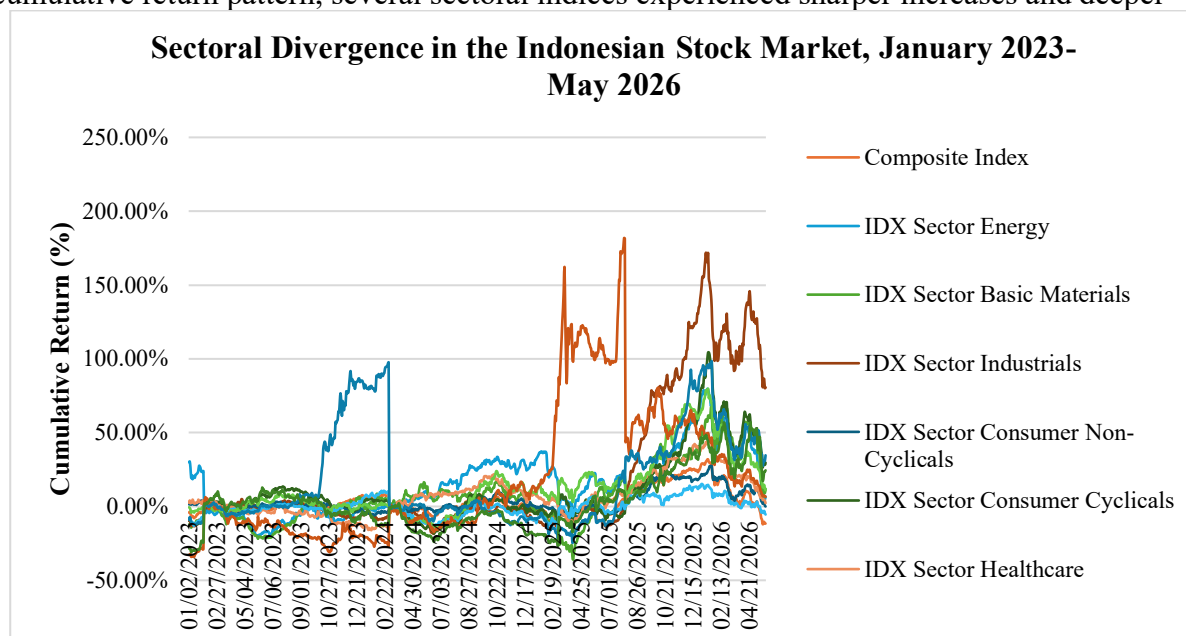


Figure 1. Sectoral Divergence in the Indonesian Stock Market, January 2023-May 2026

fluctuations. The technology, industrials, infrastructure, and energy sectors, for example, showed substantially stronger movements than the aggregate market, whereas other sectors moved more defensively. This divergence provides early evidence that aggregate market performance may conceal important sectoral differences, thereby strengthening the need for a sectoral risk–return analysis.

The issue is strongly linked in theory to the risk–return trade-off in investment decisions. Modern Portfolio Theory (Markowitz, 1952) says that investors should not only look at the expected return of an asset but also the risk of the return and the benefits of diversification. In this context, sectoral diversification is an important investment strategy because each sector has different business characteristics, macroeconomic sensitivities and exposure to shocks in the market. For example, the financial sector may be more sensitive to changes in interest rates and liquidity conditions, while the energy and basic materials sectors are often impacted by commodity prices and geopolitical developments. Consumer cyclicals and healthcare are defensive sectors that also may show different patterns from growth-oriented sectors such as technology. Therefore, the simultaneous consideration of return and risk at the sectoral level may provide a more complete picture of investment attractiveness than the separate consideration of return or volatility.

Several streams of research in earlier studies have contributed to understanding of sectoral stock market behavior. The first stream is on volatility and risk modeling. Maulana (2022) in Indonesia examined the volatility of sectoral stock indices by applying ARCH/GARCH

based approaches and discovered that the sectoral indices have different volatility structures. Dwijaya et al. (2024) further studied sectoral stock price index volatility during the high interest rate period in Indonesia and found that the effect of monetary conditions is different across sectors. Similar evidence from emerging markets shows that stock market volatility is persistent and sensitive to external shocks, particularly during crisis and post-crisis periods (Hermanto et al., 2026; J. Yang, 2025). These studies are useful to explain sectoral risk behaviour, but they mainly focus on volatility rather than the combined position of risk and return.

The second stream examines connectedness, spillover and dynamic market structure. Fitriyah & Mukminatin (2025) studied the return connectedness of Indonesian sectoral stock indices during the Russia Ukraine conflict and found an increase in return spillovers during the conflict period. In their study, they found that several sectors, including financials, industrials, infrastructure, consumer cyclicals and basic materials were net transmitters of risk, while other sectors were net receivers of risk. The network-based and dynamic correlation studies are also suggestive of the fact that the relationships between stocks and sectors are time-varying, especially during times of market stress (Chen et al., 2022; Hassan & Situngkir, 2026; Mukhia et al., 2026). However, while these studies offer significant insights into market interdependence and risk transmission, the main focus of these studies is on connectivity and not on the relative investment position of each sector based on risk and return.

The third stream is based on sector rotation and sector based investment strategies. Sector rotation theory suggests that different sectors may perform better or worse depending on the economic cycle, macroeconomic factors, and market regimes. In Indonesian, Sudjana (2024) found that portfolios with a sector rotation strategy can outperform static allocations in risk-adjusted return. In a more general setting, (R. Yang & Shi, 2023) showed that sector rotation can be explained by factor models and fundamental analysis. These studies confirm that the allocation across sectors matters for investment performance. But much of the existing literature is based on selected stocks or portfolio simulations rather than mapping the changing risk-return profiles of official sectoral indices over time.

The fourth stream focuses on the impact of macroeconomic and global shocks on stock markets. Chatziantoniou et al. (2025) demonstrated that geopolitical risk impacts the volatility of sectoral stock markets in a highly sector-specific manner, emphasizing that industries differ in their sensitivity to external risk classes. Lee & Karim (2025) found that the Malaysian sectoral stock indices respond differently to domestic and foreign monetary policy shocks confirming the heterogeneous response of sectors to macroeconomic shocks. In Indonesia, macroeconomic variables such as inflation, exchange rates, interest rates, global volatility, and index volatility have also been proven to influence market performance and sectoral stock behavior (Andriyani et al., 2025; Herlando, 2002; Utami et al., 2025). However, these studies generally focus on the effect of external factors on returns, volatility, or aggregate market indices, not on the time-evolution of relative risk-return position of each sector.

Yet, these contributions notwithstanding, there is a considerable gap in the existing literature. Most studies examine return, volatility, connectedness, sector rotation, or macroeconomic shocks as distinct research streams. Other studies concentrate on a single sector, a single event, a single market index, or a single source of uncertainty. Therefore, limited attention has been given to understanding the evolution of the risk-return profiles of all

Indonesian sectoral indices simultaneously in a unified framework. This gap matters because investors do not only need to know whether a sector generates high return or exhibits high volatility in isolation. They also need to understand how the relative investment position of each sector changes relative to other sectors in different market phases.

This study fills this gap by examining the evolution of sectoral risk-return profiles in the Indonesian stock market during 2023-2026. This study differs from previous studies that focus on return, volatility, connectedness, or shock transmission individually, as it combines return and risk in a dynamic sectoral risk-return mapping framework. This approach allows for the classification of each sector in one of four investment quadrants: high return-low risk, high return-high risk, low return-low risk and low return-high risk. With this framework the study can identify not only which sectors are performing better, but also how their relative investment attractiveness evolves over time.

The novelty of this study is the focus on sectoral repositioning. Rather than viewing sectoral performance as static, this study considers each sector as having a dynamic investment identity that can change across years. A sector that looks good for one year may look riskier the next year, and another sector may improve their position as market conditions change. This study maps these movements, providing a more intuitive and practical understanding of sectoral investment dynamics for an emerging market context.

The present study makes three contributions to the literature. First, it adds to the literature on the risk-return trade-off and sectoral investing with a dynamic view of the evolution of sectoral risk-return. Second, it offers recent empirical evidence from Indonesia, an emerging market that remains relatively underexplored in studies on sectoral investment dynamics. Third, it offers a practical visual framework that can assist investors, portfolio managers and market analysts in assessing sectoral attractiveness and potential sector rotation strategies.

METHODS

The study used a quantitative approach using descriptive-comparative research design. The quantitative approach is appropriate because the study examines numerical data in the form of index movement, sectoral return, risk and risk-adjusted performance. Meanwhile, the use of the descriptive-comparative design is because the purpose of this study is not to test causal relationships among variables, but to describe, compare and map the risk-return profiles of Indonesian sectoral indices in the period of 2023-2026. This study descriptively explains characteristics of return, risk and risk adjusted performance for each sectoral index. Comparatively, it evaluates the relative position of each sector based on the combination of return and risk and establishes if a sector can be classified as attractive, aggressive, defensive or less attractive from an investment point of view. Thus, this study aims to obtain the evolution of sectoral risk-return profiles and to analyse the repositioning of sectoral investment attractiveness over time.

The research context is the Indonesian stock market, particularly the Jakarta Composite Index and the sectoral indices listed on the Indonesia Stock Exchange. The population of this study consists of all IDX sectoral indices available in the dataset during the observation period. Since the study focuses on sector-level market performance rather than individual investors or firms, the unit of analysis is the IDX sectoral index. The sectoral indices studied in this paper are

Financials, Healthcare, Technology, Industrials, Infrastructure, Transportation and Logistics, Basic Materials, Energy, Properties and Real Estate, Consumer Cyclical and Consumer Non-Cyclical (Consumer Cyclical). The Jakarta Composite Index is included as a market benchmark to compare whether each sector has a better or worse performance than the aggregate market in terms of return, risk and risk-adjusted performance.

Sampling Procedure

This study uses a census-based approach for the available sectoral indices in the dataset. All IDX sectoral indices with valid numerical observations during the 2023–2026 period are included in the analysis. Therefore, no respondent-based sampling procedure is applied. If a sectoral index is unavailable or contains insufficient data in the dataset, it is excluded from the empirical analysis and reported as a data limitation.

Data Source and Data Collection

Data used in this study is secondary data taken from the official publications of the Indonesia Stock Exchange. The statistics are the movement of Jakarta Composite Index and IDX sectoral indexes in period 2023-2026. The observation period is from 2023 till the latest available data in 2026. The data used in this study only cover observations up to the latest date in the dataset. Therefore, the year 2026 is used as an interim observation period.

The period 2023-2026 was chosen because it is a critical phase of the market after the COVID-19 pandemic, with economic recovery, inflationary pressures, interest rate adjustments, exchange rate movements, geopolitical uncertainty, commodity price fluctuations and domestic political transition. These conditions are relevant for analysing changes in sectoral risk-return profiles over time.

Variables and Measurement

This study uses three main variables; return, risk, and risk-adjusted performance. Return is measured using the mean value of index movements during the observation period. Since the dataset consists of index movement data, the mean movement is used to represent the average sectoral return. In this study, return can be calculated using the following formula:

$$\bar{R}_i = \frac{1}{n} \sum_{t=1}^n R_{it}$$

where $\bar{R}_i$ is the average return of sector i , R_{it} is the index movement or return of sector i in period t , and n is the number of observations.

Risk is measured using the standard deviation of returns. Standard deviation indicates the extent to which sectoral returns deviate from their average value. A higher standard deviation indicates higher volatility and greater investment risk.

$$\sigma_i = \sqrt{\frac{\sum_{t=1}^n (R_{it} - \bar{R}_i)^2}{n - 1}}$$

where σ_i is the standard deviation or risk of sector i , R_{it} is the return of sector i in period t , $\bar{R}_i$ is the average return of sector i , and n is the number of observations.

Risk-adjusted performance is measured using the coefficient of variation. The coefficient of variation indicates the amount of risk borne by investors for each unit of return generated by a sector.

$$CV_i = \frac{\sigma_i}{\bar{R}_i}$$

where CV_i is the coefficient of variation of sector i , σ_i is the standard deviation of sector i , and $\bar{R}_i$ is the average return of sector i . A lower CV indicates a more efficient risk-return profile. If the average return is zero or negative, the CV is treated as not applicable because its economic interpretation becomes less meaningful.

The analysis was done in several steps. First, descriptive statistics (number of observations, mean, maximum, minimum and standard deviation) were calculated for each of the index. The statistics were calculated for the overall period as well as on an annual basis to capture the general characteristics and year-to-year changes in sectoral performance. Second, return, risk and coefficient of variation (risk adjusted performance) were calculated for Jakarta Composite Index and each IDX sectoral index. Then, Jakarta Composite Index was used as benchmark to evaluate whether each sector out performed or under performed the aggregate market. Third, Sectoral indices were mapped with Sectoral Investment Positioning Matrix. The framework classifies each sector into four investment quadrants based on its return and risk position relative to the market benchmark.

Table 1. Classification of Sectoral Investment Positioning Matrix

Quadrant	Characteristics	Interpretation
High Return – Low Risk	Return above benchmark, risk below benchmark	Attractive or core investment sector
High Return – High Risk	Return above benchmark, risk above benchmark	Aggressive or opportunistic sector
Low Return – Low Risk	Return below benchmark, risk below benchmark	Defensive or stability-oriented sector
Low Return – High Risk	Return below benchmark, risk above benchmark	Less attractive or speculative sector

This classification shown in Table 1 identifies which sectors have the most attractive investment profiles, which sectors are defensive, which sectors are aggressive and which sectors carry high risk without sufficient return compensation. The annual mapping also enables the study to investigate sectoral repositioning, which is the movement of sectors from one risk-return quadrant to another in the period 2023-2026.

RESULTS AND DISCUSSION

Results

This section provides the descriptive-comparative results of the study. In line with the research design, the analysis does not involve inferential statistical testing because the study is not intended to test causal relationships or formal hypotheses. Instead, the study employs descriptive statistics and risk return measures to compare the investment profile of the Jakarta Composite Index and the IDX sectoral indices. The indicators are number of observations, mean return, maximum, minimum, standard deviation and coefficient of variation. Results are shown for the overall period and for each year, to detect changes in the performance of the sectors. In addition, the sectoral repositioning is analyzed, using the Sectoral Investment Positioning Matrix.

Overall Risk Return Profile of Indonesian Sectoral Indices

The descriptive results show that the risk–return profiles of the Jakarta Composite Index and Indonesian sectoral indices are significantly changed during the observation period of 2023–2026. As seen in Table 2, the average return of the Jakarta Composite Index was 3.28%, its standard deviation was 8.80% and its coefficient of variation was 2.68. This implies that the total market produced a positive return over the period considered, but the risk level was still quite high. The result also implies that the aggregate market index may not fully capture the investment characteristics of individual sectors.

Table 2. Descriptive Statistics and Risk–Return Performance of the JCI and IDX Sectoral Indices, 2023–2026

Index / Sector	N	Return (Mean)	Max	Min	Risk (Std. Dev.)	Risk-Adjusted Performance (CV)
Composite Index	804	3,28%	31,86%	-14,39%	8,80%	2,68
IDX Sector Energy	804	14,95%	79,73%	-21,27%	21,06%	1,41
IDX Sector Basic Materials	804	7,93%	67,18%	-36,02%	20,38%	2,57
IDX Sector Industrials	804	20,05%	171,93%	-18,39%	46,85%	2,34
IDX Sector Consumer Non-Cyclicals	803	3,39%	27,53%	-11,80%	7,76%	2,29
IDX Sector Consumer Cyclicals	804	10,30%	104,37%	-18,32%	23,03%	2,24
IDX Sector Healthcare	804	6,96%	45,17%	-16,08%	13,66%	1,96
IDX Sector Financials	804	-0,29%	15,29%	-15,46%	6,22%	N/A
IDX Sector Properties & Real Estate	804	12,93%	79,65%	-14,40%	19,86%	1,54
IDX Sector Technology	804	18,54%	181,88%	-34,16%	44,56%	2,40
IDX Sector Infrastructures	804	18,40%	98,13%	-24,57%	33,06%	1,80
IDX Sector Transportation & Logistic	804	2,64%	56,98%	-30,97%	18,58%	7,05

At the sectoral level, the best average return was achieved by Industrials (20.05%), followed by Technology (18.54%), Infrastructures (18.40%), Energy (14.95%) and Properties & Real Estate (12.93%). These sectors gave returns above the market benchmark. This shows that investment opportunities in specific sectors are not evenly distributed in the Indonesian stock market. But the sectors with the best returns were also the ones with the most volatility. Industrials had the highest risk recording a standard deviation of 46.85% followed by Technology with 44.56% and Infrastructures with 33.06%. This finding underlines the importance of assessing sectoral performance by considering both return and risk rather than return only.

The lowest risk was in Financials with a standard deviation of 6.22% followed by Consumer Non Cyclical at 7.76%. However, the Financials sector posted an average return of -0.29% and hence its coefficient of variation is not applicable. This result suggests that lower volatility does not necessarily imply a more attractive investment profile in the case of a weak or negative return of the sector.

Coefficient of variation gives a better sense of risk adjusted performance. Energy recorded the most efficient overall risk return profile with a CV of 1.41 followed by Properties & Real Estate with 1.54, Infrastructures with 1.80 and Healthcare with 1.96. These sectors provided returns with a relatively lower risk per unit of return. Transportation & Logistic was the worst risk-adjusted performance with a CV of 7.05. That is to say, the investors had to take up a much higher risk level per unit of return. The results are generally supportive of the notion that sectoral indices possess distinct investment profiles that may be obscured by only looking at the composite index.

Annual Risk–Return Dynamics

The annual results provide stronger evidence of how sectoral risk–return profiles are evolving over time. The number of observations is different per year: 239 in 2023, 237 in 2024, 236 in 2025 and 92 in 2026. Therefore, the results for 2026 must be considered as interim results as the data only contains observations until the latest available date of May 2026. The annual risk return dynamics are visualized in Figure 2. The figure plots risk, measured by standard deviation, on the horizontal axis and average return on the vertical axis. Bubble size represents risk-adjusted efficiency, calculated as the inverse of the coefficient of variation. Larger bubbles indicate more efficient risk-adjusted performance. The figure illustrates that sectoral indices did not remain in fixed positions over time, but shifted across different risk return areas during the observation period.

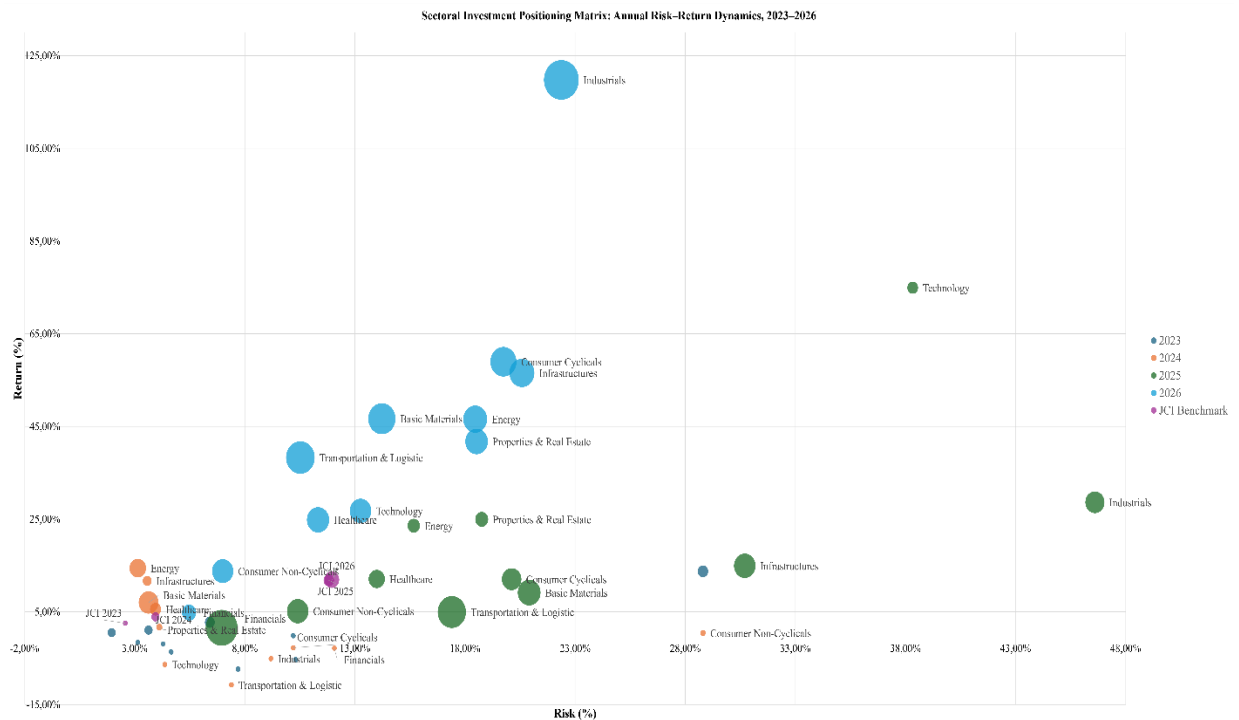


Figure 2. Sectoral Investment Positioning Matrix: Annual Risk-Return Dynamics, 2023–2026

Average return of the Jakarta Composite Index (JCI) in 2023 was -0.12% with a standard deviation of 2.57%. This suggests that the overall market was quite weak in the first year of observation. On the sectoral level, only few sectors managed to record positive average returns. The best performance was obtained by infrastructures with a return of 13.76% but also the highest volatility, as the standard deviation was equal to 28.80%. Consumer Cyclical had a positive average return of 2.75% Properties & Real Estate had 1.08%. In contrast, Technology was the worst performing sector, returning on average -15.65% followed by Basic Materials (-7.32%), Energy (-5.28%) and Healthcare (-3.63%). The results show that 2023 was marked by sectoral selectivity, with sectors linked to infrastructure and consumption doing better, whereas technology and commodity sectors continue to be under pressure.

The Jakarta Composite Index improved in 2024, with an average return of 1.15%, standard deviation of 3.94% and CV of 3.44. Basic Materials had the best risk-adjusted performance with an average return of 7.03%, a standard deviation of 4.11% and a CV of 0.59. Energy did well too, with an average return of 14.45%, standard deviation of 12.06% and CV of 0.83. Healthcare and Infrastructures also returned positive returns with average returns of 5.56% and 11.70% respectively. But a number of sectors still faced headwinds. The weakest sector was Transportation & Logistic with a return of -10.74% followed by Technology (-6.36%), Industrials (-5.08%), Financials (-2.84%) and Consumer Cyclical (-2.74%). These results imply that the overall market was better in 2024, but performance across sectors was very different.

The market rebounded more strongly by 2025. The Jakarta Composite Index has an average return of 5.72%. It has a standard deviation of 11.81% and a CV of 2.06. The most striking result was in Technology which went from negative performance in 2023 and 2024 to an average return of 74.95% in 2025. Technology had the best risk-adjusted performance (CV of 0.51) but with a high standard deviation of 38.33%. Energy also did well with average return of 23.60% and CV of 0.66, followed by Properties & Real Estate with average return of 24.96% and CV of 0.75. Industrials, Healthcare and Consumer Cyclical also recorded positive and relatively attractive returns among sectors. However, Financials and Transportation & Logistic were less efficient with CV values of 4.44 and 3.50 respectively. The findings point to a year of wider recovery and stronger risk appetite in 2025, especially in the technology, property, energy, industrial and cyclical sectors.

Early 2026 results indicate a broad-based recovery across nearly all sectors. The average return of Jakarta Composite Index was 11.34%, standard deviation 11.95% and CV 1.05. Industrials was the strongest sector with an average return of 119.77%, standard deviation of 22.37% and CV of 0.19. Other sectors also recorded strong average returns such as Consumer Cyclical (58.97%), Infrastructures (56.56%), Basic Materials (46.69%), Energy (46.59%) and Properties & Real Estate (41.76%). Financials had the lowest return at 4.86%, yet this sector was comparatively stable with a standard deviation of 5.47%. Results suggest strong early-year momentum for the sector in 2026, but caution should be exercised in interpretation, as the observation period is incomplete.

Sectoral Positioning Based on the Risk Return Map

The Sectoral Investment Positioning Matrix shows that sectoral investment positions changed across years. In 2023, the market was relatively weak, and many sectors recorded negative average returns. Consumer Non-Cyclical occupied the most favorable position because it generated a return above the JCI while maintaining risk below the market benchmark. Growth or opportunistic sectors were Infrastructures, Consumer Cyclical and Properties & Real Estate which gave returns above the JCI but were more risky. Several sectors, including Energy, Basic Materials, Healthcare, Financials, Technology, and Transportation & Logistic, occupied weaker positions because their returns were below the market benchmark and were not sufficiently compensated by their risk levels.

In 2024, Basic Materials, Energy, Healthcare, Properties & Real Estate and Infrastructures were relatively stronger. These sectors offered returns above the market benchmark, but many also had higher volatility. Consumer Non-Cyclical remained defensive, providing lower return but also lower risk than the market. Meanwhile, Technology, Industrials, Financials, Consumer Cyclical and Transportation & Logistic remained weaker as their average returns were negative. These findings suggest that the improvement in the aggregate market was not reflected in a uniform performance across sectors.

In 2025 the sectoral map was totally changed. Technology has moved from a less-than-robust position in 2023 and 2024 to the most attractive sector from a risk-adjusted perspective. Energy and Properties & Real Estate also had good profiles. But most of the high-performing sectors still had higher risk associated with them, indicating that the recovery was not smooth sailing. The Financials had a defensive profile, but underperformed because of its relatively low

risk but weak return. Transportation & Logistic was less attractive because its return was below the market benchmark and its risk was relatively high.

The interim map shows stronger sectoral repositioning in 2026. Also Consumer Non-Cyclicals, Healthcare and Transportation & Logistic sectors moved into a more favorable position having delivered returns above the market benchmark but with less risk. Meanwhile, all high-return sectors of Industrials, Consumer Cyclicals, Infrastructures, Energy, Basic Materials, Properties & Real Estate and Technology were at various levels of risk. Financials were defensive in nature but continued to underperform the aggregate market on return. These positions should be viewed as interim findings, not as full-year sectoral classifications, as the 2026 data only includes observations up to early May.

Discussion

The results support the main argument of this study that sectoral investment attractiveness in the Indonesian stock market is dynamic not static. The Jakarta Composite Index is a good indicator of market performance, but it does not fully reflect the difference in risk, return and risk adjusted performance between the sectors. This is in line with previous evidence that the Indonesian stock market provides return opportunities but also exhibits high volatility relative to international benchmarks. Hamonangan et al. (2024) show that risk–return evaluation is necessary to understand the attractiveness of the Indonesian market, but the present research goes further by extending this view from the aggregate market level to the sectoral level.

The risk-return bubble map provides visual support for this argument. The observations for 2023 and 2024 are primarily in the lower-return region, suggesting that sector performance was selective and weak in the initial observation period. However, the results for 2025 and 2026 are more dispersed, suggesting a rise in sectoral segmentation and repositioning. Technology and Industrials were the sectors to move quickly into high return positions in 2025 and 2026, while Financials remained in the low risk-low return quadrant. This visual pattern suggests that the sectoral investment positions have been changed significantly over the observation period.

In general, the results suggest that the sectors generating the highest returns were not always the most efficient on a risk-adjusted basis. Industrials and Technology had very high average returns, but both sectors also had high volatility. Energy, Properties & Real Estate, Infrastructures and Healthcare, on the other hand, performed better on a risk-adjusted basis over the full period of observation. This is in line with the risk-return rationale of portfolio theory: the attractiveness of an investment should be assessed in terms of the trade-off between return and risk, not just return. It also confirms that sectoral investing needs a more granular assessment given different exposures to macroeconomic conditions, business cycles and investor sentiment for each sector. Regarding the sectors with the most attractive risk-return tradeoff, the results indicate that Energy, Properties & Real Estate, Healthcare and Infrastructures have shown relatively more efficient risk-adjusted profiles throughout the observation period. But this attraction was not constant from year to year. Technology was quite attractive in 2025 and Industrials was a good risk-reward position in the interim 2026 period. This implies that sectoral attractiveness was selective and time dependent.

The 2023 results reflect a post-pandemic adjustment period with a weak overall market and very selective sector performance. The rather good performance of Infrastructures could be related to expectations around public investment, development projects and policy continuity. Consumer Cyclical could have been supported by the normalization of mobility and consumption after the pandemic. However, Technology was still under pressure, indicating the growth sectors are still under valuation adjustment and sensitive to high interest rates. This result is in line with the literature that shows that monetary conditions and high interest rate environments affect sectoral stock indices differently. Dwijaya et al. (2024) mention that the sectoral volatility in Indonesia is different in high interest rate periods. Lee & Karim (2025) examine the different effects of domestic and foreign monetary policy shocks in Southeast Asia's sectoral stock indices.

2024 results show a stronger aggregate market performance, but also a deeper divergence across sectors. Energy and Basic Materials became relatively efficient sectors Technology, Industrials, Financials, Consumer Cyclical and Transportation & Logistic posted negative returns. This pattern suggests that the market did not respond in a uniform manner to macroeconomic and political transition. The outperformance of Energy and Basic Materials may be linked to the strategic role of commodity-linked sectors in a context of global uncertainty, commodity price trends and geopolitical risk. This interpretation is consistent with Bouri et al. (2023) who provide evidence that oil implied volatility and geopolitical risk impact sectoral stock returns and volatility differently depending on market conditions. Similarly, Chatziantoniou et al. (2025) find that sectoral stock market volatility is affected by categories of geopolitical risk in a highly sector-specific manner.

The 2024 results will also matter in the context of Indonesia's presidential election and political transition. Election periods are times of uncertainty in terms of the direction of policy, fiscal priorities, regulatory focus, and sectoral winners and losers. The political transition period of this study was not characterized by uniform market optimism but by differentiated sectoral performance. Sectors linked to commodities, basic materials, healthcare and infrastructure performed relatively better whereas sectors like Technology, Financials, Consumer Cyclical and Transportation & Logistic continued to be under pressure. This suggests that investors may have assessed sectors on the basis of perceived exposure to future policy priorities, macro sensitivity and earnings resilience, rather than simply reacting to aggregate political sentiment.

2025 results demonstrate a strong recovery in risk appetite and a significant re-positioning of several sectors. Technology is the clearest example. The sector posted the highest return and the lowest CV in 2025, following negative average returns in 2023 and 2024. This change indicates that Technology has moved from an under-performing sector to a high growth opportunity sector. However, the high standard deviation also means that the sector remained volatile and thus more suitable for investors with a higher risk appetite. This finding is consistent with the broader literature on sectoral heterogeneity which has argued that sectors may alter their investment profile as macroeconomic conditions, investor expectations and market regimes change.

In 2025, Energy and Properties & Real Estate both performed well in terms of risk-adjusted performance. Energy's steady improvement beyond 2023 suggests that commodity linked industries may become appealing when global uncertainty and commodity price dynamics support investor expectations. Properties & Real Estate also performed well, possibly reflecting

higher expectations for interest rates, investment activity, and property demand. This view is consistent with Utami et al. (2025) findings, which show that stock returns in the Indonesian property and real estate industry are sensitive to interest rates, volatility, inflation, exchange rates, and green innovation.

2026 interim results signal broad-based sectoral strengthening. Industrials, Consumer Cyclical, Infrastructures, Basic Materials, Energy and Properties & Real Estate have very high average returns. These results may be a reflection of early optimism on domestic demand, industrial growth, infrastructure related activity and commodity linked sectors. But the 2026 data only cover 92 observations through May, so the results should be taken with a grain of salt. The strong start to the year could be a sign of momentum, policy expectations or short-term market sentiment rather than sectoral stability for the full year. This caution matters because emerging markets often exhibit changing volatility structures across crisis, post-crisis, and tranquil periods, as recent evidence of ASEAN volatility shows.

Overall, the results validate the significant changes in the risk-return profiles of Indonesian sectors between 2023 and 2026. The sector level differences were not well captured by the overall market index. The sectoral investment attractiveness varied by years responding to the changing macroeconomic conditions, global risks, commodity cycles, monetary policy and domestic political transition. Therefore, the dynamic risk-return mapping approach proposed in this study provides a useful framework for understanding sectoral repositioning, and for supporting sector rotation, portfolio allocation and risk management decisions in the Indonesian stock market.

CONCLUSION

The evolution of sectoral risk-return profiles in the Indonesian stock market was investigated for 2023-2026 using return, risk, risk-adjusted performance, and the Sectoral Investment Positioning Matrix. The findings suggest that in Indonesia, the attractiveness of sectoral investment was dynamic, not static. The Jakarta Composite Index was a good representation of the overall market performance but not representative of difference in return, volatility, and risk-adjusted performance among the sectors. The results show that Energy, Properties & Real Estate, Healthcare and Infrastructures had relatively efficient risk-adjusted profiles during the entire observation period. But an annual analysis proved that sectoral attractiveness was not consistent across market phases. Technology came under pressure in 2023 and 2024 but was the most efficient sector in 2025, while Industrials showed an exceptionally strong risk-adjusted position in the interim 2026 period. These results confirm that it is not possible to identify the most attractive sectors from static sector labels alone and that they should be assessed dynamically based on changing market conditions.

This paper proposes a new dynamic sectoral risk-return mapping methodology through the Sectoral Investment Positioning Matrix, contributing to the literature. This framework helps to explain the movement of sectors across investment positions over time and serves as a practical tool for sector rotation, portfolio allocation and risk management. The results imply that sectoral allocation decisions by investors and portfolio managers should not be taken based solely on past return or aggregate market movements. Rather, investment decisions should reflect the evolving trade-off between return, risk and risk-adjusted performance across sectors.

This study has a number of limitations. First, the 2026 data are interim and only cover observations through May 2026. As such, the 2026 results may be reflecting early-year momentum rather than full-year sectoral performance. Second, this study is descriptive-comparative and does not test causality between macroeconomic variables, political events and sectoral performance. Hence, the results identify sectoral repositioning patterns but do not infer direct causal effects. Third, the analysis is conducted on the sectoral indices and not on the individual stocks. Firm-level differences within a sector are not captured.

Future studies could extend this study by utilizing a full year 2026 dataset and employing econometric models to investigate the causal effects of interest rates, exchange rates, inflation, commodity prices, geopolitical risk and political uncertainty on sectoral risk-return profiles. Future research can also compare Indonesia with other emerging markets or combine sectoral index analysis with firm-level portfolio optimization. Such extensions would permit a more detailed analysis of the evolution of sectoral investment positions in various macroeconomic and market conditions.

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