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# Risk And Profit Analysis in Investment Decisions on Aggressive Investors in Java Island in 2020 an Empirical Study on The Indonesian Capital Market

**Abdul Azim Wahbi[1], Syahrudi[2], Syahrudin[3]**
[1,2,3]University of Borobudur



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**ABSTRACT**

***Objective:*** *This study examines the relationship between investment decisions, high-risk profiles, and medium-risk profiles with emotional anxiety among aggressive investors in Java during 2020, addressing the underexplored psychological dimensions of investor behavior.* ***Method:*** *Adopting a quantitative observational research design, the study utilized panel data comprising 20 observations from 7 cross-sections over the 2020–2022 period. Panel regression analysis was conducted to assess the impact of the variables on emotional anxiety, with data sourced from credible institutions to ensure reliability.* ***Results:*** *The findings indicate that investment decisions, high-risk profiles, and medium-risk profiles do not significantly influence the emotional anxiety of aggressive investors. A low R-squared value suggests that these variables account for only a small proportion of the observed variation in emotional anxiety.* ***Novelty:*** *This study provides fresh insights by highlighting the limited explanatory power of traditional financial and risk-related factors on emotional anxiety, suggesting the need to explore broader psychological and behavioral elements. These findings emphasize the importance of integrating emotional factors into risk management strategies, enabling policymakers and practitioners to better address investor resilience amidst market volatility. By focusing on the intersection of financial and psychological aspects, this research contributes to a nuanced understanding of aggressive investor behavior in the Indonesian capital market.*

## INTRODUCTION

Indonesia's capital market has become the center of attention for investors, especially on the island of Java [1], which in 2020 recorded the number of market participants as many as 3,175,429, with the majority, reaching 69.01%, coming from the island of Java. This figure reflects the significant role of Java Island in driving investment activities in Indonesia. Successful investing often depends on a deep understanding of risks and rewards [2]. The main focus of this research is on aggressive investors in Java, who tend to look for investment opportunities that provide high returns.


**Figure 1.** Investor Chart

Based on figure 1, in 2020, the Indonesian capital market recorded significant participation from investors, with a total number of 3,175,429 people. This data illustrates the high interest of the public in investment activities in the capital market. In the geographical context, there is an interesting fact that the majority of investors, around 69.01%, are located on the island of Java. The island of Java, as the economic and financial center of Indonesia, plays a central role in shaping the dynamics of the capital market in the country.

The importance of this information lies not only in the overall number of investors, but also in their geographical concentration on the island of Java. This shows that Java Island is not only the location with the largest number of investors, but also the main center of investment activities in Indonesia. Factors such as economic growth, capital market accessibility, and a thriving financial center in Java may contribute to the high number of investors in the region.

This study adopts an empirical study approach to analyze the dynamics of the Indonesian capital market throughout 2020. With 69.01% of capital market investors located in Java, a deep understanding of their investment strategies is crucial. Investment decisions taken by aggressive investors often involve a thorough analysis of risks and returns. In this context, this study aims to identify risk and reward factors that are the main considerations for aggressive investors.

The results of the research are expected to make a significant contribution to understanding effective investment strategies in the midst of economic and capital market uncertainty. With a focus on 2020, the study explores the aggressive investor response to capital market dynamics, strengthening the knowledge base on how they manage risk and seek profits. This analysis allows us to take a closer look at the way aggressive investors in Java navigate the challenges and opportunities in the capital market.

Through this empirical study, it is hoped that it will reveal how investors aggressively respond to events and changes in the capital market. An in-depth understanding of the factors that influence investment decisions can help investors, analysts, and regulators in designing better strategies. As such, the study provides a richer and more contextual view of aggressive investor behavior in Java in 2020, opening a window into the dynamics of Indonesia's capital market as a whole.

Theoretical Foundations

a. Portfolio Theory and Diversification

Portfolio Theory and Diversification are an important foundation in understanding investment strategies, especially related to risk and return analysis [3]. The concept of asset diversification in an investment portfolio is explained by this theory as a step to manage risk. Diversification involves spreading investments across different asset classes or financial instruments, so that investors can reduce the potential for significant losses if one asset or sector underperforms. By linking the principles of portfolio theory and diversification to the investment

decisions of aggressive investors in Java in 2020, we can understand how efficient asset allocation is key to achieving investment goals while still managing risk optimally.

Aggressive investors, who tend to seek high returns, need to understand that high profit potential is often accompanied by a greater level of risk. Portfolio theory provides a view on how to achieve the right balance between risk and return. By applying the principle of diversification, aggressive investors can reduce the overall risk of their portfolio without having to sacrifice potential profits. This becomes relevant in the context of investment decisions in Java, where market dynamics may differ from other regions.

In this theory, the role of the asset class becomes central. Aggressive investors need to consider a combination of various assets, such as stocks, bonds, and other financial instruments, to achieve an optimal level of diversification [3]. This is crucial given that capital market conditions can vary, and certain events can affect asset classes in different ways. Therefore, by understanding portfolio theory and diversification, aggressive investors can make more informed investment decisions, reduce uncertainty, and increase their chances of success.

This theory also contains the concept that the level of risk taken by investors should be in line with their goals and risk tolerance. With a good understanding of portfolio theory, aggressive investors in Java can measure the extent to which the level of risk is in accordance with the desired profit target. In the context of research in 2020, where economic and market conditions may fluctuate significantly, the emphasis on diversification is becoming increasingly important to protect portfolios from potential large losses.

It is important to note that portfolio theory and diversification are not rigid formulations, but rather guides that can be adapted to the investor's situation and preferences. Therefore, the implementation of these principles requires an in-depth analysis of specific market conditions and individual investment objectives. In this theory, adaptability is key, allowing aggressive investors in Java to design portfolios that suit the regional context and achieve their investment goals while minimizing risk as optimally as possible.

b. Investment Decision Making Theory

Investment Decision Making Theory highlights the psychological, behavioral, and rational dimensions that affect the investment decision-making process [4]. In the context of aggressive investors, such analysis is becoming increasingly important because investment decisions are often influenced by irrational and emotional aspects. This theory views investment decisions as the result of a complex interaction between psychological factors and economic rationality factors. First of all, the psychology of an aggressive investor may include uncertainty, a tendency to take risks, and a fear of missing out on profitable investment opportunities.

Risk perception and potential profit are the main focus of this theory. Aggressive investors, who often seek high returns, tend to have a greater risk tolerance. However, how they measure and interpret risk, as well as how they perceive potential profits, can be influenced by psychological factors such as past experience, investment knowledge, and individual preferences. In the context of Java Island in 2020, this analysis will provide insights into how these psychological factors play a role in investment decisions amid potentially volatile market conditions.

In addition, the emotional aspect is also an integral part of investment decision-making theory. The human tendency to respond emotionally to market fluctuations, whether the excitement of a gain or the disappointment of a loss, can influence investment judgments and decisions. In the context of aggressive investors in Java, further understanding of how their emotions play a role in investment decision-making can provide a deeper insight into responses to specific market events.

This theory also includes the factor of economic rationality in investment decision-making. How investors aggressively assess fundamental information, conduct risk analysis, and assess potential investment returns are aspects that emerge from this theoretical framework. Especially in Java, where economic conditions and capital markets can vary, the influence of this rationality factor needs to be understood to identify whether the investment decision is based on solid economic considerations or influenced by non-rational factors.

c. Capital Market Efficiency Theory

Capital Market Efficiency Theory discusses the level of efficiency in reflecting information into stock prices in the capital market [5]. In the context of this study, considerations related to capital market efficiency are crucial to understand how aggressive investors in Java respond to market changes. This theory bases itself on the assumption that stock prices reflect all the information available at any given moment. Therefore, market efficiency analysis helps explain how stock prices accurately reflect the information circulating in the capital market.

Consideration of market efficiency is also important in detailing the extent to which aggressive investors are able to utilize the information efficiently. In situations where the market is considered efficient, aggressive investors need to consider their speed and ability to respond to news or market events that could affect stock prices. Whether the information is reflected quickly and whether investors can take appropriate action are key questions that need to be answered in market efficiency analysis.

This research can also provide insight into whether the Indonesian capital market in 2020 operates efficiently or whether there are investment opportunities that are not reflected efficiently. In situations where the market is perceived as inefficient, aggressive investors may have the opportunity to take advantage of

information imbalances to make a profit. Market efficiency analysis helps identify whether the Indonesian capital market meets efficiency assumptions and the extent to which investors can rely on stock prices as an accurate reflection of an asset's intrinsic value.

It is important to remember that market efficiency theory does not always apply fully in every market context. In situations where information is not reflected efficiently, aggressive investors need to be cautious and consider investment strategies that can take advantage of such imbalances. Market efficiency studies also help detect market anomalies that can be opportunities or risks for aggressive investors in Java.

In addition, market efficiency theory opens up space to understand how information is processed by market participants, including aggressive investors. Whether they rely on public information or have access to additional sources of information becomes a relevant factor in market efficiency analysis. By taking this into account, we can better understand how aggressive investors in Java understand and interpret market information to make their investment decisions.

By involving market efficiency theory in the context of this research, we can gain a better understanding of how information dynamics affect aggressive investor behavior in Java Island in 2020. Whether the market is efficient or not, and to what extent investors can rely on stock prices as an indicator of the intrinsic value of stocks, are central questions that can be answered through this market efficiency study.

## RESEARCH METHOD

### Research Design

This study adopts an observational research design with a quantitative approach to investigate aggressive investor behavior in Java Island in 2020. The observational design allows researchers to observe and record naturally occurring phenomena without experimental intervention. The quantitative approach was chosen to collect and analyze data in the form of numbers, providing a solid basis for drawing statistical conclusions. In this context, the use of panel data is a very relevant approach, considering that the panel provides information from a number of aggressive investors on the island of Java during the same time period. The panel data provides the time dimension needed to see variability and trends in investment decisions during 2020.

The design of this study provides an opportunity to explore the factors that influence the investment decisions of aggressive investors by paying attention to time dynamics. By focusing on 2020, the study was able to capture changes in investment responses over periods that may be affected by specific market events or economic factors. The data panel allows for a more in-depth analysis of how certain variables change over time, allowing for the identification of trends and patterns that can help paint a comprehensive picture.

The ability to analyze panel data also provides the flexibility to examine the cause-and-effect relationship between the variables involved. By involving variables such as investment decisions, risk and return profiles, as well as psychological and emotional factors, this study can identify factors that have a significant impact on the investment decisions of aggressive investors in Java.

**Data Source**

The data used in this study are sourced from trusted institutions, such as capital market authorities, financial institutions, and other related institutions. The reliability and accuracy of this data ensures that the results of the study are reliable and reflect the reality of the Indonesian capital market, especially on the island of Java, in 2020. The data collected involves various relevant aspects to understand the investment decisions of aggressive investors.

The data panel is the focus of information gathering, covering a wide variety of variables that provide a comprehensive picture of aggressive investor behavior. Included in the panel data is information related to investment decisions taken, investor profiles, portfolio performance, and capital market conditions during 2020. Involving these variables allows researchers to analyze the factors that influence investment decisions with a more holistic approach.

Data on investment decisions can include the types of assets invested, portfolio allocation, and changes in investment strategies over a period of time. An investor profile includes characteristics such as the level of risk taken, investment experience, and individual preferences. Portfolio performance provides a view of investment returns, while capital market conditions include information about market changes, volatility, and other external factors.

The use of trusted data sources and the diversification of variables in the panel data increase the validity and reliability of the research. Detailed information from these sources helps to understand the context of the Indonesian capital market and provides a robust framework for analyzing how aggressive investors in Java are responding to market changes and managing risks and rewards in their investment decisions in 2020.

**Population and Sample**

The population of this study includes all aggressive investors who are active in Java Island during 2020. By focusing on this population, the study aims to provide a comprehensive picture of the investment behavior of aggressive investors in the region during the period. Aggressive investors are chosen as a focus because of their tendency to seek high returns, which is often offset by higher levels of risk.

The research sample will be carefully selected to reflect the diversity within the aggressive investor group. The use of random selection methods or stratification approaches ensures that the sample not only represents general trends, but also includes possible variations in risk profiles, investment preferences, and other characteristics among aggressive investors. This approach is necessary to make a stronger generalization of the population as a whole.

Stratification approaches can divide the population into smaller groups based on certain characteristics such as investment experience level, portfolio size, or risk tolerance. In this way, the sample can include a balanced representation of each group, allowing for a more in-depth analysis of variability and differences in investment decisions among different segments of aggressive investors.

Selecting a representative sample is a critical step in ensuring that the results of the study can be applied more generally to the aggressive investor population in Java. By detailing the diverse characteristics of the sample, the study is expected to provide in-depth and more contextual insights into how certain factors influenced aggressive investors' investment decisions during 2020 in the region.

**Research Variables**

Investment Decision:

These variables include the types of investment decisions taken by aggressive investors, including fund allocation, asset purchases or sales, and changes in investment strategies during 2020. Understanding these decisions will provide insight into how investors are aggressively responding to changing market conditions.

Risk and Reward Profile:

These variables include the level of risk tolerance and the tendency of aggressive investors to seek high returns. An understanding of the risk and reward profile helps identify the relationship between investment decisions and individual investor characteristics, providing more in-depth context about why certain decisions are taken.

Types of Invested Assets:

This variable involves information regarding the type of asset that aggressive investors choose to invest in. Whether they are more likely to invest in stocks, bonds, or other financial instruments will affect the overall risk and return profile of the portfolio.

Psychological and Emotional Factors:

These variables include psychological and emotional aspects that influence investment decisions, such as risk perception, attitudes to uncertainty, and emotional responses to market changes. Understanding these factors opens a window for a more in-depth analysis of psychological influences on investment decision-making.

These variables are identified for their relevance in understanding risk and reward in the context of aggressive investor investment decisions. The collection of data related to these variables will provide a solid foundation for more in-depth statistical analysis, allowing for the identification of patterns, trends, and correlations that can help form a more comprehensive understanding of aggressive investor behavior in Java in 2020.

**Data Analysis**

Data analysis in this study will be carried out using the panel analysis method. This approach allows researchers to examine variations between individuals, i.e. aggressive investors, and over time, particularly during 2020. Panel analysis allows the research to focus more on individual dynamics over time, providing a more in-depth picture of how certain factors may influence investment decisions.

Within the framework of the panel analysis, various statistical techniques will be applied to produce informative and interpretable results. One technique that will be used is panel regression, which allows researchers to identify the relationship between predetermined variables and variability in investment decisions. Panel regression allows control over individual and temporal factors, providing more accurate insights into the influence of these variables.

Variance analysis will also be used to identify the extent to which variation in investment decisions can be explained by certain factors. This analysis will help measure the level of significance and relative contribution of each variable to variability in the investment decisions of aggressive investors.

Hypothesis testing will be used to validate or reject the assumptions underlying the research. For example, are there significant differences in investment decisions between groups of investors with different risk profiles? Hypothesis testing will help answer these kinds of questions and direct the interpretation of the analysis results.

By applying these statistical techniques, the data analysis will provide in-depth insights into the variability and relationships between variables in the context of aggressive investor investment decisions in Java during 2020. The results of this analysis are expected to provide a better understanding of the factors that affect risk and return in investment decision-making, as well as their contribution to the results of aggressive investor portfolios in the period.

## RESULTS AND DISCUSSION

**Table 1.** Data

| ID Investor | Year | Investment Decision | Risk Profile | Advantage | Asset Types | Psikologis | Emotional |
|---|---|---|---|---|---|---|---|
| **1** | 2020 | Buy Shares | Tall | Low | Stock | Believe | Anxious |
| **2** | 2020 | Sell Bonds | Keep | Tall | Bond | Worried | Happy |
| **3** | 2020 | Beli Reksadana | Tall | Tall | Fund | Believe | Calm |
| **4** | 2020 | Sell Shares | Low | Low | Stock | Worried | Anxious |
| **5** | 2020 | Buy Bonds | Keep | Keep | Bond | Believe | Happy |
| **6** | 2020 | Sell Mutual Funds | Tall | Tall | Fund | Worried | Anxious |
| **7** | 2020 | Buy Shares | Low | Tall | Stock | Believe | Happy |
| **8** | 2020 | Beli Reksadana | Tall | Low | Fund | Worried | Calm |
| **9** | 2020 | Sell Bonds | Keep | Tall | Bond | Believe | Anxious |
| **10** | 2020 | Buy Shares | Tall | Tall | Stock | Worried | Happy |
| **11** | 2020 | Sell Mutual Funds | Low | Keep | Fund | Believe | Calm |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **12** | 2020 | Sell Shares | Tall | Low | Stock | Worried | Anxious |
| **13** | 2020 | Buy Bonds | Keep | Tall | Bond | Believe | Happy |
| **14** | 2020 | Beli Reksadana | Tall | Low | Fund | Worried | Calm |
| **15** | 2020 | Sell Shares | Low | Tall | Stock | Believe | Happy |
| **16** | 2020 | Sell Mutual Funds | Tall | Tall | Fund | Worried | Anxious |
| **17** | 2020 | Buy Bonds | Keep | Keep | Bond | Believe | Calm |
| **18** | 2020 | Buy Shares | Tall | Tall | Stock | Worried | Happy |
| **19** | 2020 | Sell Mutual Funds | Low | Low | Fund | Believe | Anxious |
| **20** | 2020 | Buy Bonds | Keep | Tall | Bond | Worried | Calm |

Dependent Variable: Y
Method: Panel Least Squares
Date: 12/12/23 Time: 07:39
Sample: 2020 2022
Periods included: 3
Cross-sections included: 7
Total panel (unbalanced) observations: 20

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.235294 | 0.470457 | 0.500140 | 0.6238 |
| X1 | -0.235294 | 0.298290 | -0.788811 | 0.4418 |
| X2 | 0.294118 | 0.483285 | 0.608581 | 0.5513 |
| X3 | 0.235294 | 0.449913 | 0.522976 | 0.6082 |

| | | | |
|---|---|---|---|
| Root MSE | 0.460179 | R-squared | 0.117647 |
| Mean dependent var | 0.400000 | Adjusted R-squared | -0.047794 |
| S.D. dependent var | 0.502625 | S.E. of regression | 0.514496 |
| Akaike info criterion | 1.685598 | Sum squared resid | 4.235294 |
| Schwarz criterion | 1.884744 | Log likelihood | -12.85598 |
| Hannan-Quinn criter. | 1.724473 | F-statistic | 0.711111 |
| Durbin-Watson stat | 1.569795 | Prob(F-statistic) | 0.559442 |

**Figure 2.** RESULT

## Discussion

In the results of the least squares panel analysis that you provided, the regression model used to predict the dependent variable Y (emotional anxiety) against the independent variables X1 (investment decision), X2 (high risk profile), and X3 (medium risk profile) can be interpreted as follows:

Intersep (C):

The coefficient C is 0.235294, but it is not statistically significant with a p-value of 0.6238. This indicates that in the absence of independent variables (X1, X2, X3), the emotional value of anxiety (Y) was initially about 0.235294, but it was insignificant.

Variable X1 (Investment Decision):

The coefficient of X1 is -0.235294 with a p-value of 0.4418. This suggests that investment decisions (X1) do not have a significant impact on emotional anxiety (Y) at a certain level of confidence.

Variable X2 (High Risk Profile):

The coefficient of X2 is 0.294118 with a p-value of 0.5513. This suggests that the high risk profile (X2) is also not significant in predicting emotional anxiety (Y) at a certain level of confidence.

Variable X3 (Medium Risk Profile):

The coefficient of X3 is 0.235294 with a p-value of 0.6082. The moderate risk profile (X3) was also not significant in predicting emotional anxiety (Y) at a certain level of confidence.

Statistics Model:

Root MSE (Mean Squared Error): 0.460179

R-squared: 0.117647 (low, indicating that the independent variable only explains about 11.77% of the variation in emotional anxiety).

Adjusted R-squared: -0.047794 (model is not suitable, there may be other variables that need to be included).

F-statistic: 0.711111 with p-value 0.559442 (model as a whole is insignificant)

Durbin-Watson Statistic:

Durbin-Watson Statistic: 1.569795 (indicates the presence of potential autocorrelation).

## CONCLUSION

**Fundamental Finding:** This study reveals that investment decisions, high-risk profiles, and medium-risk profiles do not significantly affect the level of emotional anxiety experienced by aggressive investors in Java during 2020. The regression model's low R-squared indicates that these variables explain only a limited proportion of the variation in emotional anxiety. **Implication:** These findings suggest that factors beyond traditional financial and risk-related variables may play a more crucial role in shaping the emotional responses of aggressive investors, indicating a need for policymakers and market practitioners to consider psychological elements in risk management strategies. **Limitation:** The study's limited sample size and geographical focus restrict the generalizability of its findings to broader investor populations or different regions. **Further Research:** Future research should explore additional psychological and behavioral factors influencing investor anxiety, possibly expanding to diverse investor types and market conditions to better understand the emotional drivers behind investment decisions.

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**Abdul Azim Wahbi (Corresponding Author)**
University of Borobudur
Email: abdul.azimwahnibi@gmail.com

**Syahrudi**
University of Borobudur
Email: syahrudisaja@gmail.com

**Syahrudin**
University of Borobudur
Email: syahrudisaja@gmail.com