JRSSEM 2025, Vol. 04, No. 09, 1115 – 1147
E-ISSN: 2807 - 6311, P-ISSN: 2807 - 6494

THE HERDING PHENOMENON IN THE INDONESIAN STOCK MARKET: AN ANALYSIS OF CSSD & CSAD AND ITS IMPLICATIONS FOR INVESTORS AND REGULATORS

Alfi Hikami Wibowo[1*], Tri Kunawangsih[2], Mona Adriana S[3]
Universitas Trisakti, Indonesia
Email: alfihikamiw@gmail.com[1], trikunawangsih@trisakti.ac.id[2], mona.as@trisakti.ac.id[3]
**Correspondence:* alfihikamiw@gmail.com_

Submitted: April 2025, *Revised*: April 2025, *Accepted*: April 2025

Abstrak. This study aims to identify the presence of herding behavior in the Indonesian stock market throughout 2024, using the LQ45 Index as a market proxy. The analysis employs the Cross-Sectional Standard Deviation (CSSD) and Cross-Sectional Absolute Deviation (CSAD) models to measure the dispersion of stock returns under normal and extreme market conditions. The findings reveal no statistically significant evidence of herding behavior, although weak indications are observed during extreme negative market conditions. These results support the notion of a relatively efficient market, aligning with the Efficient Market Hypothesis (EMH). The CSSD and CSAD models are found to be complementary in analyzing investor behavior.

Keywords: herding behavior, market efficiency, CSSD, CSAD, investors.

DOI: 10.59141/jrssem.v4i9.811

INTRODUCTION

Bourse, which means exchange in Indonesian, has been known since the 16th century. The word bourse is taken from Van der Beurs's residence in Bruges, which became a trading center for financial assets and securities. In 1602, the Amsterdam Stock Exchange was believed to be the world's first stock exchange. The exchange allows trading of shares of the Dutch East Indies (VOC) company, which became the world's first publicly traded company. The establishment of the stock exchange marked the beginning of structured stock trading, paving the way for investors to participate in the capital market (Lars Tvede, 1999). The establishment of the stock exchange encouraged the emergence of the concept of investing, where individuals could allocate their funds in a company by buying their shares.

The concept of risk and return only developed in the early 18th to the 19th century. In the 1950s, before formal models such as Harry Markowitz's modern portfolio theory (MPT) were introduced, investors were already aware of the concept of risk and return based on several factors. The main factors were the stock market crash of 1929 and the Great Depression which showed that investing was not only about making a profit but also about managing risk.

The 1929 stock market crisis, known as Black Tuesday, triggered the start of the Great Depression, a period of global economic depression that lasted until the late 1930s. In the era of the Roaring Twenties, the U.S. economy flourished thanks to technological innovation and mass production, with many investors buying stocks on margin, reaching $8.5 billion in 1929. Although some economists warned of the risk of speculative bubbles, these warnings were ignored. The market crash began in September 1929, and in October 1929, Black Thursday and then Black Monday and Black Tuesday caused a sharp drop in the Dow Jones Industrial Average (DJIA) of up to 89%, costing $30 billion in a week. The crisis triggered 25% unemployment, the bankruptcy of more than 5,000 banks, and a loss of public confidence in the financial system. In response, the U.S. government passed laws such as the Glass-Steagall Act (1933) and established the FDIC. This incident teaches the importance of risk management, diversification of investments, and the dangers of excessive speculation. In 1952, Harry Markowitz developed Modern Portfolio Theory (MPT) and in 1964, the theory of the Capital Asset Pricing Model (CAPM) was described by William Sharpe and others, while Eugene Fama introduced the Efficient Market Hypothesis (EMH) in 1970 which states that asset prices reflect all public information.

However, in reality, the assumption of investor rationality is difficult to fulfill. Many studies have found facts that often contradict these assumptions. Investors in the capital market often show irrational behavior. Investors may react too quickly to the information obtained (as assumed by the EMH theory, where the investor is assumed to react quickly to the information available) while the information available is not always complete or representative of the entire market information.

Behavioral finance theory emerged as a critique of EMH theory which assumes that

market participants act rationally based on available information. In contrast, behavioral finance argues that investment decisions are often influenced by psychological and social factors, which cause investors to not always act rationally. Thaler (1999) states that investor behavior is often driven by emotions, biases, and external factors, so that the market becomes inefficient and susceptible to fluctuations that are not entirely based on economic fundamentals. In behavioral finance, various cognitive and emotional biases, such as representativeness bias, anchoring bias, availability bias, overconfidence bias, and confirmation bias, can affect investment decision-making. In addition, emotional biases such as loss aversion and regret aversion also play an important role in investment decisions. Herding behavior, in which investors follow the actions of the majority without independent analysis, often arises in market uncertainty and can lead to asset price distortions, such as the formation of price bubbles or sharp declines, seen in the Dot-com Bubble event in the late 1990s.

During the dot-com bubble, many investors, both retail and institutional, were caught up in media-driven euphoria and high expectations for the potential of the internet economy. Investors flocked to the majority's decision, buying shares of dot-com companies even though many of them have yet to make a profit. Rapid changes in market sentiment exacerbated conditions, with investors who initially bought stocks now flocking to sell them, accelerating the market's decline. This phenomenon of herding behavior creates high volatility and instability that further exacerbates the market collapse after the dot-com bubble bursts. In 2024, global economic uncertainty, triggered by high inflation, tight monetary policy, and geopolitical tensions, is giving rise to similar conditions that have the potential to affect investor behavior around the world.

In Indonesia, although economic growth remains moderate, uncertainty caused by inflationary pressures, rupiah exchange rate fluctuations, political dynamics, and government transitions has made the domestic capital market more vulnerable to shifts in sentiment. This makes investors, especially retail, more likely to rely on the behavior of the majority to reduce individual risk (kemenkeu.go.id, 2025). Global and domestic uncertainty has caused high volatility on the Indonesia Stock Exchange (IDX), with the Jakarta Composite Stock Price Index (JCI) experiencing significant fluctuations throughout 2024. In unstable market conditions, the phenomenon of herding behavior can occur, where investors prefer to follow the majority of actions in response to emotional pressures such as fear of missing out (FOMO) and regret aversion. Studies by Chang et al. (2000) and findings from Shiller (2003) suggest that herding behavior can exacerbate volatility and create price distortions, which threaten market stability.

Previous studies have consistently shown that herding behavior tends to increase significantly during periods of crisis in the stock market, both on a global and domestic scale. The results of studies, such as those presented by (Banerjee, 1992) and (Bikhchandani & Sharma, 2001), reveal that in the midst of extreme uncertainty,

investors tend to ignore fundamental information and choose to follow the actions of the majority. These findings indicate that psychological pressures, especially during crises, encourage investors to behave in unison, potentially leading to the formation of price bubbles or market panic.

In global markets, research by Chiang & Zheng (2010) confirms that financial crises, such as the global crisis of 2007–2008, increase the intensity of herding behavior. The results of the study show that in times of crisis, the spread of stock returns tends to narrow, reflecting investors' tendency to move collectively. Several recent studies, such as those conducted by (Dam et al., 2023) and (Aslam et al., 2022) have also found that crisis periods, which in their study were the COVID-19 pandemic, triggered herding behavior significantly, especially in emerging markets, where uncertainty and information limitations further strengthen collective reactions.

Domestically, the results of research on the stock market in Indonesia show a mixed picture. Some studies indicate that herding behavior is more prominent during periods of market pressure, especially during market downturns, where fear and panic encourage investors to follow the selling flow. The findings reported by (Wardani, 2021) show that during the crisis in this study during the COVID-19 pandemic period, especially in the high-liquidity stock segment, collective behavior can be seen although not always consistent across all types of stocks. These results indicate that although the domestic stock market tends to have a more heterogeneous structure, external pressures during the crisis remain able to trigger investors' tendency to move in unison.

In addition, some studies highlight asymmetrical differences in herding behavior. In general, herding behavior tends to appear more strongly when the market is down than when the market is up. This suggests that in a bearish situation, worries and uncertainty encourage investors to be more easily affected by the majority decision, thereby exacerbating the overall decline in stock prices.

At the international level, there is also evidence that advanced and emerging stock markets show significant differences in herding rates. Research suggests that emerging markets, with relatively lower levels of transparency and access to information, tend to be more susceptible to herding behavior during crises. In contrast, stock markets in developed countries, while not completely detached from this phenomenon, generally exhibit a more efficient price adjustment mechanism due to the diversity of information sources and a more balanced investment outlook. Overall, the results of previous research emphasize that financial crises act as catalysts that trigger herding behavior, although their intensity and characteristics vary depending on market context and regional factors.

Various previous studies have shown significant differences in findings regarding the existence of herding behavior. Some studies, such as those conducted by (Chang et al., 2000) and (Chiang & Zheng, 2010), have found strong evidence that herding behavior emerges, especially during periods of crisis or extreme market conditions. On the other

DOI: 10.59141/jrssem.v4i9.811

hand, several other studies conducted in several segments of the Indonesian market, did not find any indication of consistent herding behavior, such as research by Dewi (2023) who researched the Indonesian stock market during the COVID-19 pandemic period, and research by (Komalasari, 2016) found no indication of herding behavior in the Indonesian stock market during the 2008 crisis period. These differences in results show that the herding phenomenon is not universal and can be highly dependent on research components.

The difference in findings in herding behavior studies can be influenced by several factors, such as the object of the study, the period of the study, and the type of market. Studies that use a sample of stocks with high liquidity and large capitalization, such as the LQ45 Index, may show a different pattern compared to studies involving a more heterogeneous sample, such as the Composite Index. This difference affects sensitivity to market fluctuations, which affects findings related to herding behavior. In addition, the study period also affects the results of the study, where research conducted in times of crisis or high volatility tends to reveal herding behavior due to market uncertainty, whereas in periods of stable markets, herding signals may be weaker. Market types also play an important role, with emerging markets tending to have lower transparency and limited information, increasing the tendency for investors to follow the majority. In contrast, developed markets tend to have more efficient market mechanisms and a more heterogeneous investor base, so even if herding behavior does emerge, the intensity is lower or inconsistent. Differences in market structure, regulation, and investment culture may also explain why some studies have found herding behavior in one market context but not in another. In addition, differences in computational models in studies, such as Cross-Sectional Standard Deviation (CSSD) and Cross-Sectional Absolute Deviation (CSAD), which have different approaches and sensitivities, can also result in different findings in detecting herding behavior.

The CSSD model was introduced by Christie & Huang (1995) to detect herding behavior in the stock market. One of the main advantages of CSAD compared to CSSD models is its ability to detect herding not only in extreme market conditions, but also in a variety of other market conditions. CSSDs tend to be more sensitive to extreme market movements, while CSADs are able to identify herding within a wider range of market conditions. In addition, CSAD considers the non-linear relationship between return dispersion and market returns, which provides more flexibility in detecting herding.

This study aims to identify herding behavior in the stock market, with a special focus on stocks listed in the LQ45 Index. This goal is especially important because herding behavior can lead to price distortions and increase market volatility. Through in-depth identification, this study is expected to reveal the patterns of investor behavior in different market conditions, both in times of stability and during crises.

Zhang (2024) stated that CSAD is able to detect herding behavior.

A number of previous studies have

DOI: 10.59141/jrssem.v4i9.811

shown mixed results regarding the existence of herding behavior. The difference in findings is suspected to be caused by differences in research components, such as the research object, the research period, the type of market, namely the emerging market with the developed country market, and the analysis tools used. Thus, this study aims to bridge this gap by systematically and comprehensively examining herding behavior in the Indonesian stock market. This identification not only provides an empirical picture of investors' tendency to follow the majority decision, but also helps explain why the results of previous studies may differ from one study to another.

In addition, this study also aims to examine the differences in results that arise from the use of different calculation models, especially between CSSD and CSAD models. By conducting a comparative analysis, this study will evaluate the advantages and disadvantages of each model in detecting herding behavior. This is expected to contribute to the selection of appropriate analytical tools and improve understanding of the sensitivity of the results obtained to methodological differences, so as to assist investors and regulators in formulating strategies to reduce systemic risks arising from collective behavior, as well as prevent herding behavior in the stock market even before such behavior occurs.

MATERIALS AND METHODS

This study uses a quantitative approach with descriptive methods and inferential analysis. This approach was chosen to analyze the existence of herding behavior in the stock market using the CSSD and CSAD calculation models with a sample of stocks in the LQ45 Index to represent the Indonesian stock market. One of the main reasons for choosing a quantitative approach is that this study aims to identify the relationships and measurable patterns between herding behavior and stock price volatility

Research Object

The object of the study is the stocks listed in the LQ45 Index on the Indonesia Stock Exchange (IDX) during the research period. The LQ45 index is one of the stock indices that has a significant role in the Indonesian capital market.

Place and Time of Research

The research was conducted indirectly (desk research), with data obtained from relevant secondary sources, such as Indonesia Stock Exchange (IDX) reports and other reliable sources of financial data. With the research period being from January 1, 2024 to December 24, 2024 (one year), covering stock market conditions throughout 2024 which is filled with economic and geopolitical phenomena that affect the domestic stock market.

Data Types and Sources

The data used in this study is secondary data in the form of quantitative data using interval data, because stock return data is measured by values that have a fixed distance difference. The data was taken from the website of the capital market data provider Investing.

Data Collection and Analysis Techniques

Data was obtained through downloading daily historical stock price data from official data sources, namely IDX and Investing. The data was then processed

DOI: 10.59141/jrssem.v4i9.811

using Microsoft Excel for the calculation of daily stock returns using CSSD and CSAD models.

The data that has been collected is then processed using an Excel formula to calculate daily stock returns, average market returns, CSSD values, and CSAD values. A pattern of herding behavior will be seen if the value of CSSD or CSAD decreases as the average market return or market volatility increases.

Microsoft Excel was chosen as an analysis tool because It has powerful data processing functions and is easy to use for CSAD and CSSD model calculations. Microsoft Excel is also capable of creating sufficient chart visualizations to detect herding behavior patterns. The scale of the data used is also relatively small, which is relevant to herding theory where herding behavior tends to be found in short market periods

Analysis tools include:

Cross-Sectional Standard Deviation (CSSD), Cross-sectional Absolute Deviation (CSAD), CSAD and CSSD Analysis Procedures, Comparison of CSSD and CSAD Models

RESULTS AND DISCUSSION

Analysis of the Existence of Herding Behavior in the Indonesian Stock Market

The results of the analysis using the CSSD and CSAD methods show that there is no indication of herding behavior in the Indonesian stock market, especially in the LQ45 Index. The graph depicting the movement of CSSD and CSAD during the study period did not show a significant convergence pattern during extreme volatility in the market.

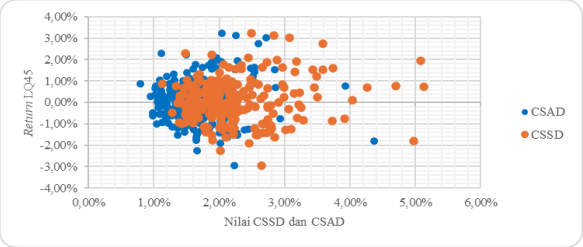

Figure 1. CSSD and CSAD Values Against LQ45 Returns

If herding behavior occurs, the value of CSSD and CSAD should decrease because investors tend to follow market flows, causing the difference in returns between stocks to be smaller. However, in this study, no such pattern was found, so it can be concluded that investors still act independently in their investment decision-making.

In figure 1 between CSSD, CSAD, and market returns, it can be seen that the return spread does not show a systematic constriction pattern, which should be a strong indication of herding behavior. However, there are several data points that show certain trends, especially when market returns are in the extreme range, both positive and negative. When compared between days with high volatility (extreme days) and days with normal volatility (normal days), it appears that on extreme days, the spread return is slightly lower compared to normal days.

The results of this study show that there is no significant decrease in the value of CSSD or CSAD during periods of extreme market returns. This means that there is no strong evidence that investors in Indonesia collectively follow market trends in a uniform manner. Instead, the spread of returns remains high or even increased in some cases, which suggests that investors

DOI: 10.59141/jrssem.v4i9.811

still make investment decisions independently and are not always affected by collective decisions.

These findings further support the EMH theory, which states that investors act rationally based on the information available in the market, rather than simply following the actions of the majority. The absence of any indication of herding suggests that the stock price in the LQ45 Index has reflected the available information, rather than simply a reflection of the impulsive behavior of investors following market trends.

Thus, the results of this study provide evidence that, at least in the context of the LQ45 Index, the market mechanism has been in accordance with the EMH assumption compared to the behavioral finance theory that emphasizes the role of herding. Although investor behavior is not entirely rational in every situation, the absence of a pattern of CSSD or CSAD declines during extreme conditions suggests that the Indonesian stock market is relatively efficient in responding to information and determining asset prices independently.

Comparison of CSSD and CSAD Results

Table 1. Comparison of CSSD and CSAD Results

Aspects	CSSD	CSAD
Sensitivity to *Outlier*	It is more sensitive to *outliers* because it uses standard deviation. The value of CSSD can jump sharply if there is *an extreme* return.	It is more stable and less affected by *extreme returns, so it is more reliable in detecting aggregate patterns*.
Interpretation of Results	If it happens *Herding*, the CSSD value will decrease as the market experiences *Return* extreme. However, no significant decline pattern was found.	In the event of *herding*, the CSAD value should indicate a non-linear pattern of market *returns* . The results show a pattern that remains dispersed.
Relationship to *Market Returns*	The regression results showed an insignificant relationship between *market returns* and CSSD, confirming the absence of *herding behavior*.	Same as CSSD
Herding Detection Ability	It tends to be more volatile in detecting deviations in investor behavior, so the results can be more varied.	It is more stable in measuring *herding* patterns because it is not easily affected by high volatility.
Compatibility with Theory	The results support the hypothesis of an efficient market because there is no indication of the collective movement of investors.	Same as CSSD

Table 1 summarizes how the two methods produce similar conclusions, namely the absence of herding behavior in the Indonesian stock market, but with different analytical characteristics.

Although the results of the analysis show the same result, i.e. herding behavior is not detected in the Indonesian stock market, it is important to understand the advantages and disadvantages of each method and how they can complement each other to produce a more

comprehensive analysis.

The CSSD measures the spread of stock returns with standard deviations and is effective in detecting changes in extreme volatility, especially when the market is experiencing sharp fluctuations. However, CSSD is sensitive to outliers, which can interfere with accuracy, and its linear approach is less suitable for non-linear herding behavior patterns. In contrast, CSAD uses absolute deviation, is more stable to outliers, and is more suitable for detecting herding behavior due to its non-linear model. However, CSADs may be less sensitive to initial volatility spikes, which are more noticeable in CSSD. Using both methods simultaneously provides a more comprehensive analysis, where CSSD detects early symptoms of return pattern changes, while CSAD provides more stable confirmation. The results of the analysis show that in extreme market conditions, both CSSD and CSAD indicate an increase in return deviation, not convergence as occurs in herding behavior, which reinforces that the return divergence actually widens when the market moves extremely.

Practical Contributions and Directions

a. For Investors

The results of this study show that there is no strong indication of herding behavior in the Indonesian stock market, especially in the LQ45 Index. These findings indicate that the Indonesian stock market tends to move efficiently, where stock price movements are influenced more by the information circulating than by the collective behavior of investors who follow market flows without rational consideration.

The next discussion will discuss how investors can develop an optimal strategy when and provide practical advice for retail and institutional investors regarding decisions that can be taken when the market is efficient or when there is a herding, when market conditions are bullish or bearish.

1) Investor Strategy When the Market Is Efficient

For retail investors, beating the market consistently by relying on technical analysis or momentary news is difficult, as stock prices generally already reflect their intrinsic value. Therefore, retail investors should focus on fundamental analysis, such as the company's financial performance, profitability, cash flow stability, and stock valuation. Stocks with strong fundamentals tend to have a competitive advantage and sustainable growth potential. Additionally, a dollar cost averaging (DCA) strategy can help reduce the impact of market volatility by buying stocks regularly and avoiding emotional decisions. In an efficient market, passive investments such as index funds or ETFs that follow the movement of market indices are preferred, as they offer low transaction fees and less risk. Investment diversification is also important to minimize risk, while investors should avoid overreacting to market news and focus on mature analysis. Although efficient markets are difficult to beat, strategies such as swing trading with disciplined technical analysis can provide profit opportunities.

2) Investor's Strategy When Herding in Bullish Conditions

Herding behavior is a phenomenon

DOI: 10.59141/jrssem.v4i9.811

where investors flock to buy or sell assets without in-depth analysis, only following ongoing trends. In a bull market, euphoria often pushes the price of a stock up too high compared to its fundamental value. Retail investors caught up in this euphoria risk buying stocks at high prices and end up incurring losses when the trend changes. Therefore, investors need to implement a more rational strategy to protect their portfolios.

When the market is bullish, many stocks experience significant price increases due to high buying interest, not due to an improvement in the performance of the underlying business. Retail investors must be careful not to buy stocks that have already experienced extreme gains without being backed by strong fundamentals. Use fundamental ratios such as price-to-earnings ratio (PER), price-to-book value (PBV), and EV/EBITDA to compare the stock's valuation to its industry average. If a stock's PER is well above its historical average or the PBV is already at an absurd level, it is likely that the stock is overvalued.

Stocks that have risen too high are at risk of a sharp correction when market sentiment changes. If investors buy at peak prices without considering valuation, they could incur huge losses when the stock price returns to its fair value. Therefore, it is better to choose stocks that still have attractive valuations and long-term growth potential.

In a bull market, stock prices can rise very high in a short period of time. However, the market does not always move upwards, and there will always be a correction phase. By taking a portion of the profit, investors can lock in profits and reduce risk if the stock price suddenly drops. Profit taking can be done if the stock price has reached the desired target or can use technical indicators such as stochastic indicators or relative strength indexes.

For institutional investors who manage large amounts of funds, institutional investors can use short selling and hedging strategies as a form of portfolio protection.

Short selling is a strategy in which investors sell stocks they don't own (borrow stocks/assets) in the hope that the price will drop when the market is bullish (as opposed to if the market is bearish), so that they can buy them back at a lower price and reap the profits from the difference (cite source). This strategy is especially useful when institutional investors see that the price of a particular stock has been overvalued due to market euphoria and is likely to undergo a correction. This strategy is relevant for institutional investors because not all brokers provide this facility for retail investors as the risk is quite high.

Meanwhile, hedging strategies aim to reduce the risk of losses in the portfolio when a market correction occurs. Institutional investors typically use derivative instruments such as options, futures, and swaps to hedge the value of assets.

3) Investor Strategy When Herding in Bearish Conditions

When the market is experiencing a herding in bearish conditions, many retail investors panic and rush to sell their assets as they see prices continuing to fall. When looking at a portfolio in the red (loss), many investors fear bigger losses and sell without a thorough analysis. However, investment

DOI: 10.59141/jrssem.v4i9.811

decisions based on emotions are often detrimental in the long run. This phenomenon often exacerbates the price decline, because the more people sell, the deeper the market falls.

It should be understood that a falling stock price does not mean that the company becomes bad overnight. If the price decline is caused by market sentiment factors, the price could recover in the next few years. Selling when prices are low actually ensures losses, while if it holds, there is still a chance of recovery.

To maintain rationality, focus on stock fundamentals. If the company still has good financial performance and its business prospects are bright, there is no reason to sell just because the price is falling. Avoid reading too much negative news that can affect emotions and investment decisions. Understand that markets are cyclical. After the bearish, there will be a recovery phase and bullish return. Stay calm and think long-term, not just focus on the volatile daily price movements.

In bearish market conditions, many good stocks often fall due to great selling pressure. If a stock with strong fundamentals is experiencing a sharp decline, this could be a golden opportunity to buy at a discounted price. If the shares of a large, stable (bluechip) company fall without a strong fundamental reason, this could be a buying opportunity.

One strategy that can be used during a bear market is averaging down, which is buying more shares when the price falls so that the average price of ownership is lower. With this strategy, investors can make greater profits when the price rises again.

Retail investors who are able to see opportunities amid market panic can make big profits when conditions improve. However, make sure to remain cautious and not just buy stocks that are falling without an in-depth analysis (still guided by rational fundamental and technical analysis).

Table 2. Investor Strategy When the Market is Efficient or Herding

	Efficient Markets	***Herding* Bullish Conditions**	***Herding* Bearish Conditions**
Investor Ritel	• Choose stocks with strong financial performance, high profitability, and reasonable valuations. • Use the Dollar *Cost Averaging* (DCA) Strategy • Portfolio Diversification • Avoid Excessive Speculation	• Hindari *overvalued stocks* • *Profit taking*	• Don't panic and sell at cheap prices • Take advantage of buying opportunities when *undervaluation* • Use *averaging down techniques*

DOI: 10.59141/jrssem.v4i9.811

	Efficient Markets	***Herding* Bullish Conditions**	***Herding* Bearish Conditions**
Institutional Investors	• Pendekatan *quantitative & risk management* • Using derivative instruments	• *Short selling or hedging* with derivative instruments	• *Short selling or hedging* with derivative instruments

To facilitate understanding, the various strategies that retail and institutional investors can apply in various market situations have been summarized in table 4.8. With this table, investors can quickly identify appropriate moves based on ongoing market conditions, making investment decisions more targeted and optimal.

b. For Regulators

Herding behavior or herd behavior in the Indonesian capital market is a phenomenon where investors tend to follow the actions of other investors without conducting fundamental and technical analysis independently. This phenomenon can result in market inefficiency, high volatility, and market instability that cause stock prices to deviate from their fundamental value. As a capital market regulator, the Financial Services Authority (OJK) together with the Indonesia Stock Exchange (IDX) have taken several steps to overcome herding behavior. However, challenges still exist and a comprehensive strategy is needed to mitigate the negative impact of these behaviors.

1) Characteristics of Herding Behavior in the Indonesian Capital Market

Herding behavior in the Indonesian capital market has various characteristics and triggering factors. Based on existing studies, herding behavior can occur due to several factors such as market sentiment, cognitive bias, and asymmetric information. According to research on the black swan phenomenon (a rare, unpredictable, and high-impact event) during the COVID-19 pandemic, of the nine sectors studied on the IDX, only the JKBIND (basic and chemical industries) sector showed a herding trend. This shows that Indonesia's capital market is quite rational because it remains stable during the COVID-19 period (Harahap & Hascaryani, 2024).

Herding behavior in Indonesia is also influenced by demographic aspects such as age, education level, and investor experience (Wawrosz & Schulz, 2023). Investors with poor financial literacy tend to be more easily influenced and follow the behavior of other investors. This is of particular concern, especially with the significant increase in the number of Single Investor Identification (SID) during the COVID-19 pandemic (Frensidy, 2021).

2) Policies That Are Already Running

The phenomenon of herding behavior in Indonesia is often influenced by the use of broker codes as a reference in investment decision-making, where investors follow the pattern of large brokers or "bookmakers" transactions. To

DOI: 10.59141/jrssem.v4i9.811

overcome this, on December 6, 2021, the IDX removed the broker's code from the exchange's transaction system to prevent the influence of bandarmology. This removal aims to make investors rely more on fundamental and technical analysis than following the behavior of the majority. In addition, the IDX implemented a circuit breaker mechanism to control extreme market volatility, which temporarily halted trading when the JCI fell by more than 5%, 10%, or 15%. While effective at dampening panic selling and maintaining market stability, circuit breakers do not eliminate fundamental risks affecting the market, such as global economic uncertainty. In addition, financial literacy in Indonesia is still more focused on cognitive aspects, while emotional factors, such as positive emotions and regret bias, also significantly affect investment decisions.

3) Policy Recommendations

Based on the analysis of herding behavior and the policies that have been implemented, several policy recommendations can be submitted to Indonesian capital market regulators.

a) Financial Education Cognitively and Emotionally

Regulators need to strengthen financial education and literacy programs for investors, especially retail investors who are just entering the capital market. The program should focus on the importance of fundamental and technical analysis as a basis for investment decision-making, as well as the risks of herding behavior.

In addition, the financial literacy that has been developed by the government and capital market educational institutions is still more focused on cognitive aspects, such as understanding investment concepts, risks, and financial analysis. In fact, in practice, investment decisions are not only based on rational knowledge, but are also influenced by emotional factors, such as fear, greed, and social pressure (Rasyid, 2020). A lack of understanding of this psychological aspect often makes investors, especially retail investors, vulnerable to behavioral biases, such as herding behavior, overconfidence, and loss aversion, which can lead to less than optimal investment decisions (Gufron & Wibowo, 2024). Therefore, the financial literacy approach needs to be further developed by balancing rational understanding and awareness of psychological aspects in investment decision-making.

Awareness of the importance of psychological aspects in investment is beginning to emerge among capital market educational institutions. The Indonesia Stock Exchange Investment Gallery (GIBEI) of the University of Muhammadiyah Sidoarjo (Umsida), for example, has held an investment education program with the theme "Investor Psychology: Managing Emotions in Investing" in January 2025 (Ainiyah, 2025). This kind of initiative shows an awareness of the importance of managing the emotional aspect of investing. However, these initiatives are still limited and have not yet become an integral part of government policy at large.

Government policies should start integrating emotional intelligence aspects in financial literacy programs. This integration can be done through the development of a financial education

curriculum that focuses not only on knowledge of financial products and instruments, but also on understanding and managing emotions in investment decision-making.

The government needs to develop learning modules that not only discuss financial products and how to manage them, but also identify and manage emotions in financial decision-making. In its implementation, the new curriculum may include an introduction to cognitive bias in financial decisions, emotion management techniques in the face of market fluctuations, an understanding of emotion-driven patterns of consumptive behavior, and reflective practices for recognizing emotional impulses in financial decisions.

The government needs to facilitate collaboration between financial science, psychology, and education to develop a holistic approach to financial literacy. Multidisciplinary collaboration can result in more effective programs in improving not only financial skills but also emotional management skills in investing. In addition, the integration of emotional aspects in financial literacy programs also requires competent facilitators and educators. The government needs to develop training programs for teachers, lecturers, and financial literacy facilitators on how to teach emotional aspects in financial decision-making.

After the curriculum is compiled, IDX can collaborate with financial education institutions to be able to conduct education through training and workshops that focus on the psychological aspects of investment, as has been done by GIBEI Umsida.

Education can also be done through public awareness campaigns that focus on the importance of managing emotional aspects in financial decisions. This campaign can target various age groups, with a special focus on Generation Z and millennials who tend to have high consumptive behavior and are exposed to various investment lures through social media. Campaigns can be through social media content that illustrates how emotions affect financial decisions.

The government can integrate the emotional aspect into the National Strategy for Indonesian Financial Literacy (SNLKI). SNLKI's vision is to realize Indonesian people who have a high financial literacy index so that they can utilize financial products and services to achieve sustainable financial welfare. By integrating the emotional aspect, SNLKI can become more comprehensive and effective in achieving its vision.

b) Portfolio Diversification Policy

One of the main strategies in overcoming herding behavior in the capital market is to encourage investors to diversify their portfolios. Diversification is an important principle in risk management that allows investors to spread their investments across various financial assets, sectors, or instruments so as to reduce the impact of market volatility on their portfolios (Possumah et al., 2023). In herding conditions, where many investors tend to follow market trends without considering asset fundamentals, diversification can be an effective hedge tool so that investors are not overly affected by extreme price fluctuations.

DOI: 10.59141/jrssem.v4i9.811

Regulators have an important role to play in encouraging diversification practices through various policies. One step that can be taken is to promote investment products that automatically provide diversification, such as mutual funds and ETFs. These products allow investors, especially retail investors, to have exposure to a wide range of assets with relatively smaller capital compared to buying stocks or bonds outright. Regulators can raise awareness of the benefits of these products by conducting educational campaigns, clarifying regulations related to product transparency, and ensuring that management costs remain competitive to make them more attractive to investors.

In addition, regulators can also provide tax incentives for investors who have diversified portfolios. For example, the government can lower tax rates for investors who allocate their funds to various investment instruments, such as stocks, bonds, and mutual funds in certain amounts. With these incentives, investors will be more motivated to not only invest in one specific asset or sector, which will ultimately help create a more stable market and not easily affected by short-term sentiment.

Another step that can be taken is to require brokers or investment managers to provide diversification advice to their clients. Many retail investors, especially those who have just entered the capital market, still have limitations in understanding the importance of diversification and tend to be fixated on stocks or assets that are currently popular (Isa Alamsyahbana, 2024). Therefore, regulators can arrange for each broker to include diversification analysis in their recommendations to investors, or even provide digital tools that can help investors organize and evaluate their portfolios. Thus, investors can make wiser decisions and are not easily influenced by herding behavior.

Through these policies, regulators can play an active role in creating a more stable and rational market. With more and more investors implementing diversification strategies, the negative effects of herding behavior can be minimized, so that the Indonesian capital market can develop more healthily and sustainably.

c) Adaptive Regulation to Technological Development

In the digital era, herding behavior in the capital market is increasingly influenced by the speed of information dissemination on social media and investment applications (Santoso et al., 2022). Retail investors, especially those who are still inexperienced, are often swayed by the growing trends on digital platforms without conducting in-depth analysis. This phenomenon can lead to irrational buying or selling, creating high market volatility. Therefore, regulators need to develop policies that are adaptive to technological developments in order to maintain market stability while protecting investors from decision-making based on misleading information.

One of the steps that can be taken is to regulate the dissemination of investment information on social media and digital platforms. Today, a lot of information about stocks or other investment assets is widely circulated through social media such as

DOI: 10.59141/jrssem.v4i9.811

Twitter, Instagram, TikTok, and online discussion forums. Unfortunately, not all of the information shared has a solid analytical basis, and most of it is speculative, exaggerated or even false. Regulators can develop policies that require financial influencers or parties who provide investment recommendations on social media to include clear disclaimers. In addition, regulations can regulate that the dissemination of investment information must be based on credible sources, so as to minimize the impact of herding due to the spread of inaccurate news or opinions.

Furthermore, regulators also need to implement standardization in the presentation of information on investment applications to avoid cognitive biases that can encourage herding behavior. Many investment apps today are designed with an intuitive look, but often overemphasize the psychological aspects that can trigger impulsive decisions. For example, the top movers or most bought stocks feature can encourage investors to buy stocks just because they are popular, not because of in-depth analysis. To address this, regulators can regulate investment apps to display more complete and educational fundamental information, as well as reduce interactive design elements that encourage investors to follow trends without adequate analysis.

Additionally, regulators can work with tech companies and social media platforms to apply automatic filters or warning labels to unverified investment content. For example, just as Twitter flags potentially misleading information in a political or health context, investment platforms can provide similar features for investment information. Regulators can also encourage transparency reports from digital platforms on the algorithms used to display investment information, to ensure that these algorithms don't just encourage content that triggers excessive speculation.

With regulations that are more adaptive to digitalization, regulators can reduce the negative impact of herding behavior, create a healthier capital market, and help investors make more rational and data-driven decisions. In the long run, these regulations will not only protect retail investors but will also increase confidence in the Indonesian capital market as a whole.

d) More Adaptive Circuit Breaker Implementation

A circuit breaker is a mechanism for temporarily stopping trading in the capital market when there is too extreme a price movement in a short period of time. This mechanism aims to reduce excessive volatility that can harm investors and create market stability. A circuit breaker is usually activated if an index or stock price drops by a certain percentage within a predetermined period of time. When the circuit breaker is active, trading is paused so that investors have time to evaluate and analyze the information more rationally, and avoid impulsive decisions due to panic.

Currently, circuit breakers are generally applied based on the movement of the market index as a whole. However, not all sectors have the same volatility. For example, the technology and property sectors may be more volatile than the banking or consumer goods sectors. Relying only on the bearish limit on the index as a whole, there is a risk that certain

DOI: 10.59141/jrssem.v4i9.811

sectors will experience a sharp decline but not enough to trigger a trade stop, while others remain stable.

For this reason, regulators can consider the application of gradual and sector-specific circuit breakers. For example, if the technology sector experiences a decline of more than 5% in a short period of time, trading in that sector can be temporarily stopped, even though the JCI as a whole has not touched the specified limit. This will be more effective in suppressing panic in the affected sectors without disrupting trade in the sector that remains stable.

In addition, with advances in technology and artificial intelligence (AI), regulators can develop real-time monitoring algorithms that can detect herding patterns in the capital market. This algorithm can analyze trading volumes, volatility spikes, and sentiment on social media and news platforms to detect the possibility of irrational mass sell-offs.

If the system detects a herding pattern that could threaten market stability, the circuit breaker can be activated automatically without having to wait for a larger threshold to be reached. For example, if there is a massive surge in selling in a particular stock in a matter of minutes that is not supported by clear fundamental news, trading can be stopped early to prevent a domino effect that could spread throughout the market.

With the implementation of a more dynamic circuit breaker, the market can be better protected from turmoil due to herding behavior. Investors will have more time to evaluate before making a decision, thus reducing adverse impulsive selling or buying. Additionally, the implementation of this system can increase investor confidence in market stability and fairness, which can ultimately attract more long-term investors to the capital market.

e) Stimulus and Relaxation in Crisis Situations

In crisis situations, such as during the COVID-19 pandemic, herding behavior often encourages investors to engage in irrational mass selling, causing extreme volatility and market instability (Komalasari et al., 2024). To overcome these negative impacts, governments and regulators have an important role to play in providing stimulus and relaxation to maintain market confidence and prevent greater panic. One strategy that can be implemented is to provide fiscal and monetary stimulus mechanisms, as well as regulatory relaxation for financial industry players to ensure that the market continues to function properly despite pressure.

During the COVID-19 pandemic, the OJK issued three main regulations related to stimulus and relaxation for financial industry players and capital markets. First, the relaxation of credit quality assessment provisions and credit restructuring for banks and financing companies. Second, the OJK implements regulatory adjustments in the capital market, such as the easing of the provisions for share buybacks without going through the GMS (General Meeting of Shareholders). Third, the OJK also introduced relaxation related to pension funds and the insurance industry, providing flexibility for companies in fulfilling their investment obligations amid high market pressure (Suhardini, 2021). A similar approach can be adapted

to deal with future crises to prevent the negative impact of herding behavior. Regulators can prepare more flexible and responsive stimulus and relaxation mechanisms, so that policies can be implemented immediately when there is a shock in the market. For example, in situations of sharp declines due to external factors, the government can activate automatic stock buyback policies for issuers with strong fundamentals, provide tax breaks for long-term investors, or accelerate the process of disbursing funds for financial institutions experiencing liquidity pressure.

In addition, regulators can also improve coordination with Bank Indonesia and the Ministry of Finance to ensure that fiscal and monetary stimulus are aligned with policies in the capital market sector. The implementation of the right policies in crisis situations will help reduce panic, maintain market stability, and restore investor confidence more quickly. Therefore, it is important for regulators to not only be reactive, but also proactive in designing policy instruments that can be implemented immediately when there is market turmoil due to herding behavior.

c. For Theory

1) Efficient Market Hyphotesis

The results of this study show that in general there is no indication of herding behavior in the Indonesian stock market. This indicates that the majority of investors in the Indonesian capital market tend to act rationally, with decisions based on personal analysis and not simply following collective behavior without fundamental considerations. It also reflects that the information in the market is relatively well distributed, so investors are not too influenced by mass psychology in investment decision-making.

However, the study also found that herding behavior can arise under certain conditions, especially during periods of extreme market downturns in the short term, although not significantly. This suggests that in high-pressure or crisis situations, some investors may be inclined to react emotionally and follow the actions of other investors, for example by making a massive sell-off. This phenomenon can be caused by fear of loss, market uncertainty, or spontaneous reactions to widely circulated negative information.

These findings provide an important insight that although in general the Indonesian stock market shows a tendency to rationality, in extreme conditions there is still the potential for herding behavior.

In addition, the results of this study also provide insight into the extent to which the Indonesian capital market reflects market efficiency within the framework of three levels of efficiency according to EMH theory, namely the efficiency of the weak form, the semi-strong form, and the strong form. These findings help assess whether market mechanisms in Indonesia have worked optimally in reflecting all available information in stock prices or are still influenced by non-fundamental factors, such as herding behavior, speculation, and investor cognitive bias.

In a market form of weak efficiency, stock prices are considered to have reflected all historical information, so technical analysis cannot be used to consistently obtain abnormal profits. This study found that the Indonesian capital

market has not fully achieved efficiency in this form, mainly because there is still an autocorrelation pattern of stock prices and trading momentum that indicates that past price movements can still affect future prices.

The assumption of market form in EMH theory is hierarchical, which means that the level of market efficiency is divided into three tiered levels, where each level has an increasingly wide scope of information. This hierarchy shows that if a market has achieved efficiency at a higher level, then automatically it has also met efficiency at a lower level. Because the Indonesian capital market has not achieved weak market efficiency, the market automatically cannot be said to be efficient in semi-strong or strong forms.

The EMH theory assumes that the price of an asset in the capital market always reflects all available information. These assumptions are categorized into three levels of efficiency: weak form, semi-strong form, and strong form. However, in practice, this assumption is actually one of the main points of criticism of the EMH theory because it is difficult to realize perfectly in the real world (Coelho et al., 2005).

However, creating an efficient Indonesian capital market is still worth pursuing. To realize a more efficient capital market, investors and regulators have an important role to play in creating an ecosystem that is transparent and with integrity. Investors need to improve their understanding of fundamental and technical analysis so that they don't just rely on trends or follow herding behavior. By prioritizing data-based investment strategies and rationality, investors can contribute to shaping stock prices that better reflect their true value. Additionally, discipline in portfolio diversification and the use of good risk management can also help reduce the impact of unnecessary volatility.

On the other hand, regulators must strengthen transparency and accessibility of information. One way that can be done is to ensure that all financial and operational information of the company is recorded clearly and easily accessible to investors at the same time. Regulations related to strict financial reporting, sanctions on insider trading, and supervision of the dissemination of information on social media are also important factors in preventing market manipulation and asymmetric information that can harm retail investors.

In addition, regulators can also develop systems that allow for early detection of market behavior that deviates from efficiency principles, such as through the use of big data technology and artificial intelligence to monitor market anomalies. With a combination of investor education, strict regulations, and the use of technology, the Indonesian capital market can move towards higher efficiency, where stock prices more accurately reflect the company's fundamental value and reduce the potential for distortions due to speculation or uneven information.

2) Behavioral Finance

This study examines herding behavior in the Indonesian capital market and finds that this phenomenon occurs more often in extreme market conditions, especially in

DOI: 10.59141/jrssem.v4i9.811

the short term. Investors tend to be more influenced by psychological factors and follow collective decisions in market situations full of uncertainty, such as declining stock prices or negative sentiment. In such situations, they may experience panic selling and follow other investors without in-depth analysis, leading to price movements that do not reflect the fundamental value of the asset. When markets are volatile, time constraints and emotional pressure encourage investors to emulate the majority, although these effects do not last long.

However, in the long run, a more rational market mechanism begins to function and the price of an asset will return to reflect its fundamental value. Institutional investors and those who focus on fundamental analysis will take advantage of price imbalances that occur due to herding behavior to look for investment opportunities. As emotional stress decreases, investors affected by herding behavior will begin to make corrections and make more objective informed decisions. Therefore, although herding behavior is dominant in periods of high volatility, in the long run this effect will decrease as the market improves towards more rational conditions.

CONCLUSIONS

This study found that in general, herding behavior did not significantly occur in the Indonesian stock market represented by the LQ45 Index. However, there are indications of short-term herding behavior in extreme negative market conditions, although not significant. This shows that the majority of investors in the Indonesian stock market tend to act rationally based on the available information, so the market can be said to be relatively efficient in responding to new information.

In terms of methodology, this study confirms that the CSSD and CSAD models are effective in detecting herding behavior. CSSD is more sensitive in identifying herding in extreme market conditions, while CSAD can uncover herding patterns in a wider range of market conditions with a non-linear approach. These two methods complement each other in providing a more comprehensive picture of the collective behavior of investors. Therefore, the combination of these two methods is recommended for further analysis in research related to investor behavior in the capital market.

As a practical implication, this study highlights the importance of the role of investors and regulators in realizing a more efficient capital market. Investors need to improve the quality of analysis in investment decision-making and avoid decisions that are influenced by market sentiment alone. Meanwhile, the Financial Services Authority (OJK) and the Indonesia Stock Exchange (IDX) need to continue to strengthen transparency and investor education policies to reduce the risk of herding behavior that can disrupt market stability. With the commitment of both parties, Indonesia's capital market can further develop towards a higher level of efficiency and be more resilient to future market turmoil.

REFERENCES

Afwah, L. N. (2016). Implementation of nine Islamic characters in the book of

Ta'limul Muta'allim in Mathematics learning (case study of Mathematics learning by Mr. Darsuki, S. Pd. on the function limit material in class XI-Religion MA YSPIS Rembang for the 2015/2016 school year). https://api.semanticscholar.org/CorpusID:192712162

Ainiyah, I. (2025). GIBEI Umsida Holds Investment Education: Investor Psychology in Managing Emotions.

Akbar, A., & Meydina, I. (2024). The Effect of Capital Structure and Sales Growth on Profitability in the Food & Beverage Sector Listed in the LQ45 Index for the Period 2012 – 2021. JEMSI (Journal of Economics, Management, and Accounting). https://api.semanticscholar.org/CorpusID:272108993

Akerlof, G. A., & Shiller, R. J. (2009). Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism (1st ed.). Princeton University Press. https://doi.org/10.2307/j.ctv36mk90z

Albert, A., Soeindra, V., & Dananjaya, Y. (2024). Comparative Analysis of the Influence of BI Interest Rates, Money Supply, Inflation, and Dollar Exchange Rates on Stock Indices: A Case Study of LQ45 and Jakarta Islamic Index on the Indonesia Stock Exchange. Journal of Economics, Business and Accounting (COSTING). https://api.semanticscholar.org/CorpusID:270350381

Alvi, J., & Rehan, M. (2023). Herding Behavior in Islamic Indices. In Malatya Turgut Özal University Journal of Business and Management Sciences (Vol. 4, Issue 2).

Amyulianthy, R., & Asriyal, A. (2018). Pengujian Empiris Efficient Market Hypothesis (EMH) Dan Capital Assets Pricing Model (CAPM). Liquidity. https://api.semanticscholar.org/CorpusID:158243117

Anita, D. S. (2017). Testing the efficiency of the capital market in a semi-strong form by decision: Analysis of merger and acquisition announcements (an empirical study on companies listed on the Indonesia Stock Exchange in 2011-2015). https://api.semanticscholar.org/CorpusID:168638522

Armiyati, L. (2016, December). The Great Depression in the United States.

Arsyad, M. R., Junaedi, D., & Riyanto, R. (2023). Trends in the Development of the Digital Economy in the Industrial Era 4.0. Comit: Communication, Information and Technology Journal, 1(1), 13–27. https://doi.org/10.47467/comit.v1i1.33

Aslam, F., Ferreira, P., Ali, H., & Kauser, S. (2022). Herding behavior during the Covid-19 pandemic: a comparison between Asian and European stock markets based on intraday multifractality. Eurasian Economic Review, 12(2), 333–359. https://doi.org/10.1007/s40822-021-00191-4

Asness, C. S., Moskowitz, T. J., & Pedersen,

L. H. (2012). Value and Momentum Everywhere "Providing thought leadership on international business, financial markets and public policy." Chicago Booth Paper, 80, 12–53. http://ssrn.com/abstract=2174501http://ssrn.com/abstract=2174501Electroniccopyavailableat:https://ssrn.com/abstract=2174501

B., S., & Vedantam, S. R. (2019). Influence of news on rational decision making by financial market investors. Investment Management and Financial Innovations, 16, 142–156. https://doi.org/10.21511/imfi.16(3).2019.14

Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. Journal of Finance, 61(4), 1645–1680. https://doi.org/10.1111/j.1540-6261.2006.00885.x

Banerjee, A. V. (1992). A Simple Model of Herd Behavior. The Quarterly Journal of Economics, 107(3), 797–817. http://www.jstor.orgURL:http://www.jstor.org/stable/2118364Accessed:27/05/200802:04http://www.jstor.org/page/info/about/policies/

Barber, B. M., Odean, T., Guercio, D., Hirshleifer, D., Karolyi, A., Loughran, T., Opton, E., Schieber, S., Shleifer, A., Starr-Mccluer, M., Thaler, R., & Viceira, L. (2001). Boys Will Be Boys: Gender, Overconfidence, And Common Stock Investment. The Quarterly Journal of Economics, 261–292. http://qje.oxfordjournals.org/Downloadedfrom

Barberis, N., & Huang, M. (2001). American Finance Association Mental Accounting, Loss Aversion, and Individual Stock Returns. Source: The Journal of Finance, 56(4), 1247–1292.

Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades. Journal of Political Economy, 100. http://www.journals.uchicago.edu/t-and-c

Bikhchandani, S., & Sharma, S. (2001). Herd Behavior in Financial Markets.

Blasco, N., Corredor, P., & Ferreruela, S. (2011). Detecting intentional herding: What lies beneath intraday data in the Spanish stock market. Journal of the Operational Research Society, 62(6), 1056–1066. https://doi.org/10.1057/jors.2010.34

Bogdan, S., Suštar, N., & Draženović, B. O. (2022). Herding Behavior in Developed, Emerging, and Frontier European Stock Markets during COVID-19 Pandemic. Journal of Risk and Financial Management, 15(9). https://doi.org/10.3390/jrfm15090400

Bordo, M. D., & Rockoff, H. (2013). Not Just the Great Contraction: Friedman and Schwartz's A Monetary History of the United States 1867 to 1960. http://www.nber.org/papers/w18828

Cahyono, A. W., Robiyanto, R., & Harijono, H. (2024). Analysis of Herding Behavior Before and After the

Removal of Broker Codes on the Indonesia Stock Exchange. Magisma Journal, 12(1), 103–114. https://investasi.kontan.co.id/

Candy, & Novita, I. (2021).Herding Behavior Of Indonesia Investor: Role Of Personality Traits And Motivation Factors Herding Behavior Of Indonesia Investor: Role Of Personality Traits And Motivation Factors Candy 1 Indra Novita 2. Business and Accounting Research (IJEBAR) Peer Reviewed-International Journal, 5(2), 204–303. https://jurnal.stie-aas.ac.id/index.php/IJEBAR

Carissa, R., Brata Rinda Rahmawati, & Kim Sung Suk. (2022). Herding Behavior During the COVID-19 Pandemic in the Indonesian Stock Market. Scientific Journal of Business Management and Innovation (Sam Ratulangi University, JMBI UNSRAT), 9, 1505–1518.

Chang, E. C., Cheng, J. W., & Khorana, A. (2000). An examination of herd behavior in equity markets: An international perspective. Journal of Banking & Finance, 24, 1651–1679. www.elsevier.com/locate/econbase

Charron, J.-O. (2017). Inefficient Debate. The EMH, the "Remarkable Error" and a Question of Point of View. Accounting, Economics, and Law: A Convivium, 7. https://api.semanticscholar.org/CorpusID:198996655

Chen, W. (2020). An Examination of Herding Behavior in Chinese A-Share Market by Cross-Sectional Absolute Deviation (CSAD). Modern Economy, 11(04), 785–792. https://doi.org/10.4236/me.2020.114058

Chiang, T. C., & Zheng, D. (2010). An empirical analysis of herd behavior in global stock markets. Journal of Banking and Finance, 34(8), 1911–1921. https://doi.org/10.1016/j.jbankfin.2009.12.014

Christie, W. G., & Huang, R. D. (1995). Following the Pied Piper: Do Individual Returns Herd around the Market? Financial Analysts Journal, 31–37.

Coelho, L. M. S., Peixinho, R. M. T., & Taffler, R. J. (2005). Are markets efficient? The extreme case of corporatebankruptcy: a literature review. https://api.semanticscholar.org/CorpusID:167945045

Connor, G., & Korajczyk, R. (1993). The Arbitrage Pricing Theory and Multifactor Models of Asset Returns. Handbooks in Operations Research and Management Science: Finance, 9.

Dam, V. D. H., Phan, H. M., Le, T. N. Q., Truong, T. H. L., & Le, Q. A. (2023). Herding During Covid-19 Pandemic An Empirical Study in Vietnamese Stock Market. Journal of Eastern European and Central Asian Research, 10(7), 967–976.

Daniel, K., Hirshleifer, D., & Subrahmanyam, A. (1998). Investor psychology and security market under- and overreactions. Journal of Finance, 53(6), 1839–1885. https://doi.org/10.1111/0022-

1082.00077

Daria Azhyshcheva, Vi Dinh, A. G., & Abhinav Sisodiya. (2024, September 15). Biases in Behavioral Finance. World Scholar Review.

Dasril, Y. D. D., Nugraha, N., & Purnamasari, I. (2023). Determination of factors influencing investment decisions of novice investors with moderate risk tolerance. Journal of Business Accounting. https://api.semanticscholar.org/CorpusID:270307135

Davis, J. B., & Hands, W. (2013). Introduction: Methodology, systemic risk, and the economics profession. Journal of Economic Methodology, 20, 1–5. https://api.semanticscholar.org/CorpusID:153820456

De Bondt, W. F. M., & Thaler, R. (1985). American Finance Association Does the Stock Market Overreact? Source: The Journal of Finance, 40(3), 793–805. http://www.jstor.orgURL:http://www.jstor.org/stable/2327804

Delossantos, C. (2023). From Hype to Bust: Investigating the Underlying Factors of the Dot-Com Bubble and Developing Regression Models for Future Market Predictions. Open Journal of Business and Management, 11(05), 2161–2174. https://doi.org/10.4236/ojbm.2023.115119

Demirer, R., Kutan, A. M., & Zhang, H. (2014). Do ADR investors herd?: Evidence from advanced and emerging markets. International Review of Economics and Finance, 30, 138–148. https://doi.org/10.1016/j.iref.2013.10.006

Dewi, D. P. (2023). Analysis of Herding Behavior on the Indonesia Stock Exchange in 2020. E-Journal of Accounting, 33(1), 258. https://doi.org/10.24843/eja.2023.v33.i01.p19

DeWitt, D., Atkinson, M., & Wegner, D. (2018). How Conspiracy Theories Spread. In Conspiracy Theories and the People Who Believe them (pp. 319–334). https://doi.org/10.1093/oso/9780190844073.003.0021

Du, D. (2012). Momentum and behavioral finance. Managerial Finance, 38(4), 364–379. https://doi.org/10.1108/03074351211207527

Espinosa-Méndez, C. (2022). Civil unrest and herding behavior: evidence in an emerging market. Economic Research-Ekonomska Istrazivanja , 35(1), 1243–1261. https://doi.org/10.1080/1331677X.2021.1962382

Fama, E. F. (1970a). Efficient Capital Markets: A Review of Theory and Empirical Work. Source: The Journal of Finance, 25(2), 383–417.

Fama, E. F. (1970b). Efficient Capital Markets: A Review Of Theory And Empirical Work*. Journal of Finance, 25, 383–417. https://api.semanticscholar.org/CorpusID:154899499

Fauziah, H. I., & Rusmita, S. A. (2020). Descriptive Analysis of Herding on the Jakarta Islamic Index. Journal of

Theoretical and Applied Sharia Economics, 7(3), 576. https://doi.org/10.20473/vol7iss20203pp576-584

Frensidy, B. (2021). Herding Action of Retail Investors on the Stock Exchange.

Gary Richardson, Alejandro Komai, Michael Gou, & Daniel Park. (2013, November 22). Stock Market Crash of 1929. Federal Reserve History.

Gernadhi, Y. B. (2005). Testing of Capital Market Efficiency in Half Strong Form at the Announcement of the Cabinet Composition on October 20, 2004 Through the Price Adjustment Coefficient Estimation Model. https://api.semanticscholar.org/CorpusID:160330303

Grinblatt, M., & Keloharju, M. (2001). American Finance Association How Distance, Language, and Culture Influence Stockholdings and Trades. In Source: The Journal of Finance (Vol. 56, Issue 3). http://www.jstor.orgURL:http://www.jstor.org/stable/222542

Grinblatt, Mark, Sheridan Titman, & Russ Wermers. (1995). Momentum Investment Strategies, Portfolio Performance, and Herding: A Study of Mutual Fund Behavior. The American Economic Review, 85(5), 1088–1105.

Gufron, A., & Wibowo, P. (2024). Psychological factors influencing Generation Z's investment decisions: Studies on anchoring, loss aversion, overconfidence, regret aversion, and representativeness. JPRO, 5(3), 342–361.

Gusni, G., Nugraha, N., Disman, D., & Sari, M. (2024). Aggregate Herding Behavior in Asymmetric and During COVID-19 Pandemic: Evidence from ASEAN Capital Market (pp. 43–48). https://doi.org/10.2991/978-94-6463-443-3_7

Handayani, A. P., Sunarti, I., Atika, N., Nurbaiti, S., & Hendra, J. (2024). Capital Market Products and Mechanisms and Securities Trading Procedures. MANTAP: Journal of Management Accounting, Tax and Production. https://api.semanticscholar.org/CorpusID:272229077

Harahap, A. M., & Hascaryani, T. D. (2024). The Influence of Islamic Financial Literacy, Heading Behavior, and Religiosity in Generation Z and Millennials on Investment Interest in the Islamic Capital Market. Islamic Economics and Finance in Focus. https://api.semanticscholar.org/CorpusID:272354836

Harry Markowitz. (1952). Portfolio Selection. American Finance Association, 7(1), 77–91.

Hoque, H. A. A. B., Kim, J. H., & Pyun, C. S. (2007). A comparison of variance ratio tests of random walk: A case of Asian emerging stock markets. International Review of Economics and Finance, 16(4), 488–502. https://doi.org/10.1016/j.iref.2006.01.001

Indrawati, S. (2021). Market reaction to stocks entering and exiting the LQ-45 index. Competence: Journal of Management Studies, 15(1).

Investopedia. (2023, February 3). Taxpayer Relief Act of 1997 Definition. Investopedia.

Isa Alamsyahbana, M. (2024). CAPITAL MARKET (S. Bahri, Ed.). Indonesian Science Media. https://www.researchgate.net/publication/383219117

Ismayilzada, M. (2022). Dotcom Bubble. https://www.researchgate.net/publication/359095126

Jegadeesh, N., & Titman, S. (1993). Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. The Journal of Finance, 48(1), 65–91. https://doi.org/10.1111/j.1540-6261.1993.tb04702.x

Jegadeesh, N., & Titman, S. (2001). American Finance Association Profitability of Momentum Strategies: An Evaluation of Alternative Explanations. In Source: The Journal of Finance (Vol. 56, Issue 2).

Joel Dean. (2019, October 15). Why We Feel The Pain of Loss More Than the Joy of Gains. Wes Moss.

John R. Nofsinger. (2023). The Psychology of Investing. Elex Media Komputindo.

Júlio Lobão. (2012). Behavioral Finance - When Economics meets Psychology. CURRENT PUBLISHER - ALMEDINA.

Junaid, M., Juliana, A., Marchella, J., Lahengke, L., Azis, Muh. I., & Malik, A. (2021). Study of the Efficiency of the Indonesian Capital Market in a Half-Strong Form During the Covid-19 Pandemic (Transportation Companies on the Indonesia Stock Exchange in 2019-2020). Journal of Financial and Business Accounting, 14, 201–210. https://doi.org/10.35143/jakb.v14i2.4786

Juwita, R., Muryadi, M. B., & Ingriyani, L. (2023). Analysis Of The Effectiveness Of The Broker Code Closing Policy In Running Trade On Herding Behavior. I-IECONS e-Proceedings. https://api.semanticscholar.org/CorpusID:266276422

Kahneman, D., & Tversky', A. (1979). Prospect Theory: An Analysis of Decision under Risk. In Source: Econometrica (Vol. 47, Issue 2).

Karnina, N. (2015). Market Efficiency Test (Semi-Strong) on Merger and Acquisition Announcements on the Indonesia Stock Exchange for the Period 2003 - 2011. https://api.semanticscholar.org/CorpusID:134355924

kemenkeu.go.id. (2025). Financial system stability is maintained amid divergences in world economic growth and global financial market uncertainty.

Kendall, M. G., & Hill, A. B. (1953). The Analysis of Economic Time-Series-Part I: Prices. In Source: Journal of the Royal Statistical Society. Series A (General) (Vol. 116, Issue 1).

Kim, J.-H., & Shamsuddin, A. (2008). Are Asian stock markets efficient? Evidence from new multiple variance ratio tests. Journal of Empirical Finance, 15, 518–532. https://doi.org/10.1016/j.jempfin.2007.07.001

Kimberly Amadeo. (2022, April 7). Stock Market Crash of 1929 Facts, Causes, and Impact. The Balance.

Komalasari, P. T. (2016). Information Asymmetry And Herding Behavior. Indonesian Journal of Accounting and Finance, 13(1), 70–85. https://doi.org/10.21002/jaki.2016.04

Komalasari, P. T., Asri, M., Purwanto, B. M., & Setiyono, B. (2022). Herding behaviour in the capital market: What do we know and what is next? Management Review Quarterly, 72(3), 745–787. https://doi.org/10.1007/s11301-021-00212-1

Komalasari, P. T., Qalby, Z. H., & Alhaqi, V. R. (2024). Did the Covid-19 Pandemic Trigger Herding Behavior? International Research Journal of Business Studies. https://api.semanticscholar.org/CorpusID:273723643

Kumar, A., Badhani, K. N., Bouri, E., & Saeed, T. (2021). Herding behavior in the commodity markets of the Asia-Pacific region. Finance Research Letters, 41. https://doi.org/10.1016/j.frl.2020.101813

Kurniawati, L., Wijayanti, R., Kholis, N., Program, S., Accounting, U. M., Surakarta, I., Accounting, S., & Tinggi, I. E. (2021). Analysis of Investment Opportunities and Debt Policy on Dividend Policy: LQ45 Corporate Study. Muhammadiyah Semarang, 11(2), 96–109. https://jurnal.unimus.ac.id/index.php/MAX

Lakonishok, J., Shleifer, A., & Vishny, R. W. (1992). The impact of institutional trading on stock prices*. In Journal of Financial Economics (Vol. 31).

Lars Tvede. (1999). The Psychology of Finance (Wiley Trading, Vol. 86). Wiley.

Leung, T. C., & Tsang, K. P. (2011). Hong Kong Institute For Monetary Research Can Anchoring And Loss Aversion Explain The Predictability In The Housing Market?

Li, X., & Yao, W. (2020). Do market-wide circuit breakers calm markets or panic them? Evidence from the COVID-19 pandemic. https://api.semanticscholar.org/CorpusID:229544156

Li, Y., Wang, X., & Zeng, Z. (2021). Evidences and Explanations for the Momentum Effect in the World: A Literature Review.

Malini, H., & Sakliana, A. D. (2022). Analyzing The Relationship Between Return and Trading Volume in Relation to Cross-Sectional Absolute Deviation (CSAD) In Order to Detect Herding Behavior in Indonesia Emerging Stock Market. The Indonesian Capital Market Review, 14(2), 121–135. https://doi.org/10.21002/icmr.v14i2.1152

Maniil, C., Kumaat, R. J., & T. H. Maramis, M. B. (2023). The Effect of Inflation, Bank Indonesia Interest Rates and Rupiah Exchange Rate on the Price of the LQ45 Stock Index on the Indonesia Stock Exchange for the Period 2017:Q1-2021:Q4. Scientific

Periodic Journal of Efficiency, 23(1), 97–108.

Manurung, G. D. (2024). Majority Shareholder in a Family-Owned Company. Legal Spirit. https://api.semanticscholar.org/CorpusID:271680624

Maulani, L. (2010). A test of the efficiency of the capital market in a semi-strong form of decision through the analysis of stock split events and their influence on the financial performance of issuers on the Indonesia Stock Exchange for the period 2004-2009: an empirical study of companies going public on the Indonesia Stock Exchange. https://api.semanticscholar.org/CorpusID:126580853

Michael Ha, George Z. Liu, & Lihui Zheng. (2015). Application of Volatility in Portfolio Construction. Journal of Applied Mathematics and Physics, 3(7).

Mota, J. H., Moreira, A. C., & Cossa, A. J. (2015). Behavioural factors in the financial decisions of young Mozambicans. South African Journal of Business Management, 46(4), 11–22. https://doi.org/10.4102/sajbm.v46i4.105

Neal, L., & White, E. N. (2012). The Glass-Steagall Act in historical perspective. Quarterly Review of Economics and Finance, 52(2), 104–113. https://doi.org/10.1016/j.qref.2011.12.005

Nugraha, N. (2016). Cognitive Bias and Risk Preferences Analysis of Ponzi Scheme Investors. https://www.researchgate.net/publication/316862375

Ofek, E., & Richardson, M. (2003). DotCom Mania: The Rise and Fall of Internet Stock Prices. The Journal of Finance, 58(3), 1113–1137.

Pablo Marcos Prieto, & Javier Perote. (2017). Agents' Behavior in Market Bubbles: Herding and Information Effects. Economics World, 5(1). https://doi.org/10.17265/2328-7144/2017.01.005

Pahlevi, Moch. R. (2022). The Influence of Global Indices and Macroeconomic Variables on the LQ45 Index on the Indonesia Stock Exchange. Ekobis Journal : Business Economics & Management. https://api.semanticscholar.org/CorpusID:247944103

Pakpahan, E. F., Kurniawan, E., Candra, K., & Yanti, S. N. (2020). The Role and Authority of the Financial Services Authority (OJK) on the Security of Transactions in the Capital Market. Ius Civile: Reflections on Law Enforcement and Justice. https://api.semanticscholar.org/CorpusID:225919632

Park, J., Konana, P., Gu, B., Kumar, A., & Raghunathan, R. (2010). Confirmation Bias, Overconfidence, and Investment Performance: Evidence from Stock Message Boards. http://ssrn.com/abstract=1639470Electroniccopyavailableat:https://ssrn.com/abstract=1639470

Pasaribu, H. Z., & Sadalia, I. (2018). Analysis of Investor Hearding Behavior in

LQ-45 Shares in the Indonesian Capital Market. Talent Conference Series: Local Wisdom, Social, and Arts (LWSA), 1(2), 408–418. https://doi.org/10.32734/lwsa.v1i2.215

Patel, P. (2023). Investors' Herding Behaviour In Indian Stock Markets During COVID 19: A CSSD And CSAD Approach. Public Policy and Research International, 2(1), 1–6.

Patwarani, R., & Husodo, Z. (2023). Examining Herding Behaviour and Its Impact on Stock Market Volatility: Insights from Asian Economies. Jurnal Manajemen Teori Dan Terapan| Journal of Theory and Applied Management, 16(3), 596–611. https://doi.org/10.20473/jmtt.v16i3.51757

Perold, A. F. (2004). The Capital Asset Pricing Model. Journal of Economic Perspectives, 18(3), 3–24.

Possumah, L. M., Yadasang, R. M., & Ramadhani, H. (2023). The Effect of Portfolio Diversification on Risk Management and Investment Performance: An Analysis on Individual Investors. In the Journal of Accounting and Finance of Western Science (Vol. 2, Issue 03).

Prasmuko, A., & Anugrah, D. F. (2010). The impact of the global financial crisis on the regional economy. Bulletin of Monetary and Banking Economics, 377–411.

Quera, V., Herrando, S., Beltran, F. S., Salas, L., & Miñano, M. (2007). Running head: Index Of Flocking Behavior An index for quantifying flocking behavior. https://api.semanticscholar.org/CorpusID:1256789

Quinn, W., & Turner, J. D. (2020). The Dot-Com Bubble. In Boom and Bust (pp. 152–169). Cambridge University Press. https://doi.org/10.1017/9781108367677.009

Raditya, G., Sulastri, P., Adam, M., & Widiyanti, M. (2020). The Influence Of Business Risk, Financial Risk And Market Risk Towards Lq 45 Stock Performance. The Manager Review, 151–165. http://www.idx.co.id

Rahayu, S., Widyastuti, I., & Sudijono, V. T. P. (2021). Assistance for securities transactions based on the Capital Market Trading Mechanism in Indonesia with interactive simulations. Media Accounting. https://api.semanticscholar.org/CorpusID:237919044

Rahman, I., Widyastuti, T., Bahri, S., Pancasila, U., Bhayangkara, U., & Raya, J. (2022). Herding Behavior in IPO (Initial Public Offering) Shares on the Indonesia Stock Exchange. Journal of Artificial Intelligence, 608–617. https://investor.id/market-and-

Ramadan, I. Z. (2015). Cross-Sectional Absolute Deviation Approach for Testing the Herd Behavior Theory: The Case of the ASE Index. International Journal of Economics and Finance, 7(3). https://doi.org/10.5539/ijef.v7n3p188

Ramadhan, T., Kholiq Mahfud, M., & Management, J. (2016). Detection of

Herding Behavior in the Indonesia & Singapore Stock Market in 2011-2015. Diponegoro Journal of Management, 5(2), 1–9. http://ejournal-s1.undip.ac.id/index.php/dbr

Ranganathan, S., Kivelä, M., & Kanniainen, J. (2018). Dynamics of investor spanning trees around dot-com bubble. PLoS ONE, 13(6). https://doi.org/10.1371/journal.pone.0198807

Rasyid, M. N. (2020). The Influence of Financial Literacy and Financial Behavior is Reviewed from the Aspects of Personal Interest and Environmental Factors on Investment Awareness (Case Study on Productive Age in the City of Bandung). Journal of Management Partners. https://api.semanticscholar.org/CorpusID:216259787

Rizal, N. A., & Damayanti, M. K. (2019). Herding Behavior in The Indonesian Islamic Stock Market. Journal of Islamic Monetary Economics and Finance, 5(3), 673–690. https://doi.org/10.21098/jimf.v5i3.1079

Robert J. Shiller. (2000). Irrational Exuberance. Library of Congress Cataloging-in-Publication Data.

Rofifudin, F. M., & Aisah, N. (2024). The Effectiveness of Capital Structure and Investment Decisions in Increasing Company Value: A Study on the LQ45 Index. SNAST PROCEEDINGS. https://api.semanticscholar.org/CorpusID:275371723

Ross, S. A. (1976). The arbitrage theory of capital asset pricing. Journal of Economic Theory, 13(3), 341–360. https://doi.org/https://doi.org/10.1016/0022-0531(76)90046-6

Rusadi, P. M., & Nugroho, R. H. (2024a). The Influence of Macroeconomics and Stock Trading Volume on the Stock Prices of Banking Sub-Sector Companies Listed on the Indonesia Stock Exchange (IDX). Syntax Literate; Indonesian Scientific Journal. https://api.semanticscholar.org/CorpusID:267619684

Rusadi, P. M., & Nugroho, R. H. (2024b). The Influence of Macroeconomics and Stock Trading Volume on the Stock Prices of Banking Sub-Sector Companies Listed on the Indonesia Stock Exchange (IDX). Syntax Literate; Indonesian Scientific Journal. https://api.semanticscholar.org/CorpusID:267619684

Safitri, K. (2020, December 24). Kaleidoscope 2020: When Indonesia's Capital Market Slowly Rises from the Downturn. Compass.

Santoso, W., Kohardinata, C., & Greselda Gosal, G. (2022). Herding Behavior of Coronial Investors Who Transact on Sharia Stock Accounts. Scientific Journal of Islamic Economics, 8(3), 3681. https://doi.org/10.29040/jiei.v8i3.6807

Sendy Noviliya, H. (2017). Analysis of Herding Behavior Detection in Asian Emerging and Developed Market Stock Exchanges (Countries.

6, 1–11. http://ejournal-s1.undip.ac.id/index.php/dbr

Shane Barber. (2022, March 8). Dot-Com Bubble History Remains Relevant. Modern Wealth Management.

Shefrin, H. M. (2005). Behavioral Corporate Finance. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.288257

Shiller, R. J. (2003). From Efficient Markets Theory to Behavioral Finance. In Journal of Economic Perspectives (Vol. 17).

Shleifer, A., & Vishny, R. W. (1997). American Finance Association A Survey of Corporate Governance. In Source: The Journal of Finance (Vol. 52, Issue 2).

Siahaan, R. A. L. F. (2025). Polemic of Insider Trading Provisions as a Crime in the Capital Market Based on Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector (P2sk) (Case Study of Pt. Jouska Finansial Indonesia). Journal of Law, Humanities and Politics. https://api.semanticscholar.org/CorpusID:277087735

Sibarani, B. B. (2024). Indonesian Journal of Science Management Research Herding Behavior In Financial Market-Systematic Literature Review. Indonesian Journal of Science Management Research, 15(1), 33–45. https://doi.org/10.21109/JRMSI.015.1.04

Silitonga, R. S., Sadalia, I., & Silalahi, A. S. (2021). Analysis of Herding Behavior in Developing Countries. International Journal of Research and Review, 8(12), 614–621. https://doi.org/10.52403/ijrr.20211274

Sisbintari, I. (2018). An Overview of Behavioral Finance. Scientific Journal of Business Administration and Innovation, 1(2), 88–101. https://doi.org/10.25139/jai.v1i2.814

Soemantoro, S. (1977). Fundamentals of Capital Market in Indonesia. https://api.semanticscholar.org/CorpusID:135398283

Sugiantara, P. (2022). Analysis of herding behavior based on market conditions with information asymmetry as a moderation variable. E-Journal of Accounting, 32, 721. https://doi.org/10.24843/EJA.2022.v32.i03.p13

Suhardini, E. (2021). Analysis of Capital Market Policy Regulations in Indonesia Post-Covid-19 Pandemic. Paramarta Discourse: Journal of Legal Science, 20(1), 15–33.

Suntoro, P. S. (2015). Testing of Market Efficiency Forms Half Strong on the Indonesia Stock Exchange: May Day Event. https://api.semanticscholar.org/CorpusID:134326021

Susila, I. G. (2012). The existence of the winner anomaly – the loser of industrial stocks in the Indonesian capital market. https://api.semanticscholar.org/CorpusID:150762440

Suwandi, E. D. (2020). The Effect of the Free Float Share Ratio on the Share Price

of LQ45 Companies Listed on the IDX in 2019. https://api.semanticscholar.org/CorpusID:229084506

Tahir, A. N., & Danarsari, D. N. (2023). App-Based Investment Platform And Investment Decision Making: A Study Of Retail Investor Behavior In Indonesia. Eduvest-Journal of Universal Studies, 3(7), 1258–1272. http://eduvest.greenvest.co.id

Tan, L., Chiang, T. C., Mason, J. R., & Nelling, E. (2008). Herding behavior in Chinese stock markets: An examination of A and B shares. Pacific Basin Finance Journal, 16(1–2), 61–77. https://doi.org/10.1016/j.pacfin.2007.04.004

Taylor, Z. (2024). Behavioral Finance: Investor Psychology and Market Outcomes. International Journal of Finance. https://api.semanticscholar.org/CorpusID:271391495

Thaler, R. H. (1999). The End of Behavioral Finance. Financial Analyst Journal, 55, 12–17.

Tono, H. (2017). Efficient Securities Market. Capital Markets: Market Efficiency EJournal. https://api.semanticscholar.org/CorpusID:219385526

Wardani, S. S. (2021). Analysis of Herding Behavior in LQ-45 Shares Before and During the COVID-19 Pandemic in Indonesia.

Wawrosz, P., & Schulz, B. (2023). Overconfidence, Representativeness And Herding Bias Among German Investors: How Demographic And Other Variables Influence Their Decision. AD ALTA: Journal of Interdisciplinary Research. https://api.semanticscholar.org/CorpusID:266881282

Wheale, P. R., & Amin, L. H. (2003). Bursting the dot.com "Bubble": A case study in investor behaviour. Technology Analysis and Strategic Management, 15(1), 117–136. https://doi.org/10.1080/09537320320000046097

Widiatmoko, A. A. (2003). Testing of market efficiency in a weak form for two different periods, namely the bullish period and the bearish period on the Jakarta Stock Exchange (case study on LQ45 STOCKS IN 1999 AND 2001). https://api.semanticscholar.org/CorpusID:193729948

Will Kenton. (2024, November 27). Stock Market Crash of 1929: Definition, Causes, and Effects. Investopedia.

Yani, I., & Erma, Z. (2024). Forms of crime and violations that occur in the field of capital markets in investment. Legal Dignity. https://api.semanticscholar.org/CorpusID:276238122

Yudy, L. (2011). Analysis of Insider Ownership, Institutional Ownership, Free Cash Flow and Collateralizable Assets on Dividend Payout Ratio in Trade, Service and Investment Mining Infrastructure, Utilities and Transportation Industry Companies Listed on the IDX for the 2007-2009 Period. https://api.semanticscholar.org/Cor

pusID:153254332

Zhang, H. (2024). Power of CSAD-Based Test on Herding Behavior. Applied Finance Letter, 13, 158–167.