Herding Behavior In The Stock Market: A Literature Review

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ABSTRACT

This article aims to prove the existence of herding behavior in a number of stock markets in various parts of the world and find out the factors that cause herding behavior. The method used in this article is a research library by taking data from 80 international journals and 4 local journals. The results of our analysis conclude that herding behavior occurs in almost all stock markets in the world. Factors that cause herding behavior include negative news sentiments towards stocks, incentives and career concerns owned by analysts, market risk and firm level uncertainty, market uncertainty, extreme market conditions, periods of high information flow, risk of volatility, analysis of more types of stocks small, economic / financial crisis, declining market conditions, rising interest rates, currency depreciation, poor information environment, and low quality disclosures. The limitation of this article is that the amount of data taken from the results of research in several stock markets is uneven, such as the lack of data retrieval from the stock market on the American continent.

Keywords: Analyst Securities, Stock Market, Herding Behaviour

Background

The stock exchange is a place for investors to earn profits through stock trading. Stocks are preferred by investors compared to other financial instruments because the profits to be obtained are greater even though the results are accompanied by high risk. In stock trading, investors need to have their own strategy with rational analysis to prevent even higher risks. However, there are some cases where investors challenge themselves to face high risks to get bigger profits. Greed makes investors to make risky investments, so investors tend to follow each other blindly and face rational analysis (Ullah & Ather, 2014). The interest in question is herding behavior (subsequent behavior) which is usually defined as the behavior of investors

to observe other people's observed actions or market movements instead of following their own beliefs and information (Elena, 2013).

Bikhchandani & Sharma (2000) classify group behavior into spurious herding and intentional herding (Kim & Park, 2017). Spuriour herding is meant when investors react to information that is well known to the public by making investment decisions similar to that information. Meanwhile, if investors have the intention to follow the behavior of other investors, then this is intentional herding (Kim & Park, 2017). While it can be difficult to distinguish spurious herding from intentional herding, it is a challenge in itself to find a distinction that seems so important to prevent erroneous analysis. Severe intentional herding will cause systematic risk, bubble phenomena, and asymmetric volatility in financial markets (Bikhchandani, Hirshleifer, & Welch, 1992; Kodres & Pritsker, 2002; Park, 2011).

From a behavioral perspective, the stock market trading dilemma is a cumulative reflection of investor behavior (Foucault, Sraer, & Thesmar, 2011). Several psychological biases were found that contributed to herding behavior. Investors show behavioral deviations (bias) that have the potential to affect market efficiency (Barber & Odean, 2000; Kumar & Goyal, 2015). On the rational side, investors can choose to imitate if they think group behavior can add information and benefit them (Andrea Devenow & Ivo Welch, 1996; Kallinterakis, Munir, & Radovic-Markovic, 2010). An investor, for example, having sufficient information to decide or an investor believing that others have better information, may decide to imitate the actions of others if they find them informative.

This study will focus on the factors that cause the herding behavior of an investor in the stock market. Some literature has been collected to be compared so that it can find out what factors are the causes of herding behavior in the stock market.

Literature Review
Theory of Planned Behavior

The theory of planned behavior (TPB) is a further development of the Theory of Reasoned Action (TRA). The theory of reasoned action (TRA) is based on the assumption that humans behave in a conscious way, taking into account the available information and also considering the implications of the actions taken. According to TRA, intention is a factor that influences the occurrence of an action (Ajzen, 1991). Intentions are influenced by two basic factors, namely personal factors in the form of attitudes and social influence factors, namely subjective norms (Ajzen, 1991).

According to Ajzen in the journal Fatameh Sohari and Mostafa Ahmadvand (Soorani & Ahmadvand, 2019) explained that the theoretical framework of planned behavior has been designed to predict and explain human behavior in certain contexts. This theory is one of the most popular today, and one of the social-psychological models for understanding and predicting human behavior. The theory of planned behavior is based on the assumption that humans usually behave in sensible ways. They pay attention to available information and

implicitly or explicitly consider the implications of their actions. Within the framework of the theory of planned behavior, it is assumed that motivation and intentions will greatly influence a person's behavior or decision making.

Ajzen (Ajzen, 1991) adds a construct that does not yet exist in TRA, namely perceived behavioral control. This construct is added in an effort to understand the limitations that individuals have in carrying out certain behaviors. The theory of planned behavior or theory of planned behavior (TPB) is a theory that includes three things, the first is beliefs about the possibility of evaluation and the outcome of the behavior. The second is beliefs about expected behavioral norms and motivation to achieve or meet these expectations. The third is the belief about the existence of 16 factors that can support or hinder behavior and awareness of the strength of these factors (control beliefs). Control beliefs lead to control over these behaviors (Ajzen, 1991). The theory of planned behavior contains beliefs that influence attitudes towards certain behaviors on subjective norms, and on internalized behavioral control. All these components interact and become the main factor for the intention which in time will indicate whether the planned behavior will be carried out or not.

Mental Discounting Behavior

Mental discounting is a cognitive process to estimate the discount rate or return (Wahlund & Gunnarsson, 1996). Mental discounting as a form of mental attitude is supported by three factors, namely: first, determination: strong motivation, intention, and purpose. Second, self-discipline: knowing what and when to do something. Third, fighting: hard work, smart work, and time management. The mental process of discounting requires high capabilities related to individual abilities in cognitive, affective, and conative aspects such as; processing of financial and non-financial information, application of investment knowledge from fundamental and technical aspects, changes in investment preferences, perceptions of risk and return, and learning the investment process. In connection with this study, mental discounting is defined as the tendency of the intention to choose candidate stocks which is determined directly by the belief that analysts have on the estimated stock return.

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Herding Behavior

Herding behavior is the behavior of investors who tend to follow other investors in investing without conducting a fundamental analysis first so that the formed market becomes inefficient (Fityani & Arfinto, 2015). Herding is explained as an investor or a group of investors who tend to follow other investors (Saputra & Sitinjak, 2018). Saastamoinen in (Ramadhan & Mahfud, 2016) explains that herding is the behavior of investors selling or buying securities/shares regardless of the reasons that are the basis for investing.

Method

In writing this article, we use a type of library research, which is a series of activities related to library data collection methods. This research library is used to find relevant information, and to understand in depth to find out the problems that have been studied by previous authors. The method used in this article is descriptive analysis method.

Data collection techniques are the most important step in writing. In this article, we use secondary data from international journals obtained from several journal provider websites such as Emerald, Directory of Open Access Journal, Scopus, Thomson Reuters, Elsevier, Springer and Wiley online library, Science Drive, Researchgate and Google Scholar regarding Herding Behavior in the stock market. A complete literature review was carried out by identifying international journals regarding Herding Behavior in the stock market that had been published from 2009 to 2019. In total 600 international journals were obtained, and 80 international journals and 4 local journals were selected and then 50 major journals were selected which were analyzed and used as the main source of the content of this article.

Result and Discussion

Mental discounting is defined as the tendency of the intention to choose candidate stocks which is determined directly by the confidence analysts have in the estimated stock return. This issue examines the intentions of securities analysts in stock selection as a result of estimating stock prospects for recommendations to investors (mental discounting). Mental discounting is influenced by financial and non-financial information, belief revisions, subjective norms, and risk perceptions and has implications for utility maximization (Adhikara, 2011). Based on this explanation, it can be concluded that mental discounting behavior can be associated with securities analyst behavior in the stock selection process. The mental process of discounting requires high capabilities related to individual abilities in cognitive, affective, and conative aspects such as processing of financial and non-financial information, application of investment knowledge from fundamental and technical aspects, changes in investment preferences, perceptions of risk and return, and learning the investment process (Adhikara, 2011).

The results of the analysis of securities analysts in choosing stocks are very important for investors because they are useful for the success of investments made by investors. Price forecasts by securities analysts for IPOs are an important basis for investors to assess the value of an IPO. The accuracy and dispersion of price forecasts by securities analysts have a significant impact on IPO premiums, which proves the effectiveness of price forecasting behavior by securities analysts, and analysts can help investors better value IPOs (Jiani & Liu, 2014). The results of the study (Mihaylov, Cheong, & Zurbruegg, 2015) show that there is some evidence to suggest that aggregate earnings forecasts by securities analysts contain valuable information for predicting future gold prices. Securities analysts (brokers) have an important role in market returns, for example, can help increase efficiency by reducing the possibility of asset bubbles (Eberhard, Lavin, Montecinos-Pearce, & Arenas, 2019). The results of research

(Yuan, Wu, & Xu, 2011) in China show that Chinese securities analysts can use information gathering tools and expert analytical skills to publish valuable earnings forecast information, which will push more company-specific information into stock prices.

In conducting stock selection, the behavior of securities analysts is very diverse and unique. Based on the results of our analysis of several journals and scientific articles that we have reviewed, there are many behavioral characteristics of securities analysts. However, in this article, we will focus more on herding behavior among securities analysts. Herding behavior is the behavior of investors who tend to follow other investors in investing without conducting a fundamental analysis first so that the formed market becomes inefficient (Fityani & Arfinto, 2015). Analysts overall tend to move towards consensus when issuing recommendations, and this tendency increases with market sentiment. In addition, the effect of market sentiment on analyst pools is especially true for recommendations on firms that are difficult to assess, large firms, as well as firms with high institutional ownership, high book-to-market ratios, and low coverage by analysts (MT Chiang & Lin, 2019). The more the analyst forecasts the problem, the higher the probability that the analyst will make more heuristic decisions by herding closer to the consensus forecast (Hirshleifer, Levi, Lourie, & Teoh, 2019). Our findings suggest that each industry has, to some degree, herding behavior among analysts (Zhao, Zhang, Feng, & Zhang, 2014).

Based on our analysis, herding behavior occurs in almost all parts of the world. Starting from the Asian continent, herding behavior occurs in Vietnam (Vo & Phan, 2016, 2019), Pakistan (Shah, Shah, & Khan, 2017), India (Bhaduri & Mahapatra, 2013; Ganesh, Gopal, & Thiyagarajan, 2018), China (TC Chiang, Li, & Tan, 2010; Gong & Dai, 2017; Lan, 2014; Lao & Singh, 2011; Li, Liu, & Park, 2017; Yao, Ma, & He, 2014; Zheng, Li, & Chiang, 2017), Japan (Cajueiro & Tabak, 2009; Zheng et al., 2017), Korea (Zheng et al., 2017), Hong Kong (Zheng et al., 2017), Taiwan (WT Lin, Tsai, & Lung, 2013; Zheng et al., 2017), Turkey (Akçaalan, Dindaroğlu, & Binatlı, 2018), Kuwait (Balcilar, Demirer, & Hammoudeh, 2013), Qatar (Balcilar et al., 2013; Medhioub & Chaffai, 2018), and Saudi Arabia (Balcilar et al., 2013; Medhioub & Chaffai, 2018). Then, in the America's herding behavior has also been proven to occur in the US (Bernales, Verousis, & Voukelatos, 2016; Lee, 2017) and Chile (Lavin & Magner, 2014). Then, on the African continent herding behavior has also been proven to occur in Trinidad & Tobago (Arjoon & Bhatnagar, 2017) and several countries on the African border, namely Botswana, Ghana, Kenya, Namibia, Nigeria, Tanzania, and Zambia (Guney, Kallinterakis, & Komba, 2017). Then, on the European continent herding behavior also occurs in France (Khan, Hassairi, & VIVIANI, 2011; Litimi, 2017), Germany (Khan et al., 2011), Italy (Khan et al., 2011), England (Khan et al., 2011). al., 2011), Finland (Lindhe, 2012), Romania (Pop, 2013), Portugal (Leite, Machado-Santos, & Silva, 2018), Greece (Messis & Zapranis, 2014), and Russia (Indārs, Savin, & Lublóy, 2019). Finally, herding behavior also occurs on the Australian continent (Al-Shboul, 2012).

The factors that cause herding behavior include the following. Analysts are more likely to herd when stocks have negative news sentiment. Analyst's herding behavior is driven by

incentives and career concerns that analysts have. This suggests that, from the analyst's point of view, herdings are rational, because they maximize their own utility. From a market perspective, this implies that analyst recommendations will contain biases reflecting these incentives and career problems and are difficult to resolve unless incentives can be changed (Frijns & Huynh, 2018). The results show that, in addition to market risk and firm-level uncertainty, the tendency of analysts to herd increases with aggregate uncertainty (M. C. Lin, 2018). Herding appears to be driven primarily by market uncertainty, extreme market conditions and periods of high information flow (Arjoon & Bhatnagar, 2017; Bernales et al., 2016; Bhaduri & Mahapatra, 2013; Bouri, Gupta, & Roubaud, 2019; Cajueiro & Tabak, 2009; Dong, Gu, & Han, 2010; Indārs et al., 2019; Lan, 2014; Lao & Singh, 2011; Lindhe, 2012; Vo & Phan, 2016). Investors tend to herd more closely when they face high volatility risks (Al-Shboul, 2012; Balcilar et al., 2013; Bernales et al., 2016; Humayun Kabir & Shakur, 2018; Vo & Phan, 2016). Herding becomes stronger as we move towards smaller stocks (Arjoon & Bhatnagar, 2017; Guney et al., 2017; M. C. Lin, 2018; Yao et al., 2014). We also find strong evidence of herding during periods of medium to large price movements (Lee, 2017). Investors are more likely to herd during crisis periods (Li et al., 2017; Litimi, 2017; Ouarda, Bouri, & Bernard, 2013; Shah et al., 2017). We also find that industry herding is more pronounced in declining markets (Medhioub & Chaffai, 2018; Yao et al., 2014; Zheng et al., 2017). Empirical results show that the increase in interest rates and the depreciation of the Chinese currency (CNY) will lead to herding (Gong & Dai, 2017). Empirical evidence shows that herding in mutual funds is associated with a poor information environment and low disclosure quality (Deng, Hung, & Qiao, 2018).

From some of the research results that we have analyzed, there are also some research results in a number of countries that show no herding behavior in their stock market. Herding behavior is not found in Pakistan (Javaira & Hassan, 2015; Javed, Zafar, & Hafeez, 2001), China (Lan, 2014), Denmark (Lindhe, 2012), Norway (Lindhe, 2012), Sweden (Lindhe, 2012)), Spain (Ahmed, 2019) and Indonesia (Ramadhan & Mahfud, 2016; Saputra & Sitinjak, 2018).

A study on Spanish market investors concluded that, either before or after the crisis, they tend not to leave their personal information and form herding thus making rational investment decisions (Ahmed, 2019). Investors in the Indonesian stock market have rational behavior in making investment decisions, because the information needed by investors related to stock price movements in the market can be accessed properly so that investors use it as the basis for investment analysis. Herding was not detected on the Indonesian stock market due to the absence of market stress conditions during 2011-2015. In times of market stress, investors tend to suppress their thinking and follow market consensus, so herding behavior tends to occur during this period (Ramadhan & Mahfud, 2016). The results of the study (Kumari, Chandra, & Pattanayak, 2019) revealed that expecting a submissive personality did not show a tendency towards herding behavior. Investors who have a compliant personality are more influenced by social driving factors. However, cognitive factors motivate aggressive personalities, as well as inhibit herding behavior (Kumari et al., 2019).

Based on our analysis it was also found that there are contradictory research results in countries such as Pakistan and China. Research on the Pakistan Stock Exchange in 2004-2013 which proves the existence of herding behavior on investors is more likely to follow the market during the crisis period (Shah et al., 2017). Meanwhile, based on the results of daily and monthly stock data from the Karachi Stock Exchange, it shows that there is no herding behavior for the period 2002-2007 and does not find support for the rational asset pricing model and investor behavior which is found to be inefficient. This study refutes the proven evidence of herding due to asymmetry of market returns, high and low trading volume status, and asymmetric market volatility. Macroeconomic fundamentals have an insignificant role in the decision-making process of investors so that they do not have an impact on herding behavior (Javaira & Hassan, 2015). Both studies used the approach of Christie and Huang (1995). We ourselves conclude that the difference in results is due to differences in the period of the study sample. In research (Shah et al., 2017), herding is found in large companies and tends not to be found in small companies. Then in China itself, several research results that prove the existence of herding in the Chinese stock market conclude that herding behavior is caused by a crisis and volatile market conditions (Li et al., 2017; Zheng et al., 2017). However, in studies showing the absence of herding behavior showed that there was no herding during and after the crisis period, the phenomenon of herding was not clearly visible in the Chinese housing market. Herding is more likely to occur in the period before the financial crisis (Lan, 2014). The difference in the results only occurred in the housing company's stock segment, where no herding was found in the housing company's stock market in China.

Of the several factors that cause herding, we highlight the economic crisis or financial crisis as one of the factors causing herding behavior in the stock market. Because based on the results of the study there are pros and cons where there are stock markets that are indicated by herding during a crisis and there are stock markets that do not indicate herding during a crisis. In Pakistan it was found that investors are more likely to follow the market during crisis periods (Shah et al., 2017). Herding was also present on the French stock market during the crisis period that occurred from 2000 to 2016 (Litimi, 2017). In China also found evidence of herding during turbulent periods, especially during the financial crisis (Li et al., 2017). Whereas in Turkey, investors did not do herding during the economic crisis, but followed important events that increased political tensions in the country (Akçaalan et al., 2018). Then in Romania, herding is contrary to popular belief, where the crisis has contributed to the reduction of herding and is clearly identified as a turning point in herding behavior (Pop, 2013). Another study also concluded that investors in the Spanish stock market, either before or after the crisis, tend not to leave their personal information and do not herding so as to make rational investment decisions (Ahmed, 2019).

In addition to herding behavior, we also found several securities analyst behaviors in the stock selection process, namely as follows. First, namely the behavior of securities analysts who work in investment banks. Analysts working at more reputable investment banks that issue more upbeat reports, or bolder reports, or supportive reports, or supportive news, tend to have shorter careers than other analysts who don't issue these reports. These findings

support the view that investment banks, as analysts' employers, place their reputation in the capital markets on binding the reliability of their analyst reports, providing a mechanism for resolving analyst morale hazards (Altınkılıç, Balashov, & Hansen, 2019).

Second, namely the behavior of analysts who are motivated by the existence of employment incentives. A study (Akono, Karim, & Nwaeze, 2019) in the US found evidence to suggest that analysts with high experience are more susceptible to employment incentives and this could be an explanation for why they are more sociable, even though they should be more skilled at forecasting.

Third, namely the behavior of analysts who own shares in the company being analyzed. Analysts who own shares in the companies they follow make more informative recommendations and put more effort into covering the companies. These findings suggest that analysts' stock holdings increase the credibility of their recommendations by conveying their superior information, but also encourage analysts to bias their target price forecasts upwards (Chan, Lin, Yu, & Zhao, 2018).

Fourth, the consensus behavior in the analyst association. The results show that overall analysts tend to move towards consensus when issuing recommendations, and this trend increases with market sentiment (M. T. Chiang & Lin, 2019). Although analysts translate their forecasted earnings valuations into recommendations, the effectiveness of this process is reduced by investor sentiment only in highly sensitive stocks (Corredor, Ferrer, & Santamaria, 2019).

Fifth, namely the behavior of analysts who are less accurate in assessing SOEs. Political connections drive analysts to be more optimistic about SOEs and even produce misleading "Buy" and "Hold" recommendations. The results of the study (He & Ma, 2019) show that there is an optimism bias among analysts who are politically connected to state-owned companies in China. Chinese analysts are generally overly optimistic and that the influence of political connections is one possible reason for the inaccuracy of analysts in China (He & Ma, 2019).

Sixth, namely the behavior of analysts who experience fatigue in the stock analysis process. Research (Hirshleifer et al., 2019) found that the more the analyst forecasts the problem, the higher the probability of the analyst making more heuristic decisions by herding closer to the consensus forecast.

Seventh, namely the behavior of analysts who have a central position in an analyst association. Analysts with a more central position in the network will get better earnings forecasting performance with lower forecast volatility and higher forecast accuracy. Analysts with greater network centrality will get better earnings forecast performance (Hou, Zhao, & Yang, 2018).

Eighth, namely the behavior of analysts who have surnames/surnames in the eyes of investors. Research results (J. H. Jung, Kumar, Lim, & Yoo, 2019) using historical US immigration records and Gallup survey data, find strong evidence that analysts with more

favorable surnames elicit stronger market reactions to their forecast revisions. The results are consistent with investors' bias in their judgments to seek consistency between their perceptions of analyst surnames and their evaluation of analyst quality estimates.

Ninth, namely the behavior of affiliated analysts. Affiliated analysts i.e., analysts with closer business ties to the companies they follow (M. C. Lin, 2018). Research (Liao & Chang, 2014) in Taiwan has shown that investment banking affiliates generate pressure on analysts to produce optimistic recommendations regarding affiliate shares. The results of a study (Huyghebaert & Xu, 2016) in China found that affiliated analysts produced more positive forecasts, and their forecast accuracy was also much lower. The relative accuracy of affiliated analysts is also worse in this timeframe. Analysts affiliated with the company's long-term earnings forecasts are subject to excess optimism compared to forecasts of non-affiliated analysts. Moreover, short-term forecasts by affiliated analysts tend to be more conservative compared to their non-affiliated counterparts which may indicate lower earnings forecast management to avoid negative earnings surprises (Prokop & Kammann, 2018). Research (Lim & Kim, 2019) on chaebol-affiliated analysts in Korea found that investors were able to identify an optimistic bias in the 'buy' recommendations of chaebol-affiliated analysts and effectively discount them around the initial announcement date by testing short-term market reactions and abnormal trading volumes.

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Conclusion

Based on the analysis, we conclude that herding behavior is a follow-up behavior carried out by analysts/investors in making decisions without conducting a fundamental analysis first so that the formed market is inefficient. Herding occurs in almost all markets in various parts of the world. Factors that cause herding behavior include the presence of negative news sentiment towards the analyzed market, existing factors and the career of the analyst, company level risk and uncertainty, aggregate uncertainty, market uncertainty, extreme conditions, period of information flow. high risk, high volatility risk, smaller types of stocks, occurrence of economic/financial crises, declining market conditions, rising interest rates, currency depreciation, poor information environment and low quality. Herding is carried out with the aim of avoiding the risk of decision-making errors in stock selection which is considered difficult because decisions are made by following the decisions that develop among several analysts or other investors.

References

Adhikara, M. F. A. (2011). PERILAKU MENTAL DISCOUNTING ANALIS EFEK DI BURSA EFEK INDONESIA (BEI). Jurnal Dan Prosiding SNA - Simposium Nasional Akuntansi, 14(1), 21–22.

Ahmed, M. (2019). Herd Behaviour in Extreme Conditions : an evidence from Spanish Market Herd Behaviour in Extreme Conditions : an evidence from Spanish Market Herding , when considered in financial decision making , is phenomenon where an economic agent tends to imitate t. (February 2016).

Ajzen, I. (1991). The theory of planned behavior. Organizational Behaviour Human Decision Process, 50(2), 179–211.

Akçaalan, E., Dindaroğlu, B., & Binatlı, A. O. (2018). Herd Behavior in Borsa Istanbul, 2001-2016. (August), 1–26. https://doi.org/10.13140/RG.2.2.20908.77445/1

Akono, H., Karim, K., & Nwaeze, E. (2019). Analyst rounding of EPS forecasts and stock recommendations. Advances in Accounting, 44(July 2017), 68–80. https://doi.org/10.1016/j.adiac.2018.10.002

Al-Shboul, M. Q. (2012). Asymmetric Effects and the Herd Behavior in the Australian Equity Market. International Journal of Business and Management, 7(7). https://doi.org/10.5539/ijbm.v7n7p121

Altınkılıç, O., Balashov, V. S., & Hansen, R. S. (2019). Investment bank monitoring and bonding of security analysts' research. Journal of Accounting and Economics, 67(1), 98–119. https://doi.org/10.1016/j.jacceco.2018.08.016

Andrea Devenow, & Ivo Welch. (1996). Rational Herding in Financial Economics. European Economic Review, 403(3–5), 603–615.

Arjoon, V., & Bhatnagar, C. S. (2017). Dynamic herding analysis in a frontier market. Research in International Business and Finance, 42, 496–508. https://doi.org/10.1016/j.ribaf.2017.01.006

Balcilar, M., Demirer, R., & Hammoudeh, S. (2013). Investor herds and regime-switching: Evidence from Gulf Arab stock markets. Journal of International Financial Markets, Institutions and Money, 23(1), 295–321. https://doi.org/10.1016/j.intfin.2012.09.007

Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment performance of individual investors. Journal of Finance, 55(2), 773–806. https://doi.org/10.1111/0022-1082.00226

Bernales, A., Verousis, T., & Voukelatos, N. (2016). Do investors follow the herd in option markets? Journal of Banking and Finance. https://doi.org/10.1016/j.jbankfin.2016.02.002

Bhaduri, S. N., & Mahapatra, S. D. (2013). Applying an alternative test of herding behavior: A case study of the Indian stock market. Journal of Asian Economics, 25, 43–52. https://doi.org/10.1016/j.asieco.2013.02.001

Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A theory of fads, fashion, custom, and cultural change as informational cascades. Journal of Political Economy, 100(5), 992–1026. https://doi.org/10.1086/261849

Bikhchandani, S., & Sharma, S. (2000). Herding Behaviour in Financial Markets; A Review.

Bouri, E., Gupta, R., & Roubaud, D. (2019). Herding behaviour in cryptocurrencies. Finance Research Letters, 29, 216–221. https://doi.org/10.1016/j.frl.2018.07.008

Bowers, A. H., Greve, H. R., & Mitsuhashi, H. (2017). Look At Me: Overt Status-Seeking Behavior And Competitive Emergence Among Securities Analysts. Sociology of Organizations, 50, 351–382.

Cajueiro, D. O., & Tabak, B. M. (2009). Multifractality and herding behavior in the Japanese stock market. Chaos, Solitons and Fractals, 40(1), 497–504. https://doi.org/10.1016/j.chaos.2007.07.091

Chan, J., Lin, S., Yu, Y., & Zhao, W. (2018). Analysts' stock ownership and stock recommendations. Journal of Accounting and Economics, 66(2–3), 476–498. https://doi.org/10.1016/j.jacceco.2018.08.010

Chiang, M. T., & Lin, M. C. (2019). Market sentiment and herding in analysts' stock recommendations. North American Journal of Economics and Finance, 48, 48–64. https://doi.org/10.1016/j.najef.2019.01.007

Chiang, T. C., Li, J., & Tan, L. (2010). Empirical investigation of herding behavior in Chinese stock markets: Evidence from quantile regression analysis. Global Finance Journal, 21(1), 111–124. https://doi.org/10.1016/j.gfj.2010.03.005

Corredor, P., Ferrer, E., & Santamaria, R. (2019). The role of sentiment and stock characteristics in the translation of analysts' forecasts into recommendations. North American Journal of Economics and Finance, 49, 252–272. https://doi.org/10.1016/j.najef.2019.04.008

Corwin, S. A., Larocque, S. A., & Stegemoller, M. A. (2017). Investment banking relationships and analyst affiliation bias: The impact of the global settlement on sanctioned and non-sanctioned banks. Journal of Financial Economics, 124(3), 614–631. https://doi.org/10.1016/j.jfineco.2017.03.005

Deng, X., Hung, S., & Qiao, Z. (2018). Mutual fund herding and stock price crashes. Journal of Banking and Finance, 94, 166–184. https://doi.org/10.1016/j.jbankfin.2018.07.014

Dong, Z., Gu, Q., & Han, X. (2010). Ambiguity aversion and rational herd behaviour. Applied Financial Economics, 20(4), 331–343. https://doi.org/10.1080/09603100903299675

Eberhard, J., Lavin, J. F., Montecinos-Pearce, A., & Arenas, J. (2019). Analyzing Stock Brokers' Trading Patterns: A Network Decomposition and Spatial Econometrics Approach. Complexity, 1–18.

Elena, R. (2013). Munich Personal RePEc Archive Herd behavior towards the market index : evidence from Romanian stock exchange HERD BEHAVIOR TOWARDS THE MARKET INDEX : (51595).

Fityani, I., & Arfinto, E. D. (2015). Analisis Investor Herding Behavior dengan Multinomial Logit Regression pada BEI (Studi Kasus pada Saham LQ-45 Periode 2009-2014). Diponegoro Journal of Management, 4(3), 1–14.

Foucault, T., Sraer, D., & Thesmar, D. J. (2011). Individual Investors and Volatility. Journal of Finance, 66(4), 1369–1406. https://doi.org/10.1111/j.1540-6261.2011.01668.x

Frijns, B., & Huynh, T. D. (2018). Herding in analysts' recommendations: The role of media. Journal of Banking and Finance, 91, 1–18. https://doi.org/10.1016/j.jbankfin.2018.03.010

Ganesh, R., Gopal, N., & Thiyagarajan, S. (2018). Bulk and block holders herding behaviour. South Asian Journal of Business Studies, 7(2), 150–171. https://doi.org/10.1108/SAJBS-12-2017-0139

Gong, P., & Dai, J. (2017). Monetary policy, exchange rate fluctuation, and herding behavior in the stock market. Journal of Business Research, 76, 34–43. https://doi.org/10.1016/j.jbusres.2017.02.018

Guney, Y., Kallinterakis, V., & Komba, G. (2017). Herding in frontier markets: Evidence from African stock exchanges. Journal of International Financial Markets, Institutions and Money, 47, 152–175. https://doi.org/10.1016/j.intfin.2016.11.001

He, F., & Ma, Y. (2019). Do political connections decrease the accuracy of stock analysts' recommendations in the Chinese stock market? Economic Modelling, 81, 59–72. https://doi.org/10.1016/j.econmod.2018.12.012

Hirshleifer, D., Levi, Y., Lourie, B., & Teoh, S. H. (2019). Decision fatigue and heuristic analyst forecasts. Journal of Financial Economics, 133(1), 83–98. https://doi.org/10.1016/j.jfineco.2019.01.005

Hou, J., Zhao, S., & Yang, H. (2018). Security analysts' earnings forecasting performance based on information transmission network. Physica A: Statistical Mechanics and Its Applications, 509(37), 611–619. https://doi.org/10.1016/j.physa.2018.06.093

Humayun Kabir, M., & Shakur, S. (2018). Regime-dependent herding behavior in Asian and Latin American stock markets. Pacific Basin Finance Journal, 47, 60–78. https://doi.org/10.1016/j.pacfin.2017.12.002

Huyghebaert, N., & Xu, W. (2016). Bias in the post-IPO earnings forecasts of affiliated analysts: Evidence from a Chinese natural experiment. Journal of Accounting and Economics, 61(2–3), 486–505. https://doi.org/10.1016/j.jacceco.2015.10.002

Indārs, E. R., Savin, A., & Lublóy, Á. (2019). Herding behaviour in an emerging market: Evidence from the Moscow Exchange. Emerging Markets Review, 38, 468–487. https://doi.org/10.1016/j.ememar.2018.12.002

Javaira, Z., & Hassan, A. (2015). An examination of herding behavior in Pakistani stock market. International Journal of Emerging Markets, 10(3), 474–490.

Javed, T., Zafar, N., & Hafeez, B. lal. (2001). Herding Behavior in Karachi Stock Exchange. International Journal of Management Sciences and Business Research, 2(2), 19–28.

Jiani, W., & Liu, M. (2014). The accuracy and effectiveness of securities analysts' pricing forecast-empirical research based on A-share IPOs. Procedia Computer Science, 31(Itqm), 587–596. https://doi.org/10.1016/j.procs.2014.05.305

Jung, J. H., Kumar, A., Lim, S. S., & Yoo, C. Y. (2019). An analyst by any other surname: Surname favorability and market reaction to analyst forecasts. In Journal of Accounting and Economics. https://doi.org/10.1016/j.jacceco.2019.02.002

Jung, M. J., Keeley, J. H., & Ronen, J. (2019). The Predictability of Analyst Forecast Revisions. Journal of Accounting, Auditing and Finance, 34(3), 434–457.

Kallinterakis, V., Munir, N., & Radovic-Markovic, M. (2010). Herd Behaviour, Illiquidity and Extreme Market States: Evidence from Banja Luka. Journal of Emerging Market Finance, 9(3), 305–324.

Khan, H., Hassairi, S. A., & VIVIANI, J.-L. (2011). Herd Behavior and Market Stress: The Case of Four European Countries. International Business Research, 4(3), 53–67. https://doi.org/10.5539/ibr.v4n3p53

Kim, M. J., & Park, B.-J. (2017). A Dynamic Measure of Intentional Herd Behavior in Financial Markets A Dynamic Measure of Intentional Herd Behavior in Financial Markets *. Munich Personal RePEc Archive, (82025).

Kodres, L. E., & Pritsker, M. (2002). A Rational Expectations Model of Financial Contagion. The Journal of Finance, LVII(2), 769–798.

Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making – a systematic literature review. Qualitative Research in Financial Markets, 7(1), 88–108. https://doi.org/10.1108/QRFM-07-2014-0022

Kumari, S., Chandra, B., & Pattanayak, J. K. (2019). Personality traits and motivation of individual investors towards herding behaviour in Indian stock market. Kybernetes. https://doi.org/10.1108/K-11-2018-0635

Lan, T. (2014). Herding Behavior in China Housing Market. International Journal of Economics and Finance, 6(2). https://doi.org/10.5539/ijef.v6n2p115

Lao, P., & Singh, H. (2011). Herding behaviour in the Chinese and Indian stock markets. Journal of Asian Economics, 22(6), 495–506. https://doi.org/10.1016/j.asieco.2011.08.001

Lavin, J. F., & Magner, N. S. (2014). Herding in the mutual fund industry: evidence from Chile. Academia Revista Latinoamericana de Administración, 27(1), 10–29.

Lee, K. (2017). Herd behavior of the overall market: Evidence based on the cross-sectional comovement of returns. North American Journal of Economics and Finance, 42, 266–284. https://doi.org/10.1016/j.najef.2017.07.006

Leite, G. M., Machado-Santos, C., & Silva, A. F. Da. (2018). Destabilizing Impacts of Herding Behaviour in Portuguese Capital Market. Revista de Métodos Cuantitativos Para La Economía y La Empresa, 25, 3–22.

Li, H., Liu, Y., & Park, S. Y. (2017). Time-Varying Investor Herding in Chinese Stock Markets. International Review of Finance, 59–90. https://doi.org/10.1111/ir

Liao, M. H., & Chang, C. Y. (2014). Analysts' forecasts and institutional investors' behavior. Proceedings - 2014 8th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing, IMIS 2014, 575–579. https://doi.org/10.1109/IMIS.2014.84

Lim, Y., & Kim, H. (2019). Market reaction to optimistic bias in the recommendations of chaebol-affiliated analysts. Journal of Contemporary Accounting and Economics, 15, 224=242.

Lin, M. C. (2018). The impact of aggregate uncertainty on herding in analysts' stock recommendations. International Review of Financial Analysis, 57(February), 90–105. https://doi.org/10.1016/j.irfa.2018.02.006

Lin, W. T., Tsai, S. C., & Lung, P. Y. (2013). Investors' herd behavior: Rational or irrational? Asia-Pacific Journal of Financial Studies, 42(5), 755–776. https://doi.org/10.1111/ajfs.12030

Lindhe, E. (2012). Herd Behavior in Stock Markets. (August), 1–52.

Litimi, H. (2017). Herd behavior in the French stock market. Review of Accounting and Finance, 16(4), 497–515. https://doi.org/10.1108/RAF-11-2016-0188

Mao, R., Segara, R., & Westerholm, J. (2019). Analyst tipping: Evidence on Finnish stocks. International Review of Financial Analysis, (February). https://doi.org/10.1016/j.irfa.2019.05.001

Medhioub, I., & Chaffai, M. (2018). Islamic finance and herding behavior: an application to Gulf Islamic stock markets. Review of Behavioral Finance, 10(2), 192–206.

Messis, P., & Zapranis, A. (2014). Herding behaviour and volatility in the Athens Stock Exchange. Journal of Risk Finance, 15(5), 572–590.

Mihaylov, G., Cheong, C. S., & Zurbruegg, R. (2015). Can security analyst forecasts predict gold returns? International Review of Financial Analysis, 41, 237–246. https://doi.org/10.1016/j.irfa.2015.03.012

Mokoaleli-Mokoteli, T., Taffler, R. J., & Agarwal, V. (2009). Behavioural Bias and Conflicts of Interest in Analyst Stock Recommendations. Journal of Business Finance & Accounting, 36(3–4), 384–418.

Ouarda, M., Bouri, A. el, & Bernard, O. (2013). Herding Behavior under Markets Condition: Empirical Evidence on the European Financial Markets. International Journal of Economics and Financial Issues, 3(1).

Park, B. (2011). Asymmetric herding as a source of asymmetric return volatility. Journal of Banking and Finance, 35(10), 2657–2665. https://doi.org/10.1016/j.jbankfin.2011.02.025

Pop, R. E. (2013). Herd behavior towards the market index: evidence from Romanian stock exchange. Munich Personal RePEc Archive.

Prokop, J., & Kammann, B. (2018). The effect of the European Markets in Financial Instruments Directive on affiliated analysts' earnings forecast optimism. Journal of Economics and Business, 95, 75–86. https://doi.org/10.1016/j.jeconbus.2017.06.004

Ramadhan, T., & Mahfud, M. K. (2016). DETEKSI PERILAKU HERDING PADA PASAR SAHAM INDONESIA & SINGAPURA. 5(1992), 1–9.

Saputra, A. R., & Sitinjak, E. L. M. (2018). Pengaruh Faktor-Faktor Keuangan Dan Perilaku Herding Investor Terhadap Underpricing Pada Penawaran Perdana Saham Perusahaan Yang Terdaftar Di Bei. Jurnal Ekonomi, Manajemen, Akuntansi Dan Perpajakan, 1(1), 1–25.

Shah, M. U. D., Shah, A., & Khan, S. U. (2017). Herding behavior in the Pakistan stock exchange: Some new insights. Research in International Business and Finance, 42(July), 865–873. https://doi.org/10.1016/j.ribaf.2017.07.022

Soorani, F., & Ahmadvand, M. (2019). Determinants of consumers' food management behavior: Applying and extending the theory of planned behavior. Waste Management, 98, 151–159.

Ullah, S., & Ather, M. (2014). Munich Personal RePEc Archive Analysis of Herd Behavior Using Quantile Regression : Evidence from Karachi Stock Exchange (KSE). (55322).

Ulupinar, B. (2018). The effect of managerial entrenchment on analyst bias. Global Finance Journal, 37(2017), 25–38. https://doi.org/10.1016/j.gfj.2018.04.001

Vo, X. V., & Phan, D. B. A. (2016). Herd Behavior in Emerging Equity Markets: Evidence from Vietnam. Asian Journal of Law and Economics, 7(3), 369–383. https://doi.org/10.1515/ajle-2016-0020

Vo, X. V., & Phan, D. B. A. (2019). Herd behavior and idiosyncratic volatility in a frontier market. Pacific Basin Finance Journal, 53, 321–330. https://doi.org/10.1016/j.pacfin.2018.10.005

Wahlund, R., & Gunnarsson, J. (1996). Mental Discounting and Financial Strategies. Journal of Economic Psychology, 17, 709–730.

Yao, J., Ma, C., & He, W. P. (2014). Investor herding behaviour of Chinese stock market. International Review of Economics and Finance, 29, 12–29. https://doi.org/10.1016/j.iref.2013.03.002

Yuan, Z., Wu, L., & Xu, B. (2011). Empirical research about the influence of analysts following behavior on stock price informativeness. 2011 International Conference on Management Science and Industrial Engineering, MSIE 2011, 33–37. https://doi.org/10.1109/MSIE.2011.5707725

Zhao, Z., Zhang, Y., Feng, X., & Zhang, W. (2014). An analysis of herding behavior in security analysts' networks. Physica A: Statistical Mechanics and Its Applications, 413, 116–124. https://doi.org/10.1016/j.physa.2014.06.082

Zheng, D., Li, H., & Chiang, T. C. (2017). Herding within industries: Evidence from Asian stock markets. International Review of Economics and Finance, 51, 487–509. https://doi.org/10.1016/j.iref.2017.07.005