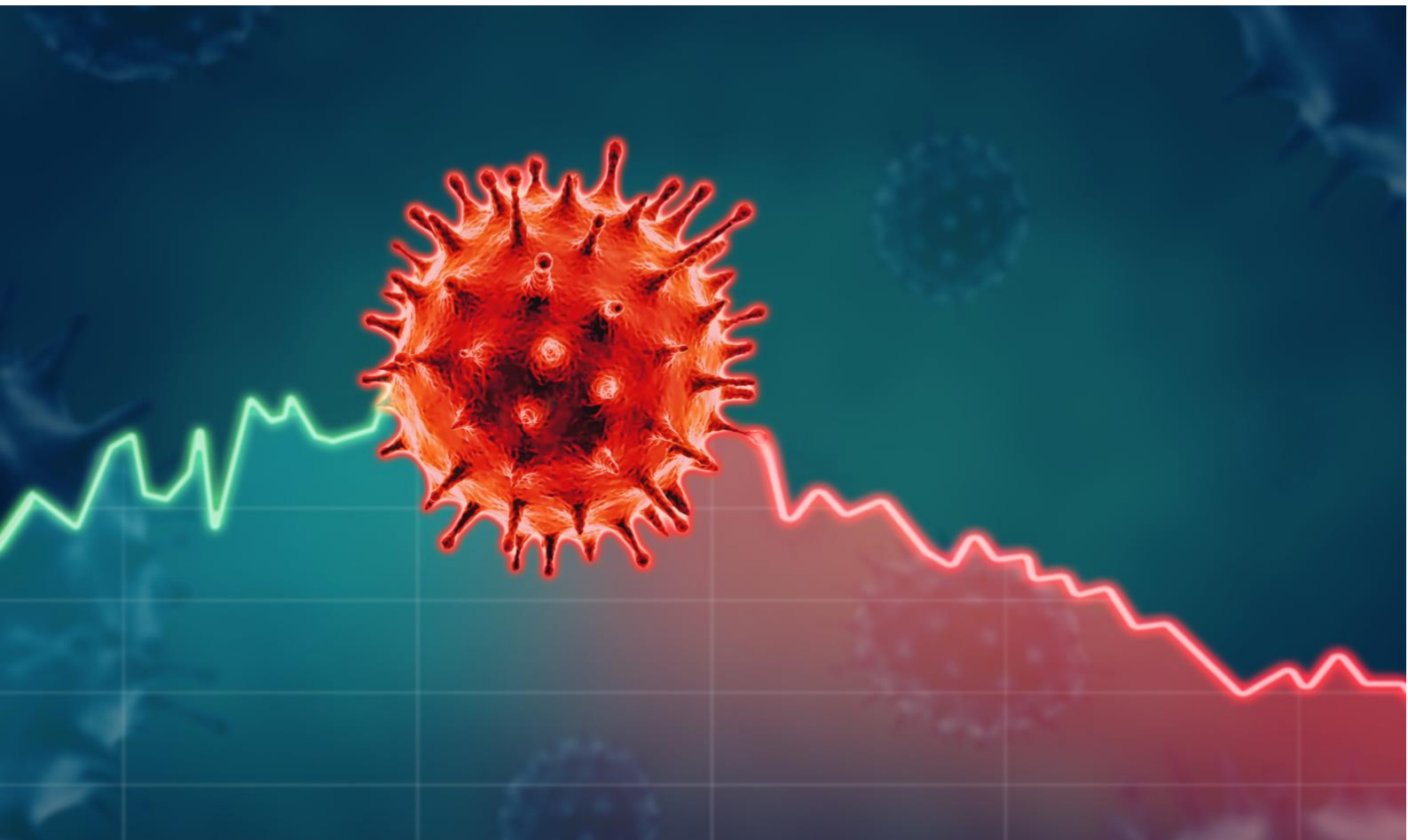


ISSN 2615-3726 (Online)  
ISSN 2621-5667 (Print)

Asian Institute of Research  
**Journal of Economics and Business**  
Vol. 3, No.4 December 2020



ASIAN INSTITUTE OF RESEARCH  
Connecting Scholars Worldwide



Asian Institute of Research  
**Journal of Economics and Business**  
Vol.3, No.4 December 2020

<b>Table of Contents</b>	i
<b>Journal of Economics and Business Editorial Board</b>	v
<b>Unemployment and Midlife Suicide Rates in Australia, 2001-2015: Implications During the COVID-19 Pandemic</b>	1209
Louise Rawlings, Pauline O'Shaughnessy, Jeffrey C. L. Looi, Stephen J. Robson	
<b>Networks Composition, a Relevant Factor to Their Resilience: Insights from Agricultural Innovation Platforms in Uganda</b>	1229
Yosamu Mugarura	
<b>The Mediatory Role of Working Hours and Technology in the Relationship between Income and Social Cohesion in Ghana</b>	1241
Prince Donkor, Francis Azure, Gideon Adu-Boateng	
<b>Ethics of Marketing to Children: A Rawlsian Perspective</b>	1251
T. Raja Reddy, E. Lokanadha Reddy, T. Narayana Reddy	
<b>To Examine the Factors Influencing Tourist Intention to Revisit to the Maldives with the Use of Social Media Marketing as the Moderating Influence</b>	1259
Rana Ahmed Hameed	
<b>A Gravity Model Analysis of IFDI - Exports Nexus: A Case Study of Indian Exports</b>	1280
Anamika P. Sunil, Sun Fang	
<b>Intention to Implement 5S Management Among Students in Higher Education Institutions</b>	1290
Nashirah Abu Bakar, Kiyotaka Uzaki, Asmadi Mohamed Naim, Nor Aziah Abd Manaf	
<b>Cyclical Fluctuation, Growth, and Stabilization: An Empirical Investigation of Dual Policy Objectives in Bangladesh</b>	1304
Sakil Ahmmed, Jonaed	
<b>Profitability Analysis of Pharmaceutical Industry in Bangladesh</b>	1316
Md. Abdullah Al Mamun	
<b>Exploring the Impact of User Personality and Self-Disclosure on the Continuous Use of Social Media</b>	1324
Yu-Ping Lee, Hsin-yeh Tsai, Jheng-Sian Wu	

<b>Is Economic Growth Working for Jobs? An Investigation of the Employment Generating Capacity of the Nigerian Economy</b> Olumuyiwa Olamide	1345
<b>Assessing the Negative Determinants on the Usage Intention of Social Media</b> Hsin-yeh Tsai, Yu-Ping Lee, Wen-Bin Tsai	1357
<b>The Role of Financial Development in Economic Growth of Nepal: ARDL Approach of Cointegration with Structural Break Analysis</b> Ramesh C. Paudel	1372
<b>The Herding and Overconfidence Effect on the Decision of Individuals to Invest Stocks</b> Herlina, Bram Hadianto, Jacinta Winarto, Niken Angginia Nastiti Suwarno	1387
<b>Investigating and Comparing Petroleum Contract Models from Effective Control Lens in Contracts</b> Saeid Rabiei Majd	1398
<b>Applying Simplifying Heuristics when Making Judgment under Uncertainty – A Field Study</b> Tristan Nguyen	1432
<b>The Impact of Financial Literacy on Investment Decisions Between Saving and Credit: Studies on Sharia Bank Customers in the Special Region of Yogyakarta</b> R. Heru Kristanto HC, R. Hendry Gusaptono	1456
<b>The Governance of the Surabaya’s West Shipping Channel</b> Syaiful Anwar	1464
<b>Customer Retention at Republic Bank in Ghana: A Marketing Perspective</b> George Kankam Jr.	1472
<b>The Influences of Interest Rate, Inflation and Market Risk on the Performance of Stock Mutual Funds Through to the Variables Moderating of Stock Index LQ45 Registered on IDX 2016-2019</b> Nur Anny Rahayu, Zainul Kisman, Dwi Sunu Kanto	1479
<b>Board Governance, Business Ethics, and Firm Social Responsibility Disclosure</b> Lauw Tjun Tjun, Regina Jansen Arsjah	1483
<b>The Impact of Exports on Economic Growth in Vietnam</b> Nguyen Thi Van Anh, Hoang Thanh Tung, Vu Thuy Hien	1491

<b>Organizational Citizenship Behavior, Organizational Climate, and Employee Performance</b> Wahyu S. Prabowo	1500
<b>Social Media Influencer in Advertising: The Role of Attractiveness, Expertise and Trustworthiness</b> Brahim Chekima, Fatima Zohra Chekima, Azaze-Azizi Abdul Adis	1507
<b>Comparison Between Risk and Return of Financial Conglomerates in Indonesia: Vertical, Horizontal and Mixed (TOPSIS Analysis)</b> Ari Christianti	1516
<b>Remuneration Policy to Improve Lecturer Performances</b> Kustini Kustini, Sugeng Purwanto	1529
<b>Analysis of Changes in the Unemployment Rate as a Result of the Human Development Index in Indonesia (Case Study 2010-2019)</b> Sumaryoto, Mirna Herawati, Ambar Tri Hapsari	1538
<b>Does Risk-Taking Behaviour Matter for Bank Efficiency?</b> Florence Chepngenoh, Peter W Muriu	1549
<b>Exorcising the “Ghosts” from the Government Payroll in Developing Countries in the Wake of the Covid-19 Pandemic: Ghana’s Empirical Example</b> Richmond Sam Quarm, Rosemond Sam-Quarm, Richmond Sam-Quarm	1558
<b>The Monetary Crisis and Foundation for Reserve Bank of India (1890-1935)</b> M. Balaji	1572
<b>Rural Electrification and Its Impact on Households’ Welfare</b> Ajmal Haidari	1579
<b>The Contribution of Crafts in Improving the Tourist Image of Essaouira: The Case of Marquetry</b> Mustapha Bouragba, Fatima Elkandoussi	1590
<b>Conceptualizing the Role of Leadership Strategy in the Context of Strategic Management Process: A Review of Literature</b> Hebron L. Adoli, James M. Kilika	1598
<b>What Drives Teaching Performance at School? The Determinants of School Teacher Performance</b> Nelly Yulianti Butar Butar, Noverdi Bross, Dwi Sunu Kanto	1624

<b>The Impact of Packaging and Labeling Elements on the Rural Consumers' Purchase Decision for Skincare Products in Bangladesh</b> Stanley Sumon Rodrick, Hamidul Islam, Ahmed Ishtiaq Zadid	1631
<b>Can Digital Technology Really Contributes to Purchase Power? The Case of Digital Hospitality Application by Finnet Indonesia Corp</b> Dian Yuliawati, Dwi Sunu Kanto, Noverdi Bross	1645
<b>The Ramifications of the Treasury Single Account, the Ifmis Platform, and Government Cash Management in Developing Economies in the Wake of the Covid-19 Pandemic: Ghana's Empirical Example</b> Richmond Sam Quarm, Rosemond Sam-Quarm, Richmond Sam-Quarm	1654
<b>Optimization of Heavy Equipment Capabilities in The Framework of Productivity and Coal Mining Business Sustainability: Case Study of East Kalimantan Mining Area</b> Ardyan Permana, Sahnaz Ubud, Dwi Sunu Kanto	1673
<b>Competitive Intelligence and Corresponding Outcome in a Strategic Management Process: A Review of Literature</b> Moses Ochieng Obonyo, James M. Kilika	1689
<b>Modeling and Forecasting Gold Prices</b> Latifa Ghalayini, Sara Farhat	1708
<b>Systems, Instruments and Regulatory Policies of American and European Capitalism</b> Michele Sabatino	1730
<b>Intellectual Capital, Bank Profitability, and Bank Value</b> Sandra Saeful Anwar, Marcellia Susan, Tedi Septiadi	1744

## **Journal of Economics and Business Editorial Board**

### **Editor-In-Chief**

Prof. Alexandros Psychogios (United Kingdom)

### **Editorial Board**

Prof. Dr. Vica Davidaviciene (Lithuania)  
Prof. Cosimo Magazzino (Italy)  
Prof. Dr Roselina Binti Ahmad Saufi (Malaysia)  
Assistant Prof. Ali Faruk Acikgoz (Turkey)  
Assoc. Prof. Kherchi Ishak (Algeria)  
Assoc. Prof. Dr. Juan Ignacio Pulido-Fernández (Spain)  
Dr. Joaquín Texeira Quirós (Spain)  
Dr. Maria Rosario Hernandes Justino (Portugal)  
Assistant Prof. Christian Rianero (Italy)  
Assistant Prof. Dr. İdil Göksel (Turkey)  
Asst. Prof. Dr.Kittipong Sophonthummapharn (Thailand)  
Assoc. Prof. Elf Akben Selcuk (Turkey)  
Dr. Emmanuel Senyo Fianu (Italy)  
Assistant Prof. Seyed Alireza Athari (Cyprus)  
Assistant Prof. Abderrazak Hassan Elkhadi (Tunisia)  
Assistant Prof. Ikechukwu Nwaka (Turkey)  
Muhammad Ishtiaq Ishaq, Ph.D. (Italy)  
Maria-Dolores Guillamon, Ph.D. (Spain)  
Prof. George Abuselidze (Georgia)  
Assoc. Prof. Mohammed Fellague (Algeria)  
Assoc. Prof. Haitham Nobanee (United Arab Emirates)  
Dr. Vasiliki Brinia (Greece)  
Teguh Sugiarto (Indonesia)  
Assistant Prof. Dr. Ahsan Riaz (Pakistan)  
Dr. Samar Rahi (Malaysia)  
Prof. Ravi Kumar Bommiseti (India)

# The Herding and Overconfidence Effect on the Decision of Individuals to Invest Stocks

Herlina<sup>1</sup>, Bram Hadiano<sup>1</sup>, Jacinta Winarto<sup>2</sup>, Niken Angginia Nastiti Suwarno<sup>1</sup>

<sup>1</sup> Management Department, Maranatha Christian University, Bandung, Indonesia

<sup>2</sup> Master in Management Department, Maranatha Christian University, Bandung, Indonesia

## Abstract

Investors should reasonably transact their stocks. Unfortunately, not all of them are cogent. They make decisions based on some people's suggestions, such as friends, colleagues, family members, and overconfidence. This study attempts to test and analyze the effect of overconfidence and herding on investors' decision to transact their stocks. This study's population is the investors in the investment gallery, becoming the partner of *PT Sinar Mas Sekuritas*, in Maranatha Christian University. The investors become the samples taken by a simple random sampling method, and their number is calculated by the Slovin formula with the 10% border of inaccuracy. Based on this formula, the total investors are 74. Unfortunately, only 50 investors participate in this online survey; therefore, the response rate is 67.57%. Consequently, the structural equation model (SEM) based on variance suits the method to test data. After examining two proposed hypotheses, overall, this study concludes that overconfidence is the only determinant having a positive effect on the decision to invest.

**Keywords:** individual investors, overconfidence, stocks, the decision to invest, variance-based SEM

## I. Introduction

The capital market contributes to the economy of the nation. This contribution gets associated with two functions. Firstly, the capital market is the source of funds for companies (Husnan, 2015) to invest to gain profits and reduce joblessness (Darmadji & Fakhruddin, 2012). Secondly, the capital market is the connector facilitating people to invest their funds in its various instruments (Sunariyah, 2011). One of them is the shares, becoming the most favorite one for investors (Panji & Pakarti, 2006) because of dividends and the change in price as the attractiveness (Sunariyah, 2011).

The change in stock price occurs because of demand and supply power (Sunariyah, 2011). Before transacting the stock in the market, investors must collect and analyze information (Natapura, 2009). However, not all investors do so. Without adequate information, they select to follow others to invest; this is called herding. This fact is proven by Ghalandari & Ghahremanpour (2013), Khalid, Javed, & Shahzad (2018), Mahanthe & Sugathadasa (2018), and Qasim, Hussain, Mehboob, & Arshad (2019).



Also, overconfidence, as the other inclination in the capital market, influences the market participants' decision to invest. This situation gets affirmed by Wibisono (2013), Alquraan, Alqisie, & Al-Shorafadi (2016), Riaz & Iqbal (2015), Bakar & Yi (2016), Khan, Azeem, & Sarwar (2017), Jannah & Ady (2017), Khalid et al. (2018), Mahanthe & Sugathadasa (2018), Setiawan, Atahau & Robiyanto (2018), and Malik, Hanif, & Azhar (2019).

Unfortunately, these two behaviors still show the various effects on investing stocks by conferring those previous research results. Related to herding behavior, for example, the study of Ghalandari & Ghahremanpour (2013), Khalid et al. (2018), Qasim et al. (2019) affirms a positive effect. Conversely, the study of Mahanthe & Sugathadasa (2018) confirms a negative. Also, the study of Gozalie & Anastasia (2015), Alquraan et al. (2016), Bakar & Yi (2016), and Setiawan et al. (2016) cannot prove it.

Similarly, interconnected to the overconfidence, for instance, the study of Wibisono (2013), Alquraan et al. (2016), Riaz & Iqbal (2015), Bakar & Yi (2016), Khan et al. (2017), Jannah & Ady (2017), Khalid et al. (2018), Mahanthe & Sugathadasa (2018), Setiawan, et al. (2018), Malik et al. (2019) shows that self-confidence positively affects this decision to invest. On the other hand, the study of Zacharakis & Shepherd (2001) displays a negative effect exists. Additionally, the study of Wulandari & Iramani (2014) and Gozalie & Anastasia (2015) do not exhibit this effect.

The contradiction of this previous evidence stimulates this study by exhausting the investors in the investment gallery at Maranatha Christian University. Because of the highest transaction value, this gallery got the best award from Indonesia Stock Exchange in 2016 (Bursa Efek Indonesia, 2017) and 2017 (Pelaku\_Bisnis, 2018). This award to this gallery directly shows that the investors inside actively make the decision-related to the stocks.

## **1.1. Some-related concepts**

### **1.1.1. Decision to invest**

Investment is capitalizing funds by postponing the current consumption to get wealth in the future (Hartono, 2017). According to Tandelilin (2010), the basis for investment decisions covers two aspects. Firstly, the expected return from the invested funds: the compensation for the opportunity cost of inflation, causing a decrease in society's purchasing power. Secondly, the risks that must be taken by investors. Investors preferring risk will place their money in risky investments, followed by its high expected return, and vice versa.

Besides, the increase in investors' wealth becomes another basis for an investment decision (Christanti & Mahastanti, 2011). Furthermore, this wealth gets reflected by the stock return components: capital gain and dividend (Hartono, 2017). The stock intended has to be easily traded by investors and is issued by a profitable firm (Arrozi & Septyanto, 2011).

### **1.1.2. Herding**

Herding is the contemplate of Keynes (1936), who equalizes human beings to animals in their instinct: they always follow what their group does. Moreover, herding is broadly defined in the investor behavior context by Chang, Cheng, & Khorana (2000), and Qasim et al. (2019). According to them, herding is the imitation of one investor to follow the others without a reliable strategy (Qasim et al., 2019); hence, this becomes irrational behavior (Chang et al., 2000). Additionally, Kumar & Goyal (2015) explain that individual investors tend to execute this strategy, unlike institutional investors.

### **1.1.3. Overconfidence**

Overconfidence is the prejudice associated with how investors assess their limited ability and knowledge. Investors with this perspective feel more well-informed than others (Shefrin, 2007). When individuals become overconfident, they will overemphasize and wrongly estimate their potential investment return. They excessively

trade their stocks because they believe their information differs from the others and keep holding risk tolerance despite the high risk of investment (Asri, 2013).

## 1.2. Hypothesis Development

### 1.2.1. The herding effect on the decision to invest

The herding is where one investor follows the other investors without steady strategy supports (Qasim et al., 2019) because they cannot find clear facts in the market (Fityani & Arfinto, 2015). Individuals with this behavior easily invest the money in the stocks, as the study of Ghalandari & Ghahremanpour (2013), Khalid et al. (2018), and Qasim *et al.* (2019) describe. By indicating this information, the second hypothesis is like this way:

H<sub>1</sub>: Herding makes individuals decide to invest.

### 1.2.2. The overconfidence effect on the decision to invest

Self-confidence is the bias of the way of the investors to evaluate their ability and knowledge limitation. Investors with this bias admit to having better ability and knowledge (Shefrin, 2007). Consequently, they are likely to invest, as the study of Wibisono (2013), Alquraan et al. (2016), Riaz & Iqbal (2015), Bakar & Yi (2016), Khan et al. (2017), Jannah & Ady (2017), Khalid et al. (2018), Mahanthe & Sugathadasa (2018), Setiawan, et al. (2018), and Malik et al. (2019) display. By standing for this information, the second hypothesis is like this way:

H<sub>2</sub>: Overconfidence makes individuals decide to invest.

## II. Method

### 2.1. Research Variables

The variables utilized in this study, i.e., herding, overconfidence, and the decision to invest, are latent. Hence, they need deriving until the measurement process is over.

- a. The first variable is herding. Mentioning Sarwar & Afaf (2016), it has three indicators: HERD1, HERD2, HERD3. Their content is in Table 1.
- b. The second variable is overconfidence. According to Sarwar & Afaf (2016), it has seven indicators: OCD1, OCD2, OCD3, OCD4, OCD5, OCD6, and OCD7. Their content is in Table 1.

Table 1. The content of indicators for herding and overconfidence

Explanatory Variable	Indicator
Herding	HERD1: I confide in the information from my friends.
	HERD2: I confide in the information from my colleague.
	HERD3: I confide in the information from the members of my family.
Overconfidence	OCD1: I can create a favorable investment in the past.
	OCD2: I can predict the future of the stock price.
	OCD3: I entirely have the capital market knowledge.
	OCD4: I am determined to assess the stock price in the portfolio.
	OCD5: I am bold to invest when the stock market index is in the opposite direction.
	OCD6: I always invest the stocks by my best thinking based on the experience.
	OCD7: I am interested in investing stocks in the capital market.

- c. The third variable is the decision to invest (DTI). Alluding to Sarwar & Afaf (2016), DTI consists of two dimensions, i.e., satisfaction (SAT) and efficiency of skill (ES). Both of them own four indicators, as displayed in Table 2.

Table 2. The content of indicators for each dimension of the decision to invest

Dimension	Indicator
Satisfaction	SAT1: I am satisfied with my investing way.
	SAT2: My decision helps me to achieve my investment goal
	SAT3: I have already made the right decision to invest.
	SAT4: I can catch a higher stock return more than a market return based on my investment decision.
Efficiency of skills	ES1: I make all my investment decisions by myself.
	ES2: I believe that my skills and knowledge about the market help me get more returns than the market return.
	ES3: I can anticipate the movement of the market return.
	ES4: I think through all the possible factors to make the investment decision.

## 2.2. Population and Samples

The 290 individual investors in the investment gallery of Sinar Mas Securities in Bandung located in Maranatha Christian University become the study population. Furthermore, the Slovin formula in the first equation with a 10% boundary of fault ( $e$ ), by referring to Suliyanto (2009), acts to obtain the total samples ( $n$ ) reflecting the total population ( $N$ ).

$$n = \frac{n}{1+Ne^2} \dots \dots \dots \text{(Eq. 1)}$$

By indicating this formula, the total samples are:  $\frac{290}{1+(290*0.10*0.10)} = \frac{290}{3.9} = 74.35 \approx 74$ . Moreover, we use simple random sampling to take them.

## 2.3. The method to collect the data

This research uses a survey method to get the data. According to Hartono (2012), the data get collected by the questionnaire distribution in this method in this method. By considering the practical aspect, we distribute it online. Furthermore, the investors get asked for selecting one of 5 points of the Likert scale, starting from 1 (strongly disagree) until 5 (strongly agree).

As a result, 50 investors join the survey; the response rate is:  $\frac{50}{74} \times 100\% = 67.57\%$ . This rate is satisfactory because it is larger than 20% as the minimum rate required by Sugiyanto et al. (2018) for the online survey.

## 2.4. Method to analyze the data

In this study, the structural equation model (SEM) based on variance becomes the method to analyze the data. This model's utilization is due to the unobserved variables and the total samples between 30 and 100 (Ghozali, 2008). Additionally, this intended model is in equation two.

$$DTI = \gamma_0 + \gamma_1HERD + \gamma_2OCD + \zeta \dots \dots \dots \text{(Eq. 2)}$$

The validity and reliability test are essential because of employing dimensions and indicators. To perform the validity test, we use the confirmatory factor analysis in the variance-based SEM. To determine the valid answer of the respondent, we compare the loading factor (LF) of each indicator with 0.5 as the cut-off by following these rules explained by Sholihin & Ratmono (2013):

- If the LF is higher than 0.5, the answer of respondents to the indicator is valid.
- If the LF is the same as or lower than 0.5, the answer is invalid; therefore, eliminating this indicator is mandatory.

To perform the reliability test, we utilize the composite reliability coefficient (CRC) analysis. To determine the consistency of the valid answer to each indicator, we compare the CRC with 0.7 as the cut-off value by following these rules explained by Sholihin & Ratmono (2013):

- If CRC is higher than 0.7, the respondents' valid answers are consistent; hence, this study already accomplishes the reliability test.
- If CRC is similar to or lower than 0.7, respondents' valid answers are not consistent; hence, this study does not attain the reliability test.

### III. Results dan discussion

This section informs two things. The first is the result covering the statistics describing demographic features (see Section 3.1), the validity and reliability test of each variable (see Section 3.2), the estimation of variance-based SEM (see section 3.3), the hypotheses test (See Section 3.4). The second is the discussion based on the hypotheses test result (See Section 3.5).

#### 3.1. The result of the descriptive statistics

The statistic to describe the categorical data is frequency based on gender (see Table 4), occupation (see Table 5), age range (see Table 6), the last formal education (see Table 7), and monthly range of money earned (see Table 8).

- Table 4 presents the respondents based on gender participating in this survey. The total males are 35 (70%), and females are 15 (30%).

Table 4. The number of respondents based on gender

Gender	Total	Percentage
Male	35	70
Female	15	30
Total respondents	50	100

Source: Primary data processed

- Table 5 describes the number of respondents based on their occupation: college students (CS) and private company employees (PE) take the top two in domination; their totals are 26 (52%) and 16 (32%), respectively.

Table 5. The number of respondents based on their occupation

Occupation	Total	Percentage
Auditor	1	2
Banker	1	2
Lecturer	2	4
The employee of the private company	16	32
The employee of the government institution	1	2
Consultant	1	2
Entrepreneur	2	4
College student	26	52
Total respondents	50	100

Source: Primary data processed

- Table 6 depicts the number of respondents based on the age range. The distribution of respondents owning age is as follows.
  - A. The total respondents between 20 and 29 are 42 (84%),
  - B. The total respondents between 30 and 39 are 6 (12%);
  - C. The total respondents below 20 and above 39 are 1 (2%), respectively.

Table 6. The number of respondents based on the age range

Age Range	Total	Percentage
Below 20	1	2
Between 20 and 29	42	84
Between 30 and 39	6	12
Above 39	1	2
Total respondents	50	100

Source: Primary data processed

- Table 7 displays the number of respondents based on the last formal education. The total respondents owning a bachelor's degree is 26 (84%), graduated from senior high school is 17 (34%); the rest have a master's degree with a total of 6 (12%) and a doctoral degree with a total of 1 (2%).

Table 7. The number of respondents based on the last formal education

Last formal education	Total	Percentage
The senior high school graduate	17	34
Bachelor	26	52
Master	6	12
Doctor	1	2
Total respondents	50	100

Source: Primary data processed

- Table 8 exhibits the number of respondents based on the monthly range of money earned. The total respondents possessing an income below 3 million rupiahs is 26 (40%), between 3 and 6 million rupiahs is 12 (24%), between 6 and 9 million rupiahs is 11 (22%); between 9 and 12 million rupiahs is 6 (12%), and above 12 million rupiahs is 1 (2%).

Table 8. The number of respondents based on income range

Income Range	Total	Percentage
Below 3 million rupiahs	20	40
Between 3 and 6 million rupiahs	12	24
Between 6 million and 9 million rupiahs	11	22
Between 9 and 12 million rupiahs	6	12
Above 12 million rupiahs	1	2
Total respondents	50	100

Source: Primary data processed

### 3.2. The result of the validity and reliability of each variable

Table 9 shows the loading factors and composite reliability coefficient for the herding indicator. In this table, the loading factor of HERD1 is 0.908, HERD2 is 0.940, HERD 3 is 0.893, respectively. Because these values outdo 0.5, the answer of the respondents for this each indicator is valid. Likewise, the CRC of three accurate indicators is 0.938, higher than 0.7 as the required cut-off value so that the answer of respondents to three indicators is consistent.

Table 9. Loading Factor of Herding Indicator

Indicator	Loading factor	Description
HERD1	0.908	Valid

Table 9. Loading Factor of Herding Indicator

Indicator	Loading factor	Description
HERD2	0.940	Valid
HERD3	0.893	Valid
CRC	0.938	Consistent

Source: Warp PLS 3 modified Output

Table 10 illustrates the loading factors and composite reliability coefficient (CRC) for overconfidence indicators. In this table, the final loading factor of OCD2 is 0.759, OCD3 is 0.815, OCD4 is 0.839, OCD5 is 0.692, OCD6 is 0.678, and OCD7 is 0.552. Because these values outdo 0.5, the answer of the respondents for this each indicator is valid. Likewise, the CRC of three valid indicators is 0.870, higher than 0.7 as the required cut-off value; therefore, the respondents' answer to six indicators is consistent.

**Table 10. Loading Factor of Overconfidence Indicators**

Indicator	Initial Step		Final Step	
	Loading factor	Description	Loading Factor	Description
OCD1	0.202	Invalid	n.a.	OCD1 gets removed
OCD2	0.748	Valid	0.759	Valid
OCD3	0.825	Valid	0.815	Valid
OCD4	0.839	Valid	0.839	Valid
OCD5	0.693	Valid	0.692	Valid
OCD6	0.681	Valid	0.678	Valid
OCD7	0.537	Valid	0.552	Valid
CRC	-	-	0.870	Consistent

Source: Warp PLS 3 modified output

□

Table 11 contains two panels: A and B. Panel A reports the loading factor and composite reliability coefficient for indicators in the dimension of satisfaction and efficiency of skill. Meanwhile, Panel B informs the loading factors and composite reliability coefficient (CRC) for two dimensions.

**Table 11. Loading Factor and Composite Reliability Coefficient Related to Satisfaction and Efficiency of Skill Dimensions**

<b>Panel A. Loading factor and CRC of Each Indicator of satisfaction and efficiency of skill</b>					
Indicator	The dimension of satisfaction		The dimension of efficiency of skills		
	Loading factor	Description	Indicator	Loading factor	Description
SAT1	0.702	Valid	ES1	0.687	Valid
SAT2	0.865	Valid	ES2	0.816	Valid
SAT3	0.826	Valid	ES3	0.758	Valid
SAT4	0.843	Valid	ES4	0.659	Valid
CRC	0.884	Consistent	CRC	0.822	Consistent
<b>Panel B. Loading factor of each dimension and CRC of the decision to invest</b>					
Dimension	Loading factor	Description	CRC	Description	
Lv_SAT	0.890	Valid	0.885	Consistent	
Lv_ES	0.890	Valid			

Source: Warp PLS 3 modified output

The explanation for Panel A can get seen as follows.

- For the satisfaction dimension, the loading factor of SAT1, SAT2, SAT3, and SAT4 is 0.702, 0.865, 0.826, and 0.843, respectively. These values are higher than 0.5; consequently, the answer of respondents for each indicator is valid. Also, the CRC of four accurate indicators is 0.884, higher than 0.7 as the required cut-off value; therefore, the respondents' answer to these indicators is consistent.

- For the skills dimension's efficiency, the loading factor of ES1, ES2, ES3, and ES4 is 0.687, 0.816, 0.758, and 0.659, respectively. These values are higher than 0.5; consequently, the answer of respondents for each indicator is valid. Also, the CRC of four accurate indicators is 0.822, higher than 0.7 as the required cut-off value; therefore, the respondents' answer to these indicators is consistent.

The explanation for Panel B can get seen as follows.

- The loading factor for the satisfaction dimension (Lv\_SAT) and the efficiency of the skill dimension (Lv\_ES), is 0.890 and 0.890. Because two values exceed 0.5, they can reflect the decision to invest.
- The CRC of two dimensions is 0.885, higher than 0.7 as the required cut-off value; hence, respondents' answer to these two dimensions is consistent.

### 3.3. The estimation result of the model

Table 12 presents the result of the variance-based SEM estimation with the probability value of t-statistic for the two path coefficients for HERD and OCD.

Table 12. Estimation result of the variance-based SEM: the effect of herding and overconfidence on the individual decision to invest

Latent variable	Path coefficient	Standard error	t-statistic	Probability value
HERD	0.029	0.142	0.204225	0.419
OCD	0.593	0.144	4.118056	<0.001

Source: Warp PLS 3 modified output

### 3.4. The hypothesis testing result

The first hypothesis, becoming the alternative one, declares that herding makes individuals decide to invest. This hypothesis gets rejected because the probability value of t-statistic for HERD is 0.419, higher than a 5% significance level. Instead, the null hypothesis stating that herding does make individuals decide to invest gets recognized.

The second hypothesis, becoming the alternative one, declares that overconfidence makes the individuals decide to invest. This hypothesis gets acknowledged because the probability value of t-statistic for OCD is <0.001, lower than a 5% significance level.

### 3.5. Discussion

Denoting the first statistical hypothesis testing, it infers that herding does not make individuals decide to invest. This evidence supports the result of the study of Gozalie & Anastasia (2015), Alquraan et al. (2016), Bakar & Yi (2016), as well as Setiawan et al. (2018). In this research context, additionally, this situation exists because the investors becoming our respondents do not count on the information from their friends, colleagues, family members. This unbelieving is reflected by the accumulated response of undecided, disagree, and strongly disagree on information from their friends of 66%, colleagues of 52%, and family members of 58% (see Table 13).

**Table 13. Total Response of Undecided, Disagree and Strongly Disagree of Valid Herding Indicators**

Valid indicator content	Response			Total Responses
	Undecided	Disagree	Strongly disagree	
HERD1: I confide in the information from my friends.	17 34%	15 30%	1 2%	33 66%
HERD2: I confide in the information from my colleague.	15 30%	10 20%	1 2%	26 52%
HERD3: I confide in the information from the members of my family.	17 34%	11 22%	1 2%	29 58%

The number of participating respondents is 50.

Source: The primary data processed

By denoting the second statistical hypothesis testing, it infers that overconfidence makes the individuals decide to invest. Investors, who are frequent to transact their stocks, think they are already so smart that they are brave to take the stock transaction-associated risks. This situation is also fair because they are young and well-educated (Asri, 2013). This evidence is in line with Wibisono (2013), Alquraan et al. (2016), Riaz & Iqbal (2015), Bakar & Yi (2016), Khan et al. (2017), Jannah & Ady (2017), Khalid et al. (2018), Mahanthe & Sugathadasa (2018), Setiawan, et al. (2018), and Malik et al. (2019). In this research context, additionally, this condition happens because their accumulated response of strongly agree and agree on:

- Their ability to predict the stock price is 52% (OCD2).
- Their knowledge of the capital market is 42% (OCD3).
- Their steadiness in evaluating the stock prices in the portfolio is 50% (OCD4).
- Their boldness to keep transacting against the opposite movement of the market index is 70% (OCD5).
- Their experience-based thought is 80% (OCD6).
- Their belief in the attractiveness of the capital market is 92% (OCD7).

**Table 14. Total Response to Strongly Agree and Agree on The Valid Overconfidence Indicators**

Valid indicator content	Response		Total Response
	Strongly agree	Agree	
OCD2: I can predict the stock price.	3 6%	23 46%	26 52%
OCD3: I entirely have the capital market knowledge.	4 8%	17 34%	21 42%
OCD4: I am determined to assess the stock price in the portfolio.	4 8%	21 42%	25 50%
OCD5: I am bold to invest when the stock market index is in the opposite direction.	7 14%	28 56%	35 70%
OCD6: I always invest the stocks by my best thinking based on the experience.	7 14%	33 66%	40 80%
OCD7: I am interested in investing stocks in the capital market.	14 28%	32 64%	46 92%

The number of participating respondents is 50.

Source: The Primary data processed

#### IV. Conclusion

This study wants to examine the herding and overconfidence effect on the decision of individuals to invest. After testing and discussing two associated hypotheses; overall, this study deduces that herding does not affect the decision to invest; conversely, overconfidence does with a positive sign. These findings mean the individual investors do not depend on the information from others to decide to invest. Instead, they entrust themselves to do that. As long as it is risky, overconfidence should get reduced because of some reasons. Firstly, the future is



uncertain. Secondly, the access and ability of individuals to get information and assess their stock portfolio are more limited than those of the institution. Thirdly, the consequence of getting lost if individuals keep trading against the market movement. Finally, the experience is not repetitive yet in the future.

Academically, this research has some limitations. Firstly, it only utilizes a small number of samples, 50. To fix this limitation, the next scholars need to search for:

- a. The individual investors in the investment galleries in Indonesia, becoming partners of securities companies, acting as the population.
- b. The individual investors associated with one securities company, distributed in big cities in Indonesia, acting as the population.

Secondly, this research only utilizes two determinants of the decision of individuals to invest. This circumstance allows the next scholars to place the other affecting factors: heuristic, investor competency, experienced regret, risk avoidance, risk tolerance, self-control, market situation, optimistic bias, illusion control, loss aversion, risk perception, conservatism, and cognitive dissonance bias.

## References

- Alquraan, T., Alqisie, A., & Al Shorafa, A. (2016). Do Behavioral Finance Factors Influence Stock Investment Decisions of Individual Investors? (Evidence from Saudi Stock Market). *American International Journal of Contemporary Research*, 6(3), 159-169. Retrieved from [http://www.jofamericanscience.org/journals/am-sci/am120916/12\\_30380jas120916\\_72\\_82.pdf](http://www.jofamericanscience.org/journals/am-sci/am120916/12_30380jas120916_72_82.pdf)
- Arrozi, M. F., & Septyanto, D. (2011). *Preferensi Investor Dalam Pengambilan Keputusan Investasi Sekuritas di Bursa Efek Indonesia*. Prosiding Simposium Riset Ekonomi V. Surabaya: UPN Veteran. Retrieved from [http://portal.kopertis3.or.id/bitstream/123456789/1978/1/PREFERENSIINVESTOR-ISEIV\(Dihin%2BMFARROZI\).pdf](http://portal.kopertis3.or.id/bitstream/123456789/1978/1/PREFERENSIINVESTOR-ISEIV(Dihin%2BMFARROZI).pdf)
- Asri, M. (2013). *Keuangan Keperilakuan* (1 ed.). Yogyakarta: Badan Penerbit Fakultas Ekonomi Universitas Gadjah Mada.
- Bakar, S., & Yi, A. N. (2016). The impact of psychological factors on investors' decision making in Malaysian stock market: A case of Klang Valley and Pahang. *Procedia Economics and Finance*, 35, 319-328. Doi:10.1016/S2212-5671(16)00040-X
- Bursa Efek Indonesia. (2017, November 15). *Penghargaan Galeri Investasi Bursa Efek Indonesia 2017*. Retrieved January 28, 2018, from <http://yuknabungsaaham.idx.co.id/post/penghargaan-galeri-investasi-bursa-efek-indonesia-2017>
- Chang, E., Cheng, J., & Khorana, A. (2000). An examination of herd behavior in equity market: An international perspective. *Journal of Banking and Finance*, 24, 1651-1699. Doi:10.1016/S0378-4266(99)00096-5
- Christanti, N., & Mahastanti, L. A. (2011). Faktor-Faktor yang dipertimbangkan investor dalam melakukan investasi. *Jurnal Manajemen Teori dan Terapan*, 4(3), 37-51. Retrieved from <https://e-journal.unair.ac.id/JMTT/article/view/2424>
- Darmadji, T., & Fakhruddin, H. M. (2012). *Pasar Modal di Indonesia: Pendekatan Tanya Jawab* (3 ed.). Jakarta: Salemba Empat.
- Fityani, I., & Arfinto, E. D. (2015). Analisis investor herding behavior dengan multinomial logit regression pada BEI (Studi kasus pada saham LQ45 periode 2009-2014). *Diponegoro Journal of Management*, 4(3), 1-14. Retrieved from <https://ejournal3.undip.ac.id/index.php/djom/article/view/13256/12814>
- Ghalandari, K., & Ghahremanpour, J. (2013). The effect of market variables and herding effect on investment decision as factor influencing investment performance in Iran. *Journal of Basic and Applied Scientific Research*, 3(3), 313-318. Retrieved from [https://www.textroad.com/pdf/JBASR/J.Basic.Appl.Sci.Res.,203\(3\)313-318,2013.pdf](https://www.textroad.com/pdf/JBASR/J.Basic.Appl.Sci.Res.,203(3)313-318,2013.pdf)
- Ghozali, I. (2008). *Structural Equation Modeling: Metode Alternatif dengan Partial Least Square*. Semarang: Badan Penerbit Universitas Diponegoro.
- Gozalie, S., & Anastasia, N. (2015). Pengaruh perilaku heuristics dan herding terhadap pengambilan keputusan investasi properti hunian. *Finesta Journal of Finance*, 3(3), 28-32. Retrieved from <http://publication.petra.ac.id/index.php/manajemen-keuangan/article/view/3576>
- Hartono, J. (2012). *Metodologi Penelitian Bisnis: Salah Kaprah & Pengalaman-Pengalaman* (5 ed.). Yogyakarta: Badan Penerbit Fakultas Ekonomi Universitas Gadjah Mada.
- Hartono, J. (2017). *Teori Portofolio & Analisis Investasi* (11 ed.). Yogyakarta: Badan Penerbit Fakultas Ekonomi Universitas Gadjah Mada.

- Husnan, S. (2015). *Dasar-Dasar Teori Portfolio dan Analisis Sekuritas* (5 ed.). Yogyakarta: UPP STIM YKPN.
- Jannah, W., & Ady, S. U. (2017). Analisis fundamental, suku bunga, dan overconfidence terhadap pengambilan keputusan investasi pada investor di Surabaya. *Ekspektra: Jurnal Bisnis dan Manajemen*, 1(2), 138-155. DOI:10.25139/ekt.v0i0.338
- Keynes, J. M. (1936). *The general theory of employment, interest, and money*. London: Palgrave Macmillan.
- Khalid, R., Javed, M. U., & Shahzad, K. (2018). Impact of behavioral biases on investment decision making with Moderating role of financial literacy. *Jinnah Business Review*, 6(2), 34-41. Retrieved from <https://www.jbric.pk/volumes/paper6-2-4.pdf>
- Khan, A. R., Azeem, M., & Sarwar, S. (2017). Impact of overconfidence and loss aversion biases on investment decision: Moderating role of risk perception. *International Journal of Transformation in Accounting, Auditing & Taxation*, 1(1), 23-35. Retrieved from <http://www.management.eurekajournals.com/index.php/IJTAAT/article/view/93>
- Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making – A systematic literature review. *Qualitative Research in Financial Markets*, 7(1), 88-108. DOI:10.1108/QRFM-07-2014-0022
- Mahanthe, J. W. S. M. D. S., & Sugathadasa, D. D. K. (2018). The impact of behavioural factors on investment decision making in Colombo stock exchange. *The International Journal of Business and Management*, 6(8), 199-207. Retrieved from <http://www.internationaljournalcorner.com/index.php/theijbm/article/view/132191/91556>
- Malik, M. S., Hanif, D. I., & Azhar, M. (2019). The impact of overconfidence bias on investment decisions: Mediating role of risk tolerance. *International Journal of Research and Innovation in Social Science*, 3(8), 154-160. Retrieved from <https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-3-issue-8/154-160.pdf>
- Natapura, C. (2009). Analisis perilaku investor institusional dengan pendekatan analytical hierarchy process (AHP). *Bisnis & Birokrasi, Jurnal Ilmu Administrasi dan Organisasi*, 16(3), 180-187. Retrieved from <http://journal.ui.ac.id/index.php/jbb/article/view/620/605>
- Panji, A., & Pakarti, P. (2006). *Pengantar Pasar Modal* (5 ed.). Jakarta: Rineka Cipta.
- Pelaku Bisnis. (2018, November 22). *BEI Kembali Galeri Investasi Awards 2018*. Retrieved January 23, 2019, from <http://pelakubisnis.com/2018/11/bei-kembali-galeri-investasiawards-2018>
- Qasim, M., Hussain, R., Mehboob, I., & Arshad, M. (2019). Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. *Accounting*, 5, 81-90. DOI:10.5267/j.ac.2018.7.001
- Riaz, T., & Iqbal, H. (2015). Impact of overconfidence, illusion of control, self-control, and optimism bias on investors decision making: Evidence from developing markets. *Research Journal of Finance and Accounting*, 6(11), 110-115. Retrieved from <https://www.iiste.org/Journals/index.php/RJFA/article/viewfile/23358/24184>
- Sarwar, A., & Afaf, G. (2016). A comparison between psychological and economic factors affecting individual investor's decision making behavior. *Cogent Business & Management*, 3, 1-18. DOI:10.1080/23311975.2016.1232907
- Setiawan, Y. C., Atahau, A. D., & Robiyanto, R. (2018). Cognitive dissonance bias, overconfidence bias dan herding bias dalam pengambilan keputusan investasi saham. *Accounting and Financial Review*, 1(1), 17-25. DOI:10.26905/af.v1i1.1745
- Shefrin, H. M. (2007). *Behavioral Corporate Finance: Decisions that Create Value*. Boston: Mcgraw-Hill.
- Sholihin, M., & Ratmono, D. (2013). Analisis SEM-PLS dengan WarpPLS 3.0. Yogyakarta: Penerbit ANDI.
- Sugiyanto, C., Nahartyo, E., Misra, F., Bastian, I., Hartono, J., Saputro, J. A., Sholihin, M., Sivilokonon, N. I., Almahendra, R., Winardi, R. D., Rostiani, R., Warsono, S., Ciptono, W.S., Widyaningsih, Y. A. (2018). *Strategi Penelitian Bisnis*. (J. Hartono, Ed.) Yogyakarta: Penerbit ANDI.
- Sunariyah. (2011). *Pengantar Pengetahuan Pasar Modal* (6 ed.). Yogyakarta: UPP STIM YKPN.
- Tandelilin, E. (2010). *Portofolio dan Investasi: Teori dan Aplikasi* (1 ed.). Yogyakarta: Penerbit Kanisius.
- Wibisono, O. (2013). Pengaruh kompetensi dan kepercayaan diri investor terhadap perilaku perdagangan saham. *Journal of Business and Banking*, 3(1), 47-56. Retrieved from <https://journal.perbanas.ac.id/index.php/jbb/article/view/253/197>
- Wulandari, D. A., & Iramani, R. (2014). Studi experienced regret, risk tolerance, overconfidence dan risk perception pada pengambilan keputusan investasi dosen ekonomi. *Journal of Business and Banking*, 4(1), 55-66. Retrieved from <https://journal.perbanas.ac.id/index.php/jbb/article/view/293>
- Zacharakis, A., & Shepherd, D. A. (2001). The nature of information and overconfidence on venture capitalists' decision making. *Journal of Business Venturing*, 16(4), 11-332. DOI:10.1016/S0883-9026(99)00052-X