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The Impact of Psychological Factors on Investors' Decision Making in Malaysian Stock Market: A Case of Klang Valley and Pahang

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Abstract

For years, traditional finance has always presumed that investors are rational in their decision making process in the stock market about risk return trade-offs and maximizing utility. However, behavioral finance studies revealed that human beings do not behave as rationally as economists suppose as their decisions at times are affected by their psychological feelings. Numerous studies from ASEAN, Middle East and Western countries have in fact established that psychological factors do have relationships and impacts on the decision making of investors in their stock markets. In light of this, this research attempts to bridge the gap of the differences in terms of geographical location and demographic profile between Malaysia and other countries by examining the impact of the psychological factors on investors' decision making in the Malaysian stock market. Questionnaires are distributed to a sample size of 200 investors in the Klang Valley and Pahang areas aged between 18-60 years who are involved in the Malaysian stock market. The findings show that overconfidence, conservatism and availability bias have significant impacts on the investors' decision making while herding behavior has no significant impact on the investors' decision making. It is also found that the psychological factors are dependent of individual's gender. The results of this research are mostly consistent with the evidences in previous studies. This study, hopefully, will help investors to be aware of the impact of their own psychological factors on their decision making in the stock market, thus increasing the rationality of investment decisions for enhanced market efficiency.

Keywords: Behavioral finance; psyhological factors ; investors' decision making.

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1. Introduction

For ages, standard ordinary finance has constantly presumed that investors are typical and sensitive in their investment decision making in the stock market and therefore they are impassive about risk return trade-offs and exploiting value. They must have incorporated all the necessary information available according to the efficient market hypothesis and are impartial in analyzing securities and choosing winning stocks.

However psychologists have found that human beings do not behave as rationally as economists suppose. The occurring of stock market anomalies and empirical researches conducted by Babajide & Adetiloye (2012) and Bashir et al. (2013) revealed that investors are not always as rational as they are portrayed to be. These anomalies can be explained by a new emerging area of finance called behavioral finance. Behavioral finance considers how various psychological traits affect how individuals or groups act as investors, analysts and portfolio managers. It tries to understand how emotions and cognitive errors influence behaviours of individual investors (Kengatharan 2014). It also seeks to explain why and how investors can act beyond the boundary of rationality in ways that oppose to what they are supposed to.

Advocates of behavioral finance have been able to explain a number of psychological factors that affect the decision making of investors in the stock market. The main purpose of this research is to investigate how psychological factors, particularly the overconfidence bias, conservatism bias, herding and availability bias could possibly affect financial decisions. The decision making will be measured in terms of the degree of risk the investor is willing to take.

The overconfidence bias which is related to the self- attribution bias is the tendency of an individual to attribute his success to his own talent and ability while blaming 'bad luck' for his failure, making himself overestimating his talent. Qadri & Shabbir (2013), Lim (2012), Qureshi et al. (2012) and Bashir et al. (2013) have found overconfidence to have positive significant impact on investors' decision making. Atif (2014) and Kengatharan (2014) found overconfidence to have negative impact on decision making. The conservatism bias means investors are slow to react and to update their beliefs in response to recent evidence and development. According to Márcia et al. (2014), this means that they can initially underreact to the new information or rumours released on a company. As a result, prices will fully reflect the new information only gradually. Lim (2012) and Kengatharan (2014) found that conservatism do have positive significant impact on decision making.

The herding behavior refers to "follow the leader" mentality. It is the tendency of an individual to follow the crowd because the decisions made by the majority are assumed to be always correct. According to Luong & Thu Ha (2011), the herding individual will base his investment decision on the crowd actions of buying and selling, creating speculative bubbles phenomenon hence making the stock market to be inefficient. However the herd is almost always wrong, which contributes to excess volatility in the market. According to Hirt and Block (2012), herding is more prevalent with institutional investor than with individual investors. Wamae (2013) found herding to have positive significant impact on investment decision making. Kengatharan (2014) have found herding behavior to have positive impact on investors' decision making while Lim (2012) found that herding has no significant impact on investors' decision making. The availability bias happens when the individual acts upon recent information that is obtained easily. They have a strong tendency to focus their attention on a particular fact rather than the overall situation, only because this particular fact is more present or easily recalled in their minds (Nofsingera & Varmab 2013). Qureshi et al. (2012) found availability bias to have positive significant impact on investors' decision making. Luong & Thu Ha (2011) found availability bias to have moderate impact on investors' decision making while Nofsingera and Varmab (2013) found availability bias to have strong impact on investors' repurchase decision in United States.

Numerous studies from other ASEAN, Middle East and Western countries for example, Kengatharan (2014), Qadri and Shabbir (2014) and Nofsingera and Varmab (2013) have established that psychological factors do have relationships and impacts on the decision making of investors in their stock markets. However there have been very few studies including Lim's (2012) on the psychological biases in Malaysian stock market, let alone investigating the impact of the psychological biases on the investors' decision making. This study attempts to close the gap of the differences in terms of geographical location and demographic profile between Malaysia and other countries by examining the impact of the psychological bias on investors' decision making in Malaysian stock market. Learning more about this relationship between the psychological factors and investors' decision making should help investors to understand themselves better which leads to a phenomenon of enhanced rational decision making in the stock market. Building on the findings from previous studies, this study has two main objectives: i) to provide background

information about Malaysian investors' psychological factors and biases and ii) to investigate the impact of the psychological factors on investors' decision making in the Malaysian stock market.

This research is important for stock market players and investors so that they are aware of the impact of their own psychological factors on their decision making in the stock market. With this information in hand they can apply it and take measures to prevent the factors from clouding their decision making processes in order to make rational decisions. This study will be useful to stock market regulators and policymakers in a way of assisting them in understanding the role of psychological factors have on investor decision making.

This paper will contribute to the volume of financial paper research regarding the theory of behavioral finance that can be used as reference for everyone. This paper will also shed a new light on the Efficient Market Theory (EMH), Modern Portfolio Theory (MPT), Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT) which are quantitative models that assume individual investors behave with perfect rationality. This research will also be important for the future researchers who wish to conduct studies on this topic area. They can build on the methodology and findings of this article and obtain valuable insights. This paper would be beneficial to investors in enhancing their body of knowledge, thus increasing their understanding on the role of psychological factors have on investors' decision making.

2. Theoretical and empirical discussions

The behavioral finance theory which is based on psychology seeks to understand how emotions and cognitive errors influence behaviors of individual investors (Kengatharan 2014). Much of the researches done in the area of behavioral finance stem from work in the area of cognitive psychology which is the study of how people including investors think, reason and make decisions. According to Gitman and Joehnk (2008), researchers in behavioral finance believe that investors' decisions are affected by a number of beliefs and preferences. The resulting beliefs and biases will cause investors to overreact to certain types of financial information and underreact to others, making them to make irrational decisions and affecting their risk taking behaviors. The behavioral finance theory branches out to form the heuristics theory which is referred to "rules of thumb". Heuristics makes decision making easier especially in complex and uncertain environments by using common sense to solve a problem. Heuristics also simplifies the decision making process by identifying a defined set of criteria to evaluate (Jordan et al. 2012). Hirt and Block (2012) stated that heuristics often rely on discovery and is used to come to an optimal solution. According to Kengatharan (2014), the availability bias was first introduced by Kahneman & Tversky in year 1974 to be included into the heuristics theory and later on Waweru et al. (2008) listed the overconfidence factor into the heuristic theory. The behavioral finance theory also consists of the conservatism factor and herding factor which are documented by Kengatharan (2014) and Wamae (2013) respectively. Various studies have been carried out previously to find out the impact and relationship between the psychological factors and the investors' decision making.

Lim (2012) had examined the relationship between psychological biases, namely the overconfidence bias, conservatism bias, herding and regret and the decision making of investors in the Malaysian share market. He found out that overconfidence, conservatism bias and regret have positive significant impacts on investors' decision making. However, herding behavior was found to have no impact on investors' decision making. Most of the results in the study were consistent with the previous researches done in other countries. Kengatharan (2014) had investigated on the behavioral factors influencing individual investors' decisions at the Colombo Stock Exchange. Furthermore, the relations between these factors and investment performance were also examined. The results showed that herding, heuristics (overconfidence and availability bias), prospect and market factors all have effect on the investment decisions of individual investors at the Colombo Stock Exchange. Most of the factors have moderate impacts except for the anchoring variable from heuristics factor that exhibits high influence on investment decision. On the other hand, only three of the variables examined have influence on the investment performance. The variables are the desire of stock from herding factor with negative influence on the performance, overconfidence variable from heuristics with negative influence and lastly anchoring from heuristics with positive influence on investment performance. There is also a positive correlation between investment decisions with risk averse, prospect, anchoring and herding.

Luu (2014) examined the behavior patterns of individual investors in Ho Chi Minh stock market. It was found that overconfidence, anchoring, herding, loss aversion and regret aversion have moderate impacts on the investors while market factors have the highest impact among all on the investors' decision making. Atif Kafayat (2014) examined if

investors in Islamabad Stock Market were affected from self-attribution bias, overconfidence and over-optimism bias in making rational decisions. The study concluded that all the factors mentioned are negatively correlated with investors' decision making. Pourjiban, Setayesh and Janani (2014) assessed only the impact of investors' overconfidence bias on investment in Tehran stock exchange market. They found that overconfidence bias has a significant impact on investment in Tehran Stock Exchange Market. Qadri & Shabbir (2014) conducted an empirical study to investigate the impact of overconfidence and illusion of control on investors' decision making in the Islamabad Stock Exchange. Their findings showed that overconfidence and illusion of control have positive significant impact on investors' decisions. Tripathy (2014) examined the role of psychological biases on the cognitive decision making process of individual investors. The findings suggested that investors of Bhubaneshwar Stock Exchange are victims of psychological biases namely: overconfidence, anchoring, regret and loss aversion and hence their decision making are affected.

Wamae (2013) had investigated the behavioural factors influencing investment decisions in Kenyan stock market focusing on investment banks. The behavioral factors investigated were herding, prospecting, risk aversion and anchoring. She found out that all the factors affect investment decision, with herding having the most impact, followed by prospecting, anchoring and finally the risk aversion factor has the least impact. Bashir et al. (2013) studied behavioral biases including overconfidence, confirmation, and illusion of control, loss aversion, mental accounting, status quo and excessive optimism on investors' financial decision making. The study found out that there is a positive significant relationship and impact of overconfidence, illusion of control, confirmation biases and excessive optimism on investors' decision making. It was also found out that status quo, loss aversion and mental accounting biases have significant relationship but have no impact on investors' decision making. Nofsingera and Varmab (2013) looked into availability bias on decision making by exploring how the availability heuristic might lead the investor to focus on known stocks, including the ones he/she has owned multiple times (repurchased). Using stock information listed in the NYSE, AMEX and NASDAQ, they found that the recency effect which is a form of availability bias in stock sales plays a profound and dominant role in this repurchasing behavior. Their analysis also revealed that even in the presence of a greater environment for informed trading, the impact of availability bias on repurchase decision remains strong.

Babajide and Adetiloye (2012) conducted an empirical study about investors' behavioral biases on the Nigerian security market. The study found strong evidence that overconfidence, loss aversion, framing and the status quo bias exist among Nigerian investors. A weak negative relation between the biases and stock market performance is also established. Qureshi, Rehman & Hunjra (2012) investigated the effects of behavioral factors such as heuristics (representativeness, gambler's fallacy, anchoring, overconfidence, and availability bias) and risk aversion on the decision making of equity fund managers of Pakistan. The results demonstrated a positive and significant relationship exist between the behavioral factors and investment decision making. Mbaluka, Muthama & Kalunda (2012) examined the behavioral factors namely framing and loss aversion effects on investors' decision-making process at the Nairobi Securities Exchange, Kenya. The study found out that investors are frame dependent and loss-averse.

Luong & Thu Ha (2011) had explored on the behavioral factors influencing individual investors' decision-making and performance at the Ho Chi Minh stock exchange. The factors explored were overconfidence, availability bias, herding, market, prospecting and anchoring. The study concluded that all the factors have moderate impacts on decision making with the market factor having the highest impact. Only three factors have influence on the investment performance which are herding, prospect and overconfidence.

In conclusion, most of the previous studies have found psychological factors to have positive and significant impacts on investors' decision making such as studies from Qadri & Shabbir (2013), Qureshi, Rehman & Hunjra (2012), Lim (2012), Bashir et al. (2013) and Wamae (2013). At the same time, the latter three also found a few psychological factors to have no significant impact on the decision making at all. So far it has not been established that psychological factors have negative significant impacts on investors' decision making.

3. Data and Methodology

3.1. Data

The data used is collected from questionnaires from a sample size of 200 respondents including lecturers, students of finance, bank officers, executives and managers who are involved in the Malaysian stock market. Hair, Black,

Babin, Andersion and Tatham (1998, p.111) suggest that with quantitative research, at least 100 respondents should be studied in order to fit the statistical methods of data analysis.

3.2. Sampling Method

Individual investors are sampled using convenience sampling, quota sampling, and snowball sampling as the total population of investor is not known and the sampling frame could not be established (Lim 2012). In convenience sampling, the sample is selected because of its availability to the researcher (Bryman and Bell 2007). The convenience sampling is used in this study in selecting respondents from Klang Valley and Pahang areas because the researcher can easily access to these areas due to proximity reason. In quota sampling, the researcher develops control characteristics based on gender, age and race as selection criteria. According to Saunders et al. (2009), it is based on the premise that the sample will represent the population as the variability in your sample for various quota variables is the same as that in the population. As Malaysian citizens consist of the ethnic groups Bumiputera (67.4%), Chinese (24.6%), Indians (7.3%) and others (0.7%) based on the latest Census year 2010, respondents are selected based on this ethnic composition set. In snowball sampling, the respondent who meets the criteria set by the researcher is referred by the initial respondent selected in convenience sampling and quota sampling. Some examples of how your references should be listed are given at the end of this template in the 'References' section, which will allow you to assemble your reference list according to the correct format and font size.

3.3. Sources of data

All the data and information for this study are gathered from primary sources via questionnaires. The self-completion questionnaires consist of two sections where the first is for demographic variable and the second section is related to behavioral factors. With a self-completion questionnaire, respondents answer questions by completing the questionnaires themselves. According to Bryman and Bell (2007), the usage of questionnaires brings about many benefits. The first is it is cheaper and quicker to administer. There is also the benefit of the absence of the interviewer effect because there is a tendency to exhibit social desirability in front of an interviewer. There is no interviewer variability as all the questions will be asked the same way. Furthermore, it is also convenient for the respondents.

Likert scales are applied into the questionnaires. Likert- style rating scale enables the respondents to be asked how strongly he or she agrees or disagrees with a statement or series of statements (Saunders et al. 2009). This study uses 5-point Likert scales to ask the individual investors to evaluate the level of their agreements with the impacts of behavioral factors on their investment decisions. The 5 points in the scale are respectively from 1 to 5: strongly disagree, disagree, somewhat agree, agree, and strongly agree.

Close- ended questions are prepared for each factor. Bryman and Bell (2007) have stated numerous advantages relating to closed-ended questions. One of the advantages of using closed questions is that they can be pre-coded, thus turning the job of processing data for analysis into a simpler one. Closed questions also enhance the comparability of answers between different respondents. Furthermore, they help to clarify the meaning of the questions through the given answers. Closed questions are easier to handle for both the respondents and researcher precisely because they are easier and quicker to complete. The following questions used for this study are adapted from previous researches, mostly from Lim's (2012).

3.4. Research Framework

The Figure.1 below identifies the impact of the factors of psychological biases on investors' decision making. There are four psychological factors studied which are overconfidence, conservatism, herding attitude and availability bias. All of these psychological factors are found to have played important roles in determining investors' investment decision-making based on past studies in other countries.
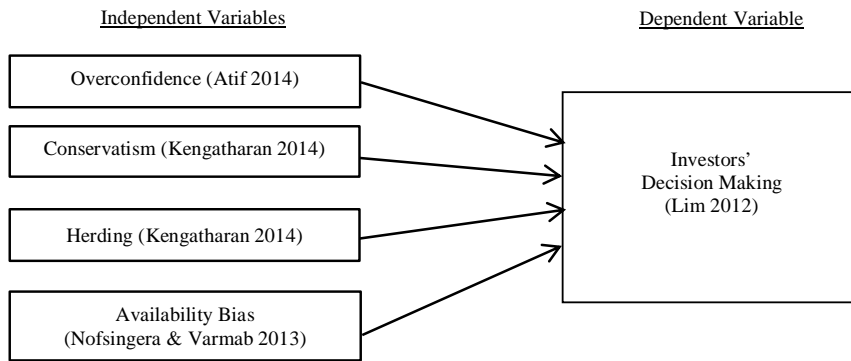
Overconfidence (Atif 2014)

Conservatism (Kengatharan 2014)

Herding (Kengatharan 2014)

Availability Bias
(Nofsingera & Varmab 2013)

Investors'
Decision Making
(Lim 2012)

Figure.1. Research Framework

3.5. Methodology

3.5.1 Multiple Regression analysis

Statistical Package for Social Science (SPSS) Version 22 software by IBM is used to run all the analysis. Multiple regression analysis is presented to reveal which of the variables have the most and least influence on investment decision making. According to Srivastava and Rego (2012), with the help of multiple regression analysis, one could assess the impact of several independent variables individually or jointly together on the dependent variable. The regression equation below is used for this study:

$$DM = \beta_0 + \beta_1 Overconfidence + \beta_2 Conservatism + \beta_3 Herding + \beta_4 Availability\ bias + \varepsilon \qquad (1)$$

Where:

DM = Decision Making; β_0 = Constant value; β_1, β_2, β_3, β_4= Regression Coefficients; O_1 = Overconfidence; C_2 = Conservatism; H_3 = Herding; A_4 = Availability bias; ε = Error term

4. Findings

About 54.5 percent of the respondents surveyed are male while the remaining 45.5 percent of the respondents are female. 36.5 percent of the respondents are in the age group of 31-40 followed by 32.5 percent who are in the 41-50 age group, 24.5 percent in the age group of 21-30, 4.5 percent are above 50 years and 2 percent of the respondents are in the 18-20 age group. In terms of the nationality of the respondents, a huge 198 respondents or 99 percent of them are Malaysians while only 2 persons or 1 percent are non- Malaysians. Most of the respondents surveyed (94 percent) are working adults followed by retirees (3 percent), students (2 percent) and finally self- employed (1 percent). 42 percent of the respondents possess 6-8 years of investment experiences and 36 percent have 3-5 years of experiences. 11.5 percent of the respondents have 9-11 years of experiences. 5.5 percent and 5 percent of the total respondents have 2 years or less and above 11 years of experiences respectively. More than half of the respondents (61.5 percent) considered themselves as risk-takers. On the other hand, 38.5 percent of the respondents viewed themselves as risk-aversed.

Table 1. Regression Analysis

Independent Variables		
Overconfidence (0.466) ***		
Conservatism (-0.247) ***		
Herding (-0.067)		
Availability bias (0.568) ***		
R		0.834
R Square		0.696
Adjusted R Square		0.690
Sig		0.000***
F-value		111.476

*** Significant at 1% level

The estimated coefficient of correlation (R= 0.834) shows a relatively high linear correlation between the dependent and independent variables. The coefficient of multiple determinants (R Square) is the square of the sample correlation coefficient between outcomes and predicted values. It explains the extent to which changes in the dependent variable can be explained by the changes in the independent variables or the percentage of variation in the dependent variable that is explained by all the chosen independent variables. The coefficient of multiple determinants (R Square) is found to be 0.696 in this model. It means that the dependent variable which is the investors' decision making can be explained by the independent variables namely overconfidence, conservatism, herding and availability bias by 69.6 percent. In other words, the four independent variables contribute about 69.6 percent to the investors' decision making while the other factors not studied in this research contribute 33.5 percent to the investors' decision making. Hence it is accepted that it is a good model as it has included the necessary right variables. According to Silva et al. (2014), the acceptable range of R square varies across areas so one should always consult relevant literature in the field for appropriate benchmarks. The R square result from this study (0.696) stays within the range of R square results from the other relevant studies in this area for instance, the R square result from the study conducted by Lim (2012) is 0.657, Wamae (2013) is 0.665 while Qadri and Shabbir (2014) is 0.755. Hence the R square result is acceptable and appropriate in this field. The Adjusted R Square which is 0.690 is smaller than the R Square (0.696) as the Adjusted R Square is adjusted by the number of degrees of freedom. The F statistic is substantiated at the 1% significance level, implying that the null hypothesis that the regression coefficients are all zeros can be rejected at the 1% significance level. Thus, the estimated regression is efficient for prediction. The global test using R Square and F statistic indicates that the independent variables as postulated in the regression model have the ability to explain the variance of the dependent variable which is investors' decision making. The regression model is reliable and robust for prediction.

The regression equation:

$$DM = 13.71 + 0.466\ Overconfidence - 0.247\ Conservatism -\ 0.067\ Herding + 0.568\ Availability\ bias +\ \varepsilon \qquad (2)$$

From the regression equation established, taking all the factors which are overconfidence, conservatism, herding and availability bias to be constant at zero, the investors' decision making would be 13.707. Furthermore, the overconfidence factor has a positive effect on investors' decision making as the estimated coefficient which is 0.466 is positive. In other words, if all the other variables are kept constant, a unit increase in overconfidence will lead to a 0.466 increase in risk taking in investors' decision making, and vice versa. On the other hand, a unit increase in conservatism will lead to a 0.247 decrease in risk taking in investors' decision making, a unit increase in herding will lead to a 0.067 decrease in risk taking in investors' decision making, while a unit increase in availability bias will lead to a 0.568 increase in risk taking in investors' decision making. These results imply that availability bias contributes the most to investors' decision making, followed by the overconfidence factor, then conservatism, while herding contributes the least to investors' decision making.

The unstandardized coefficients include the constant term, while the standardized coefficients normalize the constant to zero. The t- statistic for each coefficient can be estimated by dividing the estimated coefficient with its standard error. The rule of thumb for interpreting the t-statistic is if the t-value result obtained is more than the benchmark of 2.4, the null hypothesis is rejected.

For the overconfidence factor, its t- value is 6.829 which is more than the benchmark of 2.4 while its significance value is 0.000 which is highly significant at the 0.01 level. Thus from the results obtained, the null hypothesis is rejected and it can be concluded that overconfidence has a positive significant impact on investors' decision making at the 0.01 significance level. This means that investors are mostly overconfident with their decisions and they think that their decisions are right. They attribute the gains in their investment success to their competence as investors. This finding is consistent with the results from the study of Qadri & Shabbir (2013), Lim (2012), Qureshi et al. (2012) and Bashir et al. (2013) who found overconfidence to have positive significant impact on investors' decision making. This finding however is not consistent with the findings from the studies conducted by Atif (2014) and Kengatharan (2014) as although they found overconfidence to have impact on decision making, the two variables are found to be negatively related.

For the conservatism factor, its t-value is found to be -3.542 which exceeds the range of -2.4 benchmark, while its significance value is 0.000 which is highly significant at the 0.01 level. Thus the null hypothesis is rejected and it can be concluded that conservatism has a negative significant impact on investors' decision making at the 0.01 significance level. It is suggested that the majority of the investors tend to invest in familiar shares of well- known companies with established products. It is accompanied by the belief that the returns will be higher when they invest in shares that they are familiar with. This finding is supported by Lim (2012) and Kengatharan (2014) whose research findings are the same as this paper.

For the herding factor, the table shows that its t-value is -0.933 and its significance value is 0.352 which is more than even the 0.1 significance level. Thus it can be concluded that there is not enough evidence to reject the null hypothesis and the null hypothesis is accepted. The herding factor has no significant impact on investors' decision making. They generally do not follow the market trend nor are they easily swayed by the influence of their peers. This finding is matching with the results from the study conducted by Lim (2012). He documented that some investors think that it is inappropriate to invest by simply following the crowd. This finding on the other hand, is not consistent with the findings by Wamae (2013) who found herding to have positive significant impact on investment decision making and Kengatharan (2014) who have found herding behavior to have positive impact on investors' decision making in Sri Lanka. Kengatharan (2014) suggested that investors gather in groups to support each other and buy shares after discussion hence influencing individual investors' decisions on which stocks to invest in.

From this model, it is found that the t-value of the availability bias factor to be 4.26 and its significance value is 0.000. Its t-value is more than the benchmark of 2.4 and its significance value is less than the 0.01 significance level. Thus it is concluded that the null hypothesis is rejected and the alternated hypothesis is accepted. The availability bias has positive significant impact on investors' decision making. Investors generally depend highly on easily available information. They tend to predict the future prices of the stocks based on the current stock prices. This finding is supported by the findings from the study by Qureshi et al. (2012) who suggested that investors give unnecessary weight to easily available information. This finding is also the same as the findings by Luong & Thu Ha (2011) who found availability bias to have moderate impact on investors' decision making and Nofsingera and Varmab (2013) who found availability bias to have strong impact on investors' repurchase decision in United States.

5. Conclusion and Recommendation

The finding shows that overconfidence has a positive significant impact on investors' decision making. This finding is consistent with the results from the studies of Qadri & Shabbir (2013), Lim (2012), Qureshi et al. (2012) and Bashir et al. (2013). The finding also illustrates that conservatism has a negative significant impact on investors' decision making and this is supported by Lim (2012) and Kengatharan (2014). In addition, herding is found to have no significant impact on investors' decision making and this finding matches with the findings of Lim (2012). The result further demonstrates that the availability bias behaviour has a positive significant impact on investors' decision making. This result is in line with the evidences documented in the studies by Qureshi et al. (2012), Luong & Thu Ha (2011) and Nofsingera and Varmab (2013). It is reasonably believed that the sample and the research design adopted are sufficient to achieve the desired research objectives. However, this research like with any other studies, is susceptible to a variety of underlying challenges. One of them is this research has the constraint of only including a sample size of 200 respondents although this sample size of investors satisfies the requirements of statistical methods.

Furthermore, as this study only covers areas in Klang Valley and Pahang, future studies could extend to cover other areas and states as the investors in other areas may have different views on their decision making.

In addition, the data collected for this study is subjective based which is dependent to a certain extent on the mood, motive, willingness and consent of each individual. Hence the data might not represent the true feelings or thoughts of the individuals who responded. The findings show that overconfidence, conservatism and availability bias have significant impacts on the investors' decision making while herding behavior has no significant impact on the investors' decision making. It is also found that the psychological factors are dependent of individual's gender. The results of this research are mostly consistent with the evidences presented in previous studies.

This study, hopefully, will help investors to be aware of the impact of their own psychological factors on their decision making in the stock market, thus increasing the rationality of investment decisions for enhanced market efficiency.

For further research in the future, we recommend that a larger sample size of investors be incorporated and extended to cover other areas and states to accurately depict the whole phenomenon of the Malaysian investors' decision making and also to confirm the findings of this paper.

Behavioral finance is a large and relatively new field, hence presenting limitless of fresh opportunities and challenges ahead. There are a vast number of psychological factors left to be examined. Other psychological factors like the regret bias and the anchoring effect can be researched thoroughly to analyze their impact on investors' decision making. These factors might prove to be important determinants of the investors' risk taking appetite.

The findings in this paper would help stock market regulators and policymakers in assisting them to understand the role of psychological factors have on investors' decision making. After implementing the necessary policies to improve on the psychological factors and biases, further research could be carried out to investigate the effectiveness of these implementations in making the stock market a more efficient one.

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