Psychological-Induced Determinants of Risk-Taking Behaviour of Investors in the Malaysian Share Market

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Abstract: The rationality hypothesis is very popular among academics. Being a widely accepted hypothesis as part of the traditional finance theories, the investor is deemed a rational agent and who makes rational decisions by exhausting all available alternatives. However, recently behavioural finance theories are gaining ground as many empirical findings which are left unanswered by the traditional theories are expounded by these behavioural-approach based theories. This research seeks to examine the influence of psychological biases on risk taking behaviour in investment decision-making. In particular, it looks into the possible effects of the psychological factors, namely self-attribution bias and familiarity bias when making finance-related decisions. The findings in this study propose that the risk taking attitude of investors are both impacted by self-attribution bias and familiarity bias. Though, the results of this research are mostly supported with evidences documented in the past research, it must be noted that the risk-taking attitude among investors is only moderately affected by self-attribution bias; a bias reinforced by overconfidence bias. Moreover, investors who are impacted by familiar bias appear to assume less risk instead of more risk as suggested by past studies. By identifying these psychological factors, caution could be exercised by investors when making investments decisions under a cloud of uncertainty.

Key words: Behavioural finance, psychological biases, self-attribution bias, familiarity bias, decisions

INTRODUCTION

In finance theories, individuals are deemed economic agents who are rational and always utilise all known information in making finance-related decision. In addition to this, the financial market assumes stability and efficiency while the stock prices are known to fluctuate. For many years due to its ability to predicate the fluctuations in share prices, the rationality hypothesis grew in popularity and has been embraced by many researchers and academician in the field of finance. However, in recent years, amid the increasing volatility and crashes in the market, Zoghlami and Matoussi implies that academic researchers are to a certain degree losing interest in this rationality hypothesis. Research evidence also indicates that behavioural finance theories are able to explain several empirical findings that are left unexplained by traditional theories.

Also, trading strategies using behavioural finance approaches are proven to be more profitable in comparison to trading strategies based on efficient financial market theory. Currently, behavioural finance theories are subject to differing interpretations by many scholars and researchers (Ricciardi and Simon, 2000). Much of the literature related to behavioural finance theories contains the catchphrases, "psychology of investing" and "psychology of finance". Whilst behavioural finance theories are deployed by many researchers and scholars in explaining empirical findings, behavioural finance theories had also gained popularity in the finance industry (Shefrin, 2009).

Presently, investing in investment products has never been trickier and less straightforward. This is resultant of the fact that financial services industries are primarily concerned with increasing profitability by offering individual investors a wide assortment of sophisticated products. It could be argued that while a wider assortment of products cater to the needs and risk appetite of the investor, making choices has also become more difficult. It must also be noted that there are financial bodies that are sincere in assisting investors in wealth management planning and investment strategies, the lack of understanding and ignorance of some investors about the complexity of these financial products are exploited by financial institutions in order to increase profitability at the detriment of investors. As a consequence, especially

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in times of economic downturn or slowdown, investors bear the brunt of losses. Amid high volatility in the market, investors who are overconfident of their trading abilities and are highly dependent on themselves may sustain even greater losses. Whilst, studies in the area of behavioural finance theories are rather impressive, many of these studies are conducted in the UK and US markets with an Anglo-Saxon Culture. Malaysia, being a country which is culturally different from these countries, needs to have more studies in this area.

Essentially, this research centers on identifying the psychological factors that influence investors' risk taking behaviour. "Self-attribution bias" is a type of bias reinforced by overconfidence. This bias eventually influences the investors to be overoptimistic about their own investments views and acumens. Overconfidence also leads to underestimation of risks and overestimation of the investor's own knowledge (Chuang and Lee, 2006). Besides this, "Familiarity bias" which is related to "conservatism bias" or "confirmatory bias" also influences financial decision-making. According to Shefrin (1948a), conservatism is a situation whereby, once the individual's mind has been framed, the individual exhibits slowness or ineptitude in changing his or her impression. As Barberis *et al.* (1998) suggest, investors' "confirmatory bias" leads to systematic error in the process of making financial decisions which is attributed to the tardiness in the change of their beliefs. As a consequence, they may response inadequately to new information.

Literature review: In studies on previous literature with regards to behavioural finance, "herding" is depicted as the inclination of an individual to trail the behaviour of a larger crowd. This is known as "herding attitude" which is sometimes termed as "herding behaviour". Basically this involves impulsiveness in mental thinking in response to the signals from others results in human herding behaviour. Suggested from a different viewpoint, investors may mimic the act of other investors (Prechter, 2001). On the hand, Benabou contends that "groupthink" is a key component in herding which is also a type of "confirmatory bias" for a group. He stresses that group members with shared attributes such as experience and outlook with almost no interference from outsider's viewpoint could lead to "groupthink". In a similar vein, Bloomfield suggests that sometimes, investors find it easier to simply purchase popular stock by just following or emulating the crowd. However, this is not true in all cases. To elaborate, the herding activities evident in South Korea and Taiwan are not the same in Japan

(Chang *et al.*, 2000). On the other hand, herding in selling stock is more popular in Hong Kong as compared to buying stock according to Zhou and Lai (2009).

Previous researchers such as Michenaud and Solnik (2008) hypothesise that regret is experienced by investors when their investments sustain lower performance in comparison to other alternative investments that would lead to a better outcome. Samuelson and Zeckhauser (1998) state that investors learn lesson from erroneous decisions made previously and from negative experience to avoid regrettable outcomes. The "regret theory" and the prideful feeling, espoused by Muermann and Volkman are contributing factors that cause early realisation of gains compared to losses. In the same vein, Shefrin (2009) reveals that selling winning stocks too quickly or hanging onto losing stocks causes regret in investors.

Subsequently, it is found that "Familiarity bias", a bias which is associated with conservatism bias impacts investment decision. Once their mind has been framed, individuals become ineptitude or experience slowness in changing their impression (Shefrin, 1948). Barberis, Shleifer and Vishny (1997) points out that investors who are impacted by "conservatism bias" are inclined to be slow in updating their beliefs as reflected in systematic error of making investment decision. In consequence, they under-react to new coming information. Chen reveal that investors who suffered from conservatism bias under-reacted to earning announcements in Taiwanese, an emerging market.

In general, "endowment bias" or "status quo bias" can be applied to shed light on conservative decisions made by the investors who are impacted by familiarity bias. "Status quo bias" is a bias experienced by investors when they exhibit tendency to stick to their previously made decision even though the environment has changed (Samuelson and Zeckhauser, 1988). Investors feel more at ease and familiar when loads of information relevant to these companies are broadcasted in their local newspapers. Eventually, they are more inclined to invest as they feel that these shares of companies could generate more gains compared to companies located farther away or in foreign country (Huberman, 2001). Study done by Kang and Stultz (1997), document that when people do invest their money in foreign firms, they go for those that are familiar, large firms with recognisable products. In the same vein, a study by Frieder and Subrahmanyam (2005) also discover that investors prefer stocks of companies which are well-known with recogisable product compared to those that are less familiar. In view of this, it should be reiterated that essentially, this research seeks to investigate the possible effects of familiarity tendency in investment decisions by stock market investors in Malaysia.

Reinforced by overconfidence, "self-attribution bias" leads to over optimism about their own investments' views and insights among the investors. The tendency of overreliance on their past successes and investing skills as well ignoring others are the attributes of an overconfident investors (Barber and Odean, 2002). "Overconfidence bias" leads to underestimation of risks and overestimation of knowledge in investors. Overconfidence in the predictions of the stock prices and excessive trading could eventually lead to faulty decisions (Chuang and Lee, 2006). In contrast, Indian investors do not seem to exhibit overconfidence bias when making investment decision (Chandra and Sharma, 2010). Tunisian investors also do not appear to display over-confidence inclinations as well. As Lim suggests the Malaysian investors have inclinations to think negatively about the share market and do appear to be rather pessimistic about the stock prices. As contradictions are found in the past literatures, the effect of "self-attribution bias" towards risk taking in investment needs to be determined in this research.

Consequently, in making financial decisions, male and females exhibit different attitudes towards risk as postulated by Embray and Fox (1997). Females are described as being more worried and tend to display anxiety in the process of decision-making. Females investors have the qualities of being more cautious and less confident in contrast to their male counterparts in decision making under risk (Johnson and Powell, 1994). In their observations, Barber and Odean (2002) note that male investors had a higher portfolio turnover compared to their female counterparts, implying that male investors exhibit more confidence in trading than females investors.

Hypotheses and theoretical framework: The discussions above have brought about the development of the following hypotheses to examine the influence of psychological biases on risk taking in investment.

Familiarity bias and risk-taking: Familiarity bias, a bias that is associated with "conservatism bias" impacts investment decision. Once, their mind has been framed, individuals become ineptitude or experience slowness in changing their impression (Shefrin, 1948a, b). Barberis *et al.* (1998) illustrates that individuals who are impacted by conservatism bias are inclined to exhibit tardiness in updating their beliefs as reflected in systematic error of making investment decisions. As a result, they under-react to contemporary information. In general, "endowment" or "status quo bias" could be
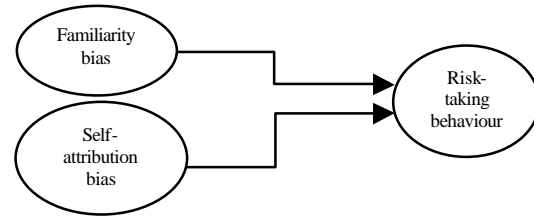

Fig. 1: Theoretical framework of the psychological induced determinants that affect risk-taking behaviour of investors in the Malaysian share market

applied to shed light on conservative decisions made by investors who are impacted by the familiarity bias. Hence, the following hypothesis is developed to examine the influence of familiarity bias in risk taking behaviour of investors in Malaysia:

• H_1: There is a positive relationship between familiarity bias and the risk-taking behaviour in investment

Self-attribution bias and risk-taking: "Self-attribution bias" causes investors to be over optimistic about their own investigations, perceptions and opinions. According to Barber and Odean (2002), there is a tendency of overreliance on investors past successes and investing skills as well ignoring others are the attributes of an overconfident investors. Overconfidence bias leads to underestimation of risks and overestimation of knowledge in investors. Thus, overconfidence in the predictions of the stock prices and excessive trading can eventually lead to faulty decisions (Chuang and Lee, 2006). The discussion above leads to the following hypothesis to examine the influence of "self-attribution bias" towards risk-taking behaviour in investment:

• H_2: There is a positive relationship between "self-attribution bias" and the risk-taking behaviour in Investment

The theoretical framework in Fig. 1 shows the relationship between the psychological biases and investors' risk-taking attitude. Based on the past literatures conducted in other countries, "self-attribution bias" and familiarity bias are two psychological determinants that affect investor's risk-taking behaviour. The independent variables in this research are "self-attribution bias" and familiarity bias. In this study, the risk-taking attitude in financial investment is the dependent variable.

MATERIALS AND METHODS

The "quota sampling" and "snowball sampling" are two sampling techniques being used to sample the individual investors. The psychometric measures are being included into the questionnaire by using the "Likert Scale". As shown in exhibit 1, a list of statements or close-ended questions are developed and the respondents are requested to provide rating for each statement on "Likert scale" ranging from 1; strongly disagree to 5; strongly disagree (Zikmund *et al.*, 2010). Close-ended questions and statements which are constructed based on previous studies such as "Familiarity Bias" are adapted from Huberman (2001). Based on a study conducted by Huberman (2001), investors feel more at ease and familiar when relevant information of companies are broadcasted regularly in their local newspapers.

Consequently, they are more inclined to invest as they feel that shares of companies have generated more gains when compared to companies located further away or in foreign countries. Besides this, questions are adapted from a study conducted by Kang and Stultz (1997), indicating that when people invest their money in foreign firms, they go for those that are familiar and large firms with recognisable products. In addition to this, questions are also designed based on Frieder and Subrahmanyam (2005) study which highlighted that investors preferred stocks of companies which are well-known with recogisable product, compared to those that are less familiar. Next, Questions on "self-attribution" bias are adopted from Dorn and Huberman. "Self-attribution" bias "causes investor to ascribe their success to their own skills and blaming failure on luck". Apart from this, respondents are asked if they are able to identify the low point of the market (Shiller, 1989, 2004). Questions based on studies carried out by Bernartzi, Kahneman and Thaler is also being utilised to determine if people are more optimistic than pessimistic while psychometrics-related questions on risk-taking are adapted from the studies by Garvey (2010). These questions are based on "Jackson's Personality Inventory" and "Tellegen's Multidimensional Personality Questionnaire (MPQ)".

Scope of research: The individual investors who are in the age group of at least eighteen years old and above are sampled. Ideally, they should have a minimum of two years of trading experience in the stock market. This age segment is being targeted as the official working age in Malaysia is sixteen years old based on the latest Malaysian Census report in 2010. Nevertheless, it must be noted that responses from experts in this field of finance, professional investors as well as institutional investors who are active in the Malaysian share market will be excluded in this study. The reason being is that they are generally more sophisticated and better informed of the psychological-induced factors involved in finance-related decision-making. Thus, including their responses may actually introduce biases that could undermine the reliability and accuracy of the findings.

Exhibit 1: lists of statements for variables in this study
Familiarity bias:
- "I only invest in those familiar shares"
- "I invest mostly in a well-known company with recognisable products"
- "I believe that the returns are higher for shares that I am familiar with"
- "I would invest in the share market when its' company announces good earnings even though I think its future earnings growth is going to be moderate"

Self-attribution bias:
- "My instinct has often helped me make good investments"
- "I am capable of identifying the low point of the market"
- "When I think about financial investment, I will spend more time thinking about potential gain rather than potential loss"

Risk-taking:
- Consider the appropriateness of this statement as a description of your own personality
- *"I would never go hang-gliding or bungee jumping"
- "I would stick to the rules"
- *"I would avoid dangerous situations"
- Note: *These questions are worded negatively for measuring the risk-taking personality and vice versa

Sample size and sampling procedure: As the sampling frame could not be established due to unknown total population of individual investors, both "quota sampling" as well as "snowball sampling" are used to select the individual investors. The selection is based on the control characteristics such as gender, age and the quota is set in accordance to the Malaysian ethnic composition such as Bumiputera (67.4%), Chinese (24.6%) and Indians (7.3%). The individual investors are then sampled from the states of Wilayah Persekutuan Kuala Lumpur, Selangor and Melaka. Subsequently, in "snowball sampling", respondents who meet the control characteristics proposed by the researcher are recommended by the initial respondent in "quota sampling".

RESULTS AND DISCUSSION

In this study, the results of the hypotheses testing are presented. Of 400 sets of survey questionnaires, only 138 sets of questionnaire are collected and after some omission, the remaining 128 sets of survey questionnaires are usable in this research. Firstly, descriptive statistics would be generated to provide a synopsis and summary of demographic profile as well as trading experience of the respondents in the share market. This section is followed by another subsection that explains the reliability test of each variable. Lastly, factor analysis; convergent and discriminant analysis; multiple regression analysis; correlation as well as independent sample t-test are presented.

Descriptive analysis: As shown in Table 1, 43.0% of the respondents are male and the remaining 57.0% are female investors. The largest cohort of investors is between the ages of 18 and 30 years old. This equates to 35.9% (46) of the total respondents. This is followed by 27.6% (68) investors in the age cohort between 21 and 30; 28.1% (36) of the investors in the age cohort between 31 and 40; 21.1% (27) of the investors in the age cohort between 41 and 50 and 14.8% (19) of the investors in the age cohort of 51 and above. All the respondents surveyed are Malaysian and 75.8% (97) of them are working adults. Investors who are self-employed comprises 18.8% (24) of the respondents. The student comprises 3.1% (4) and retirees 2.3% (3). With regards to investor experience, 63.3% (81) of the investors have experiences of <6 years; 15.6% (20) have experiences between 6 and 8 years. Ten investors, comprising 7.8% of the age cohort have on average 9-11 years of experience and lastly, 13.3% (17) of the investors have on average >11 years of investment experience.

Measures of validity and reliability: To establish the content validity, a pilot test is conducted. A survey questionnaire is distributed to 30 experienced investors to provide comments and feedback. Some wordings are changed and items omitted from the pilot questionnaire before questionnaires are subsequently sent out to the respondents.

Exploratory Factor Analysis (EFA) is used to assess the reliability and validity in this research. As shown in Table 2, the results of factor loadings, the Kaiser-Meyer-Oklin (KMO) for the construct of familiarity bias is 0.754, 0.674 for the construct of "self-attribution bias" and 0.647 for the construct of risk-taking. These values exceed the recommended value of 0.6 (Kaiser 1970, 1974) and Barlett's Test of Sphericity (Bartlett, 1954) reach

Table 1: Sample characteristics (n = 128)

Demographic profile	Frequency	Percent	Cummulative (%)
Gender			
Male	55	43.0	43.0
Female	73	57.0	100.0
Age			
18-30	46	35.9	35.9
31-40	36	28.1	64.1
41-50	27	21.1	85.2
>50	19	14.8	100.0
Occupation			
Student	4	3.1	3.1
Working adult	97	75.8	78.9
Self-employed	24	18.8	97.7
Retired	3	2.3	100.0
Investment experience (years)			
At least 2	60	46.9	46.9
3-5	21	16.4	63.3
6-8	20	15.6	78.9
9-11	10	7.8	86.7
>11	17	13.3	100.0

Table 2: Results of factor analysis from SPSS

Construct	Item	Loadings	KMO	Barlett's test sig.	Eigen value	Variance (%)
Familiarity bias	F4	0.844	0.754	0	2.578	64.46
	F3	0.816				
	F1	0.785				
	F5	0.765				
Self-attribution bias	SA2	0.811	0.674	0	3.184	63.09
	SA1	0.789				
	SA3	0.783				
Risk-taking	RT6	0.854	0.647	0	1.921	64.04
	RT7	0.806				
	RT5	0.737				

Table 3: Factor loadings significance from smart-PLS

Construct	Items	Loadings	S.E	t-value	p-value
Familiarity bias	F1	0.713	0.308	2.315	0.010
	F3	0.825	0.253	3.264	0.001
	F4	0.880	0.228	3.869	0.000
	F5	0.763	0.218	3.505	0.000
Risk taking	RT5	0.702	0.129	5.437	0.000
	RT6	0.910	0.052	17.511	0.000
	RT7	0.760	0.115	6.589	0.000
Self-Attribution bias	SA1	0.841	0.088	9.597	0.000
	SA2	0.846	0.086	9.867	0.000
	SA3	0.649	0.198	3.285	0.001

statistical significance, supporting the factorability of the correlation matrix. As illustrated in Table 2, the Eigen value for all constructs exceed the value of 1 (Kaiser, 1970, 1974) and the percentage variance explained for each construct is between 63.09 and 64.46%. Confirmatory Factor Analysis (CFA), using smart PLS software and a few items that are <0.7 are deleted. Loadings which are >0.7 are considered adequate (Fornell and Larcker, 1981). The results of CFA are illustrated in Table 3.

The analysis of internal reliability and convergent validity for constructs are illustrated in Table 4. Cronbach's Alpha as a reliability measure, confirms the internal consistency among the items in questionnaire. Based on recommendations by Nunnally *et al.* (1967), alpha value of 0.7 and above indicates homogeneity and

Table 4: Results of convergent validity

| | | Internal reliability | | Convergent reliability | |
Construct	Item	Loadings	Cronbach's alpha	Composite reliability a	Average variance extracted b
Familiarity	F1	0.713	0.815	0.874	0.636
bias	F3	0.825			
	F4	0.880			
	F5	0.763			
Risk	RT5	0.702	0.717	0.836	0.633
taking	RT6	0.910			
	RT7	0.760			
Self-	SA1	0.841	0.707	0.825	0.615
attribution	SA2	0.846			
bias	SA3	0.649			

[a]Composite reliability = square of total standardised loading/square of total standardised loading+sum of measurement error; [b]average variance extracted = sum of standardised loading square/sum of standardised loading square+sum of measurement error

Table 5: Discriminant validity results

Construct	Familiarity bias	Risk-taking	Self-attribution bias
Familiarity bias	0.798		
Risk-taking	-0.207	0.796	
Self-attribution bias	0.109	0.324	0.784

adequacy of items in measuring the same construct. Reliability analysis is also applied to examine the correlations among the items in the same group. Cronbach's Alpha of familiarity bias is 0.815, "self-attribution bias" is 0.707 and risk-taking behaviour is 0.717. Hence, all of the reliability coefficient test of variables that are conducted in this study are considered as reliable.

Besides reliability test, convergent validity is being used to measures how large the converge indicator in a single construct is. If the factor loading is high and significant, the indicator is deemed able to converge. Convergent validity is examined using factor loading, composite reliabilities and Average Variances Extracted (AVE), (Hair *et al.*, 2009). As illustrated in Table 4, results of the convergent validity, composite reliability for familiarity bias is 0.874; "self-attribution bias" is 0.825 and risk taking is 0.836. Thus, all the constructs exceed the recommended level of 0.7 as recommended by Fornell and Larcker (1981). The average variances extracted which reflect the overall amount of variance in the indicators accounted for by the latent construct are in the range between 0.615 and 0.636 and thus, exceed the recommended level of 0.5 (Hair, 2009).

In addition to convergent validity, the discriminant validity test is also conducted to indicate how much variance in the construct that is accounted for by the variance in the indicator. If the variance extracted for a construct is more than shared variance between the constructs, discriminant validity is established (Hair, 2009). In other words, discriminant validity can be examined by making the comparison using the correlations between constructs and squared root of
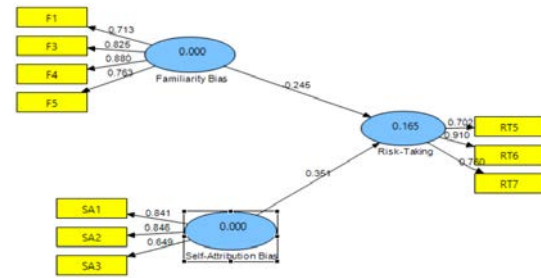

Fig. 2: Results of convergent validity

average variance extracted for a construct (Fornell and Larcker, 1981). As reflected in the results in Table 5, the correlation value between one construct and another construct is not more than the average variance extracted for each construct. Therefore, the measure instrument is considered to have adequate discriminant validity. In sum, the research instrument is deemed to have sufficient reliability, convergent validity as well as discriminant validity (Fig. 2).

Hypothesis testing: As shown in Table 6, familiarity bias and "self-attribution bias" are contributing factors that affect investor's risk-taking at $\alpha = 0.05$. Thus, hypothesis 1 is substantiated and we can conclude that the relationship between the familiarity bias and risk taking behaviour is negatively significant with p-value of 0.027 ($p < 0.05$). This could be attributed to the preference among the investors to abide by their past invesment decisions and thus are quite unwilling to try investing in stocks which are unfamiliar to them. This result lends support to findings noted by Samuelson and Zeckhauser (1988). In their findings; even when the environment is changing; investors tend to persist in maintaining their previous decision, a phenomenon known as "conservatism bias" which is closely associated with "status quo bias". Moveover, Barberis *et al.* (1998) suggests that investors' "confirmatory bias" leads to systematic error in the finance-related decision making. Consequently, the investors are inclined to exhibit tardiness in updating their beliefs not in accordance to the latest information. However, the results of this study contradict the studies done by Huberman (2001). Huberman (2001) reveals that preference for familiar companies among the investors is obvious as they feel that these shares of companies could generate more gains. The results of these studies are also not supported by Kang and Stultz (1997) who document that when people do invest their money in Foreign firms, they go for those that are familiar, large firms with recognisable products. In the same vein, a study by Frieder and Subrahmanyam (2005) also discover that investors prefer stocks of companies which are

Table 6: Hypothesis testing results

Hypothesis no	Hypothesised path	Path coefficient	S.E	t-value	p-value	Decision
H$_1$	Familiarity bias¬risk-taking	-0.2454*	0.128	1.9235	0.027	Supported
H$_2$	Self-Attribution bias¬risk-taking	0.3509***	0.072	4.8439	0.000	Supported

***p<0.001, **p<0.05, *P<0.01

Table 7: Independent sample test results

Results	Variance	F	Sig.	t	df	Sig. (2-tailed)	Mean difference	S.E difference
					T-test for equality of means			
Risk-taking	Equal variances assumed	3.915	0.05	-1.158	126.00000	0.24900	-0.12684	0.10953
	Equal variances not assumed	-1.194	125.453	0.235	-0.12684	0.10623		

well-known with recogisable product compared to those that are less familiar. However, Malaysian investors do not appear to indicate preference towards well-known companies with recognisable products. In sum, the result suggests that as Malaysian investors become more familiar with a particular stock, they are less reluctant to take risks and invest in other unfamiliar stocks.

While familiarity bias is found to have impacted risk-taking behaviour, "self-attribution bias" also affects risk-taking behaviour with a p value of 0.000 (p<0.001). Thus, H$_2$ is supported as well. Sometimes, investors may become overconfident about their own invesment decision-making. When their investments turn out to be a success, they attribute this success to their own abilities as they firmly believe that their decision-making in investment is always right. This viewpoint is supported by results presented by Nofsinger (2002). In his findings; relying on past success of investments made by individual investors and the notion that they are more superior than they really are; are among the key characteristics pertaining to investors. However, these findings seem to contradict a study conducted on the share market in Malaysia by Lim. Not all investors exhibit "self-attribution bias" according to Lim and some investors appear to be lacking in self confidence pertaining to skills and knowledge in trading. As Lim suggests, the Malaysian investors have inclinations to think negatively about the share market and do appear to be rather pessimistic about the stock prices.

Independent sample t-test: As shown in Table 7, the mean difference is not significant with a p-value of 0.249 (p >0.05) between males and females when it comes to taking risks. This finding is not supported by past studies done in other countries. Based on past evidences, male and females exhibit different attitudes towards risk as postulated by Embray and Fox (1997). Females are described as being more worried and tend to display anxiety in the process of decision-making. Females investors have the qualities of being more cautious and less confident in contrast to their male counterparts in decision making under risk (Johnson and Powell, 1994). In addition to this, Olsen and Cox (2001) note that the level of worry and sensitivity to uncertainties among the female investors are notably higher when investing in the financial market. In their observations, Barber and Odean (2002) note that male investors had a higher portfolio turnover compared to their female counterparts, implying that male investors exhibit more confidence in trading than females investors. As there are limited studies done regarding this issue, it is unsure whether the investing environment in Malaysia is different from the western countries. However, the risk taking behaviour between the genders could be quite similar.

CONCLUSION

In this research, familiarity bias and "self-attribution bias" are contributing factors that affect investor's risk-taking at $\alpha = 0.05$. The result suggests that as Malaysian investors become more familiar with a particular stock, they are less reluctant to take risks and invest in other unfamiliar stocks. These outcomes are mostly supported with the past findings indicated in other countries.

However, the results of this study contradict the studies done by Huberman (2001). Huberman (2001) reveals that preference for familiar companies among the investors is obvious as they feel that these shares of companies could generate more gains. The results of these studies are also not supported by Kang and Stultz (1997) who document that when people do invest their money in foreign firms, they go for those that are familiar, large firms with recognisable products. In the same vein, a study by Frieder and Subrahmanyam (2005) also discover that investors prefer stocks of companies which are well-known with recogisable product compared to those that are less familiar. However, Malaysian investors do not appear to indicate preference towards well-known companies with recognisable products.

"Self-attribution bias" which is reinforced by overconfidence bias is moderately impacting the risk taking behaviour of investor with p value of 0.027 (p<0.05). Their decision with regards to investment which

is definitely right with fewer occurrences of error is something that investors always believe in. This viewpoint is supported with results presented by Nofsinger (2011). However, these findings seem to contradict a study conducted on the share market in Malaysia by Lim. Not all investors exhibit "self attribution bias" according to Lim and some investors appear to be lacking in self-confidence pertaining to their skills and knowledge in investment.

As this study is only based on the population and demographics distribution pertaining to individual investors from a few states in Malaysia, future studies could include investors from other states, particularly from Sarawak or Sabah. The richness in ethnicity and cultural diversity in these two states may derive a different outcome in findings as investors may have different perceptions of risk taking and decision making in relation to investments. It is intended that the insights presented in this study be capitalised by both retail and institutional investors organisations as well as policy maker in strategy formulation particularly in performance monitoring of the Malaysian share market.

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