Factors Influencing Retail Investors' Trading Behaviour in the Thai Stock Market

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Abstract

This paper investigates trading behaviour among Thai retail investors in 2016. Using detailed survey data from 491 investors, we examine the characteristics and behavioural patterns that lead to investor bias. Empirical results in the behavioural finance literature indicate that retail investors may not behave reasonably. Behavioural biases may influence investor decisions and affect financial markets. These studies, however, are limited to subsamples of the overall investor groups studied and mainly focus on developed markets. We find that biases are common among investors and that men are more overconfident than women. Moreover, we discover that investors with more experience in trading are less likely to hold their stocks for long periods of time. Further, investors aged 45 and younger hold more diversified portfolios. Another finding is that participants with an income of more than 50,000 Baht a month and/or who employ a number of brokers hold more diversified portfolios. This evidence is consistent with the findings that have been reported for Turkey, India, and Vietnam, indicating that demographic factors are useful for distinguishing between investors in terms of the level of overconfidence bias they exhibit. This result confirms that demographic factors play a role in differentiating and classifying retail investors and should motivate future researchers to consider these factors in their research.[4]

***JEL classification**:* G11, G14, G41

Keywords: Behavioural Finance, Trading Behaviour, Retail Investor, Emerging Markets, Thailand

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[4] **ACKNOWLEDGMENTS**
We are grateful for helpful comments from two anonymous referees and participants in the FSSER International Conference on Human Resources, Social Sciences, Management, Business Economics & Marketing, Singapore. This research was supported by the Faculty of Business Administration and Accountancy, Khon Kaen University.

1. INTRODUCTION

Behavioural finance is an exciting new field, which had its formal beginnings in the 1980s as a sub-discipline of behavioural economics. It has two building blocks: limits to arbitrage, which argues that it can be problematic for rational traders to undo the dislocations caused by less rational traders, and psychology, which catalogues the kinds of deviations from full rationality that might be expected (Barberis & Thaler, 2003). The principal input to behavioural finance has been from experimental psychology. It combines theories from the areas of classical economics, finance, and psychology and tries to propose new ways of thinking about traditional finance theories (Huang, Shieh, & Kao, 2016). Methods developed within sociology—such as surveys, interviews, participant observations, and focus groups—have not had the same degree of influence. Usually, these methods have expenses associated with them; perhaps this is one reason for their lack of impact. It is also possible, however, that the training of finance academics leads them to prefer methodologies that permit greater control and clearer causal interpretations (Muradoglu & Harvey, 2012).

Investment decisions are made by investors and investment managers. Retail investors usually perform investment analysis by making use of fundamental analysis, technical analysis, and judgement. Investment decisions are often supported by decision tools. It is assumed that the information structure and factors in the market systematically influence retail investors' investment decisions and market outcomes. Investor market behaviour theories use the psychological principles of decision making to explain why people buy or sell stocks (Jagongo & Mutswenje, 2014). Many studies have shown that investors are not rational, markets may not be efficient, and prices may deviate significantly from fundamental values (Tekçe, Yılmaz, & Bildik, 2016).

According to Costa, Carvalho, and Moreira (2013), the United States has produced the highest volume of publications in this field, accounting for 1,386, or 52.96%, of the 2,617 articles gathered for their sample. The United States is followed by England and Germany, with 8.64% and 5.73% of the articles, respectively. It can be seen that most of the research in the behavioural finance literature that analyses retail investors has been conducted in developed countries. There are only a few studies covering specific issues in emerging markets (Brzeszczyński, Gajdka, & Kutan, 2015). Assuming that culture and, in particular, individualism affect trading behaviour, one may expect that people from different cultures will exhibit different psychological biases in their investment decisions. Given this, it would be highly desirable to test established concepts of behavioural biases in countries that are culturally very different (Phan, Rieger, & Wang, 2018). Therefore, we conducted a survey in Thailand, a country with a lower degree of individualism and several other significant cultural and economic differences from the previously studied countries.

Let us at this stage give some background information on Thailand and its stock market. Firstly, Thailand presents a dynamic market and a destination of choice for investors. The economic development has been increasing dramatically. The Thailand GDP growth rate is 3.98% approximately from 2000 through 2019. This figure is above the average of the world economy. (World Bank, 2020). Secondly, Thailand is a member of the Association of Southeast Asian Nations (ASEAN). In 2015, ASEAN countries expanded their economic collaboration to the

ASEAN+6, a grouping of 16 countries comprising the 10 ASEAN member countries are Brunei, Burma, Cambodia, Indonesia, Philippines, Malaysia, Laos, Singapore, Thailand and Vietnam, and six other countries in the Asia-Pacific region: Australia, China, India, Japan, Korea and New Zealand. Sethapramote (2015) shows a strong co-movement pattern which is the key success factor of economic development. The results of the study present that Thailand, Malaysia, Singapore, and the Philippines generally exhibit higher degrees of correlation than other ASEAN countries. In addition, there are the higher bond market integration within ASEAN counties more than outside the association (Chan, Dang, & Lai, 2018). Lastly, almost emerging equity markets have struggled after the 2007-2008 financial crisis, the Thailand stock market, on the other hand, has surged the one of the Asia's best performing markets. To sum up, the Thailand stock market affords the distinguish emerging market for both Thai and foreigner investors (Chancharat, Paisarn, & Maporn, 2019).

The rest of this paper is organised as follows. The next section presents a brief literature review and hypothesis development. Section 3 presents the data and methodology employed, and Section 4 reports on and discusses the results. The final section concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In recent years, there has been a significant growth in the number of articles in the field of behavioural finance. The literature on behavioural finance encompasses a wide variety of topics, including survey and secondary data analysis. Both approaches have made significant contributions in this area (Brzeszczyński et al., 2015; Prosad, Kapoor, & Sengupta, 2015). This section discusses some of the prominent researchers using these two approaches and is divided into three themes: the factors influencing individual trading behaviour, the effects of demographics on investor behaviour, and detailed literature on retail investor biases.

2.1 Factors Influencing Trading Behaviour

Jagongo and Mutswenje (2014) use a questionnaire to establish the factors influencing investment decisions on the Nairobi Stock Exchange and find that the most important factors that influence individual investment decisions are reputation of the firm, the firm's status in the industry, expected corporate earnings, profit and condition of statement, past performance of the firm's stock, price per share, feelings about the economy, and expected dividends for investors. By analysing the influence of investor personality, Tauni, Fang, Rao, and Yousaf (2015) investigate the association between information acquisition and trading behaviour. Their survey results on investors in the Chinese futures market indicate that retail investors who differ in their personality characteristics may vary in their information acquisition and trading behaviours. At the same time, Magron and Merli (2015) and Lapanan (2018) employ a database of over a million trades from European brokers to investigate the behaviour of investors. Their results reveal that investors' buying decisions are similarly sensitive to the past positive and negative returns of socially responsible and conventional funds. Investors' selling decisions, however, are more sensitive to the past negative returns on funds, and investors are less likely to sell socially responsible than conventional funds as past negative returns decrease.

2.2 Effects of Demographics on Investor Behaviour

Gender is the first demographic factor investigated in many studies. It is largely accepted that the risk behaviour of an individual depends on the gender. Loibl and Hira (2011) examine whether differences exist between male and female investors in the United States in terms of the information sources and the frequency of their use. The identified demographic and attitudinal characteristics could be a cause of the differences in information search strategies. Phan et al. (2018) also present the investment activities depend on the gender. This finding is comparable with previous researches like Prosad et al. (2015), Tekçe and Yılmaz (2015). The overconfident behaviour is common characteristic among the individual stock investors. The male investors picture the overconfidence more than female investors. Another interesting observation is that male and female investors have the difference in the trading volume. This result is consistent with Jiang, Liao, Wang, and Xiang (2020). They find that women display significantly lower financial literacy than men which is the main point of the less spending money on the stock investment.

Age is also analysed as the behavioural biases. The older investors tend to be less risk tolerant than younger ones. Dohmen et al. (Dohmen et al., 2011) assume that the elderly investors have a limit time to achieve their goals and objectives' life. The previous research found that biases are common factors among investors and younger investors exhibit more familiarity bias (Tekçe & Yılmaz, 2015; Tekçe et al., 2016). Based on the actual trading behaviour of retail investors in the Portuguese financial market over a period of almost 10 years, Abreu (2019) examines the sociodemographic characteristics of investors in warrants. The results find that younger and less-educated men are more likely to invest in warrants and that investors with more highly skilled jobs are more likely to invest in stocks only.

Moreover, using detailed survey data on emerging markets, Kannadhasan (2015), Prosad et al. (2015), and Phan et al. (2018) confirm that demographic factors play a role in differentiating and classifying retail investors, and they urge practitioners to continue to consider these factors in the future as well. Hoffmann and Shefrin (2014), however, investigate investor behaviour using brokerage data featuring clients' opening positions, transaction records, and matched survey responses from a sample of Dutch discount brokerage clients. Their results indicate that retail investors who report using technical analyses are disproportionately prone to having speculation on stock market developments, as their primary investment objectives are to hold more concentrated portfolios, which they turn over at a higher rate.

2.3 Individual Investor Biases

The impact of investor biases, such as overconfidence and the disposition effect on market makers and the concomitant implications for transaction costs, would seem to be a valuable topic for research (Subrahmanyam, 2007). Overconfidence increases expected trading volume, increases market complexity, and decreases the expected utility of overconfident traders. Its effect on volatility and price quality depends on who is overconfident. Overconfident traders can cause markets to underreact to the information of rational traders (Odean, 1998). Some of the notable work on this bias has been contributed by Sahi (2017), who relates this bias to financial satisfaction. Overconfidence has been related to demographic factors by Prosad et al. (2015), Tekçe and Yılmaz (2015), and Tekçe et al. (2016). Phan et al. (2018) examine the behaviour of

overconfident investors; however, Takeda, Takemura, and Kozu (2013) examine the effect of investors' investment literacy on their decision-making biases.

3. DATA AND METHODOLOGY

3.1 Survey Design and Sample Composition

Primary data have been collected through a survey-based technique for the present research. There are a number of strengths inherent in survey research: For example, surveys produce data that are unavailable from other sources, and the opinions obtained through survey responses can suggest new avenues for future research (Baker & Mukherjee, 2007). As per the objective of this study, only a specific segment of the population is of interest. Consequently, the data have been collected subjectively but from a relevant segment of the population (Prosad et al., 2015; Shalini & Ashok, 2012). In this case, the target respondents are people who invest, that is, people with savings and the capacity to invest in various financial segments. The study employs a single, cross-sectional survey design. A pilot study was conducted initially, and the main study was conducted in May and July of 2016. Around 700 retail investors, who covered a variety of demographic factors with various levels of investment experience, were asked to participate. Of those, 510 responses were received, of which 19 responses were incomplete in some way or the other, making the final number of responses 491.

3.2 Survey Instrument

Descriptive research is undertaken to investigate behavioural biases in investors with the help of a structured questionnaire. The questionnaire employed in this study consists of 40 items divided into four sections. The first section consists of six items that provide personal information, including details regarding gender, age, status, education, monthly income, and occupation. This helps to establish the demographic profiles of the investors. The rest of the items are scenario-based questions that ask the respondents to relate to hypothetical stock market situations. The scenarios are constructed in such a manner that the responses reflect the respondents' underlying behavioural biases. The scenario-based questions are divided into three parts, parts A, B, and C. Parts A and B contain close-ended questions, but Part C contains a mixture of open-ended and closed-ended questions. Each questionnaire, when completed, was checked for validity, including by an academic expert. Moreover, the reliability of the questionnaire was verified using Cronbach's alpha (Hoffmann & Post, 2016; Phan et al., 2018; Prosad et al., 2015).

Table 1: Descriptive Statistics for the Sample

Summary statistics	Count	Percent
Gender		
Male	265	53.97
Female	226	46.03
Age		
25 or less	91	18.53
26-35	166	33.81
36-45	128	26.07
46-55	66	13.44
Above 55	40	8.15
Status		
Single	271	55.19
Married	209	42.57
Divorced	11	2.24
Educational qualification		
Less than undergraduate	30	6.11
Undergraduate	284	57.84
Postgraduate or higher	177	36.05
Income (Baht/Month)		
25,000 or less	192	39.10
25,001-50,000	182	37.07
50,001-75,000	78	15.89
75,001-100,000	21	4.28
Above 100,000	18	3.67
Occupation		
Self-employed	89	18.13
Private employees	66	13.44
Government employees	145	29.53
Retired	21	4.28
Housewife	21	4.28
Other	149	30.35

Source: Author's calculations.

3.3 Respondent Profile

The respondents are segregated on the basis of demographics and trading sophistication. The importance of demographics—such as age, gender, education, profession, and annual income—in influencing behavioural biases has been highlighted by various researchers (Kannadhasan, 2015; Prosad et al., 2015; Tauni et al., 2015; Tekçe & Yılmaz, 2015). The composition of respondents in each category is presented in Table 1. Gender is mostly balanced, as 53.97% of the respondents are men, and 46.03% of the respondents are women. The summary statistics show that 59.88% of the respondents fell into the 26-45 age group (with 33.81% in the age group 26-35 and 26.07% in the age group 36-45). In terms of marital status, 55.19% of the participants were single, 42.57% were married, and 2.24% were divorced. More than half of the respondents have at least an undergraduate degree (57.84%), and 37.07% of the respondents had a monthly income between 25,001 and 50,000 Baht. Occupationally, 29.53% of the respondents were government employees, 18.13% were self-employed individuals, 13.44% were private employees, 4.28% were retired, 4.28% were housewives, and the rest belonged to other categories at the time of answering the survey.

3.4 Measuring Trading Behaviour

We include questions to enable us to reveal retail investors' trading behaviour, as reported in Table 2. These questions are designed for a subsection of participants who consider themselves to be equity investors. First, we ask investors for the holding period for their investment (the choices are "1 day," "less than 3 months," "3-12 months," and "more than 12 months"). Next, we ask investors, "What type of investor are you?" In this question, we code their possible choices as 1 = "Speculator (day trader)," 2 = "Short-term investor (hold period of less than 3 months)," 3 = "Medium-term investor (hold period of between 3 to 12 months)," and 4 = "Long-term investor (hold period of more than 12 months)." Further, to measure investors' diversification behaviour, we examine the components of their equity holdings with the following question: "How many sectors have you invested in?" In this manner, we capture investors who actively diversify their portfolios with stocks from different industries/sectors on the Stock Exchange of Thailand (Stock Exchange of Thailand, 2016).

Table 2: Investor Trading Behaviour

Holding Period				
How long of a holding period do you use?				
	1 day	**Lest than 3 months**	**3-12 months**	**Above 12 months**
N (percent)	33 (6.72)	150 (30.55)	183 (37.27)	125 (25.46)
What type of investor are you?				
	Speculator	**Short-term investor**	**Medium-term investor**	**Long-term investor**
N (percent)	51 (10.39)	144 (29.33)	158 (32.18)	138 (28.10)
Portfolio Diversification				
How many sectors have you invested in?				
	1 sector	**2 sectors**	**3 sectors**	**4 sectors or more**
N (percent)	47 (9.57)	28 (5.71)	55 (11.20)	361 (73.52)

Source: Author's calculations.

The trading activities of retail investors are presented in Table 2. This demonstrates that around 60% of the participants hold their portfolios for over 3 months, whereas less than 7% hold their stocks for less than a day, reflecting that most retail investors hold their stocks for longer periods. In addition, around half of the investors considered themselves to be medium-term and long-term investors (50.28%). Of the rest, 29.33% are short-term investors, and 9.57% are speculators. When identifying the diversification choices of investors, we find that the majority of participants hold diversified portfolios with a number of individual stocks. In particular, 73.52% reportedly invest in over four different industries/sectors, and 16.91% hold stocks in two to three different industries/sectors. Conversely, only 9.57% hold a concentrated portfolio within only one industry/sector. On the whole, our findings indicate that Thai investors seem to be long-term, diversified investors compared to the investors in developed stock markets.

3.5 Econometric Model

When the dependent variable is binary, the regression function should be interpreted as a conditional probability. Comparing the linear probability, probit, and logistic regression models, all three models are just approximations to the unknown population regression function. The linear probability model is easiest to use and to interpret, but it cannot capture the nonlinear nature of the true population regression function (Stock & Watson, 2015). Logistic regression models this nonlinearity in the probabilities, which are flexible in applications and easy to understand (Khermkhan, Chancharat, Chancharat, & Theinthong, 2015). As suggested by Kannadhasan (2015), we employ a logistic regression model to examine what affects retail investors' trading activities. To test the role of demographics as a classifying and differentiating factor, the study used logistic regression which could handle both continuous and categorical variables. Moreover, independent variables do not necessarily have to be normally distributed, linearly related, or be of equal variances within each group (Tabachnick & Fidell, 2014). Logistic regression was favoured to discriminant function analysis because this study is concerned in estimating simultaneous effects of both continuous and categorical variables as predictors.

4. RESULTS AND DISCUSSION

In this section, we study what affects retail investors' trading activities. This paper began this examination by investigating the sociodemographic characteristics of retail investors. In the next step, we examine holding periods and portfolio diversification and further examine what factors affect equity holdings. To analyse the data, we employ logistic regressions, in which the holding period, then diversification, is used as the dependent variable. As independent variables, we use the demographic attributes and financial knowledge. The importance of each of these variables in predicting an individual's investment behaviour is tested under different specifications.

Table 3: Determinants of Investor Trading Behaviour for Holding Period

Variables	B	S.E.	Wald	Sig	Exp(B)
Male	-0.98**	0.40	6.01	0.02	0.38
Age 45 or less	0.31	0.59	0.27	0.60	1.39
Single	-0.17	0.43	0.16	0.69	0.84
University education	-0.80	0.69	1.37	0.24	0.45
Income more than 50,000	-0.64	0.59	1.18	0.28	0.53
Self-employed	0.08	0.55	0.02	0.88	1.09
Experience	-0.78***	0.30	6.74	0.01	0.46
Account	-0.36	0.54	0.43	0.51	0.70
Number of brokers	0.36	0.29	1.55	0.21	1.43
Intercept	-0.37	1.06	0.12	0.73	0.69
Observations	491				
McFadden R^2	0.08				
Hosmer and Lemeshow test – chi square	4.04				
Predicted percentage correct	93.3				

Note: ** and *** denote statistic significant at the 5 percent and 1 percent level, respectively.
Source: Author's calculations.

Table 3 reports the logistic regression coefficients, Wald test, and odds ratio (Exp (B)) for each predictor on investor trading behaviour for holding period. Further it shows the Hosmer–Lemeshow goodness of fit test value. It indicates that there is not much difference between

observed and predicted values. Gender and experience had the ability to differentiate the level of investor trading behaviour for holding period. An overall correct classification observed is 93.3% of original group cases. In particular, men are more overconfident than women, which is consistent with the results obtained by Phan et al. (2018), who find that male investors tend to trade more frequently than female investors. In addition, we find that participants with more experience in trading are less likely to hold their stocks for long periods of time, although this effect is only statistically significant at the 10% level. These findings may be partly consistent with the results of Takeda et al. (2013) and Tekçe and Yılmaz (2015), who conclude that, contrary to expectations, experience increases overconfident behaviour, which means that investors' levels of knowledge are distinct from their levels of financial literacy.

Table 4: Determinants of Investor Trading Behaviour for Diversification

Variables	B	S.E.	Wald	Sig	Exp(B)
Male	-0.20	0.32	0.39	0.51	0.82
Age 45 or less	0.76*	0.44	2.99	0.08	2.14
Single	-0.35	0.38	0.81	0.36	0.70
University education	-0.29	0.66	0.20	0.66	0.75
Income more than 50,000	0.92*	0.52	3.15	0.08	2.51
Self-employed	0.08	0.49	0.03	0.87	1.08
Experience	0.04	0.19	0.04	0.85	1.04
Account	-0.08	0.39	0.05	0.83	0.92
Number of brokers	0.50*	0.29	2.93	0.09	1.65
Intercept	1.43	0.91	2.51	0.11	4.20
Observations	491				
McFadden R^2	0.04				
Hosmer and Lemeshow test – chi square	2.04				
Predicted percentage correct	90.4				

Note: * denotes statistic significant at the 10 percent level.
Source: Author's calculations.

Table 4 shows the logistic regression coefficients, Wald test, and odds ratio (Exp (B)) for each predictor used in diversification model. In addition, it shows the Hosmer–Lemeshow goodness of fit test value. It specifies that there is not much difference between observed and predicted values. Age, income and number of brokers had the ability to differentiate the level of investor trading behaviour for holding period. An overall correct classification observed is 90.4% of original group cases. Furthermore, we detect that participants who are younger than 45 years old hold more diversified portfolios. This finding is similar to the findings of Kannadhasan (2015). Another important finding is that participants who have an income of over 50,000 Baht per month and/or employ a number of brokers hold more diversified portfolios. This finding is similar to the results of Takeda et al. (2013), who demonstrate that financial knowledge and income level have a negative correlation with overconfidence bias.

5. CONCLUSION

Empirical results in the behavioural finance literature indicate that retail investors may not behave reasonably. Behavioural biases may influence investor decisions and affect the financial markets. These studies, however, are limited to subsamples of the overall investor groups studied and mainly focus on developed markets. This study determines the link between the trading behaviour of retail investors and demographic factors and behavioural biases in the Thai stock market. After

the global financial crisis, the Stock Exchange of Thailand surged to become one of the Asia's best-performing markets.

Using survey data from retail investors, we report several interesting findings. This study finds that male and female investors differ in the amount of time they hold their investments. Moreover, age and experience have negative correlations with behavioural bias. This evidence is consistent with findings that have been reported for Turkey, India, and Vietnam, showing that demographic factors are useful factors for distinguishing between investors in terms of their level of overconfidence bias. This result confirms that demographic factors play a role in differentiating and classifying retail investors and should motivate future researchers to consider these factors in their research.

This study has two significant implications. Firstly, individual characteristics and various dimensions of psychological and behavioural patterns have strong impacts on investment decisions and hence financial advisors should consider these attributes when giving financial advice to private investors. Secondly, understanding the drawbacks of these factors and effects may prevent investors from making wrong investment decisions, investment consultants and individual investors themselves should take effective measures to control such behaviour, otherwise, either their trading and consultancy performance or even welfare could be reduced due to common mistakes of traders.

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