Extending the Theory of Planned Behaviour: Impact of Past Behavioural Biases on the Investment Decision of Indian Investors

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ABSTRACT

Manuscript type: Research paper.

Research aims: This paper aims to investigate the applicability of the Theory of Planned Behaviour (TPB) in examining individuals' behavioural intention to invest in the capital market. This study extends on the TPB model by considering the role of past behavioural biases (PBB) as a factor in influencing the individuals' behavioural investment intentions.

Design/ Methodology/ Approach: This paper employs a hypothesis deductive approach. The research model is tested through structural equation modelling (SEM). Data were collected from 396 individuals in Eastern India through a survey and then analysed.

Research findings: The results of this study demonstrate the applicability of the TPB in predicting the individuals' behavioural intention to invest in the capital market. This study indicates that attitude toward behaviour, subjective norms and perceived behavioural control are significantly associated with behavioural intentions. The findings signify that the inclusion of past PBB can improve the predictive power of the model.

Theoretical contributions/ Originality: This study expands on the well-established TPB model by incorporating PBB in examining

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behavioural intentions. It also extends the applicability of the TPB in the area of investment decision making.

Practitioner/ Policy implications: The findings of this study reveal that behavioural biases are inseparable from normal human beings' decision making. The reason is because behavioural biases can distort the individuals' fundamental valuation of stocks. Therefore, it is imperative that fund managers incorporate this dimension as part of their risk modelling to enhance investment analysis and strategies. The outcome of this study can be used as a guideline for understanding the factors and programmes that need to be instilled to increase online stock trading among current and future investors.

Research limitation: This study is limited to non-financial sectors due to measurement limitations.

Keywords: Theory of Planned Behaviour, Past Behavioural Biases, Investment Decision Making.
JEL Classification: G11, G02, C91

1. Introduction

The human decision making process has long been of interest to researchers. Early works had approached the topic from the economic perspective (e.g. Sciffman & Kanuk, 2007; Fama 1970). One of the prevalent theories used then was the utility theory which proposed that individuals make choices by considering the expected outcomes of their decision. In this regard, a rational decision maker will avail him/ herself to all the information that is available by analysing the available options and by selecting the optimum course of action (Schiffman & Kanuk, 2007). The rational decision making of the individual has been advocated in prior studies on portfolio theory (Markowitz, 1952), capital asset pricing (Sharpe, 1964) and capital market efficiency (Fama, 1970). However, these theories are no longer considered to be realistic as individuals rarely have the privilege of getting adequate information, motivation or time to make such a perfectly rational decision (Simon, 1997). Behavioural economics has exhibited that human beings do not "naturally" make decisions like a rational human being is supposed to do. Instead, it is a well-accepted fact that human beings regularly make errors in their decision making (Tomer, 2016). As human beings, individuals are often described as seeking satisfactory rather than optimum choices (Tversky & Kahneman, 1974). Thus, the question arises as to whether the concept of irrationality is in tune with decision

makers who are supposed to be rational while making decisions. This study attempts to explore the phenomenon by studying the attitude of individuals towards their intention to invest in the stock market within a socio-psychological setting in the context of India.

Decision making can be rational or irrational. The irrational decision making of investors could be due to cognitive and psychological biases. According to Bernstein (1998), there is evidence of repeated patterns of irrationality, inconsistency, and incompetence in the way human beings arrive at their decisions and choices when faced with uncertainty. The presence of these phenomena in the financial market is the probable reason why the failure of risk management system is based on the neoclassical assumptions of normal distributions (Chittedi, 2014). Within the literature, researches in the financial market are moving towards the behavioural aspects of investment rather than adhering to the fundamental or traditional approaches (Listyarti & Suryani, 2014; Olokoyo, Oyewo, & Babajide, 2014; Sandberg, Hutter, Richetin, & Conner, 2016). With an alternative perspective looking at human behaviour, the paradigm of behavioural finance can thus shift to looking at other theories that are open to the multidisciplinary understanding of human behaviour (Tuyon & Ahmad, 2016). Such transitions in the finance research serve to uncover several approaches that can validate the fundamentals of behavioural finance.

While the importance of behavioural finance has been highlighted by scholars (Tuyon & Ahmad, 2016; Chittedi, 2014), there has been a lack of studies that focusses on India. In their observations of the Indian market, Kumar and Goyal (2016) noted that investors followed a rational decision making process when investing but the behavioural biases of the individuals can arise at various stages of the decision making. They found that this had impacted the different results found between the genders. There are also studies (Prabhu & Vachalekar, 2014; Kumar & Rajkumar, 2014; Subramanya & Murthy, 2013) that focussed on India with outcomes showing the investment behaviour of Indian investors. However, these were mainly focussed on the demographic profiles of the investors. The study of behavioural aspects that can influence the financial market is a fairly new area in India. Moreover, the study of determinants such as the socio-psychological aspects of investors had not been significantly addressed yet. Therefore, there is an imperative need for academic research to be conducted in this area so as to establish the validity of the individual's behavioural characteristics affecting their investment decision making.

Aiming to address this gap, the current study therefore endeavours to provide insights into the behavioural decision making process of individual investors in the Indian capital market. It expands on the literature pertaining to behavioural finance by incorporating the Theory of Planned Behaviour (TPB) which has been widely adopted in other fields of studies. This study expands on the TPB model by incorporating the element of past behavioural biases (PBB) as an additional measure to examine individuals' behavioural intentions.

According to Kidwell and Jewell (2008), past behaviours play a vital role in determining one's present behaviour. Despite this being so, little is known about how past behaviours might impact on the individual's informational processing within the model (Wood, Tam, & Witt, 2005). For example, will an individual with limited experiences be motivated to consider cognitive resources such as evaluating his/her silent beliefs when making decisions or will an individual with extensive experiences be likely to ignore the available information and to rely instead, on his/her past successful behaviour so as to get rid of the perceived level of difficulty before taking action? Relying on one's past behaviour or action is a cognitive bias. Individuals tend to ignore the importance of current information and such a behaviour is also termed as irrational behaviour, according to behavioural finance theories. These cognitive biases have been noted to manifest themselves through three most prominent ways: anchoring, representativeness and availability. As reflections of the individual's past experiences or past behaviours (Tversky & Kahneman, 1974), they seem relevant to how the individuals make their present decisions. Therefore, the past behaviour of the investors (past investing experience) is also taken into account when using the TPB model so as to analyse its impact on the investors' investment decision/intention.

The remainder of this paper is organised as follows. Section 2 reviews the relevant literature and develops the hypotheses and research model. Section 3 describes the research methodology. Section 4 reports the empirical results. Section 5 deals with the discussion of findings and section 6 concludes the paper.

2. Literature Review and Hypotheses Development

2.1 Theory of Planned Behaviour and its Applicability in Financial Decision Making

The Theory of Planned Behaviour (TPB) extends from Ajzen and Fishbein's (1980) theory of reasoned action (TRA). TPB has become one

of the dominant theories applied in a diverse area of behavioural studies (Shaw & Shiu, 2000). The theory asserts that attitude towards behaviour, subjective norms and behavioural control will collectively lead to the formation of behavioural intention (Ajzen, 1985). Attitude towards the behaviour (AT) refers to the degree by which a person has a favourable/ unfavourable evaluation of the behaviour of his/her interest. Subjective norms (SN) is defined as the perceived social pressure to perform/not to perform the behaviour while perceived behavioural control (PBC) is defined as the perception of the ease/difficulty in conducting the behaviour that resulted from the existence or absence of the required resources and opportunities.

Over the years, TPB has been validated and found to be useful in understanding and predicting human behaviours in various studies (Husin & Alrazi, 2017; Warsame & Ireri, 2016; Kovac, Cameron, & Høigaard, 2016). Within the context of finance literature, Gopi and Ramayah (2007) used the theory to predict Malaysian investors' inten-tion to trade online and to establish the relationships between attitude towards behaviour, social norms and perceived behavioural control. In a more recent study, Adam and Shauki (2014) illustrated a positive association between attitude, subjective norms, moral norms and the behavioural intention of socially responsible investors in Malaysia. Focussing on Singapore, Lee-Partridge and Ho (2003) examined the acceptance of Internet stock trading among investors. They found that attitude and social factors are the significant predictors of behavioural intention. From their survey, Mahastanti and Hariady (2014) detected that the intention of female lecturers of an Indonesian university to pur-chase financial products was influenced by their perceived behavioural control and risk preferences. However, the study did not provide substantial evidence to establish the relationship between subjective norms, attitude and behavioural intention. Overall, previous studies looking at financial behaviours have adapted the TPB to predict financial behaviours but little attention has been given to the context of India. While much literature has shown the applicability of the TPB in various contexts, it remains unclear how this model can be adopted in the Indian environment. Individual investors in India may react differently due to different economic settings and information asymmetries. Investors are unique and highly heterogeneous in nature, thus individual investors from different countries may experience distinct psychological and emotional biases which could influence their perception of risks. Sub-sequently, this will also affect their investment decision making. This

study aims to deliver a better understanding of the investors' investment decision making in the context of India. This is accomplished by uncovering the existence of differences that prevail in the investment decision patterns of Indian investors who also come from different economic settings and different levels of national industrialisation.

2.1.1 *Attitude towards Investment and Behavioural Intention to Invest in Stock Market*

Attitude is defined as a psychological and cognitive behaviour which individuals exhibit by assessment of any particular element with some degree of favourableness or unfavourableness (Eagly & Chaiken, 1993). Attitude helps an individual to decide whether a particular action should be taken or not by considering its negative and positive consequences. In this regard, behavioural intention depends on the positive or negative assessment of the individual towards a specific behaviour. The more positive an individual's attitude is, the stronger is his/her behavioural inclination. Conversely, the more negative the attitude is, the weaker the individual's behaviour inclination gets.

Existing research (Wood & Zaichkowsky, 2004; Fünfgeld & Wang, 2009) has shown that attitude towards risk is linked to investment behaviour. These studies (Wood & Zaichkowsky, 2004; Fünfgeld & Wang, 2009) found that people with different risk intolerant levels treat risks differently. This will result in different investment behavioural intentions. Investors who are risk-averse may choose to deposit their money into a bank account with a low but guaranteed interest rate instead of into a stock with high expected returns but involves high chances of losing value.

Other studies done by Kaiser, Oerke and Bogner (2007) and Dickson (2000) observed that investors' behaviours are more predictable when their attitude towards a particular financial product is known. These researchers have advocated attitude to be a factor that can influence the intention of an investor in making a choice for the wealth management services. Previous studies (Mandell & Klien, 2007; Borden, Lee, Serido & Collins, 2008) have also reported that there is a positive relationship between attitude and the individuals' behavioural intention in the context of financial decision making. Based on the findings and arguments, this study hypothesises that:

H$_1$: Individuals' attitude towards investment is positively related to the behavioural intention to invest in the stock market.

2.1.2 *Subjective Norms and Behavioural Intention to Invest in Stock Market*

Subjective norms refer to the individuals' perceptions on how they would be viewed by their reference groups if they engaged in certain behaviours (Cialdini & Trost, 1998). Subjective norms can also be defined as the perceived social pressure to perform/not to perform a certain behaviour in a particular situation (Ajzen, 1991). The influence of subjective norms in decision making is the result of the normative expectations of close family members, relatives and friends (Cavazos, 2013). Several researchers (e.g. Sharma & Gupta, 2011; Croy, Gerrans, & Speelman, 2012; Koropp, Kellermanns, Grichnik, & Stanley, 2014) have studied the influence of subjective norms in the area of financial investment. They found subjective norms to be a considerable influential factor affecting the investors' investment decision making; and investors with less financial knowledge often rely on the suggestions of family members, relatives and close friends when making investment decisions.

Hong, Kubik, and Stein (2004) also highlighted that elements such as relationships with neighbours and church visits can work as a proxy of sociability. These elements foster the individuals' stock market participation. The study also proposed that social investors are more attracted towards investment when more of their peers participate in the stock market. Hence, social norms can be described as a change of thinking that is reflected on an individual's behaviour due to his/her relationship with others. This implies that even though an individual may not have a constructive attitude towards investment, the incongruence between his/her attitude and family or friends' expectations, may influence the individual's behavioural intention. These respective individuals may pursue in stock market investments so as to ensure legitimacy since they may be looking for balance between their actions and others' perceptions. Based on these arguments, this study hypothesises that:

H$_2$: Subjective norm is positively related to the behavioural intention to invest in the stock market.

2.1.3 *Perceived Behavioural Control and Stock Market Intention*

Perceived behavioural control refers to the individual's perception of the ease/difficulty of performing the behaviour of interest (Ajzen, 1991). In this study, perceived behavioural control refers to the individual investor's perception of the ease/difficulty of investing in the Indian

stock market. Studies (e.g. Lin, 2010; Gopi & Ramayah, 2007; Blanchard et al., 2008) have been conducted in various contexts and there are adequate empirical evidences to show that perceived behavioural control has a significant impact on behavioural intention. In the context of financial decision making, Mahastanti and Hariady (2014) suggested that perceived behavioural control can be the only significant predictor for the investors' intention to invest in the stock market. The researchers found that when an individual has the opportunity and ability to invest in the stock market, he/she will then be motivated to perform these actions. In another study, Phan and Zhou (2014) found that the element of behavioural control can be used to explain Vietnamese investors' behaviours in the stock market of Vietnam. They further highlighted that past experiences, information acquired from relatives, family and friends and the availability of resources, all can help to control the perceived ease of difficulty in investment behaviours. Based on the argument of the studies discussed, this study hypothesises that:

H_3: Perceived behavioural control is positively related to the behavioural intention to invest in the stock market.

2.1.4 *Past Behavioural Biases, Attitude toward Behaviour and Stock Market Intention*

The Theory of Planned Behaviour (TPB) has been contested for its claim that attitude, subjective norms and perceived behavioural control are the sole predictors of intention behaviours. Some scholars (e.g. Botetzagias, Dima & Malesios, 2015; De Leeuw, Valois, Ajzen & Schmidt, 2015) have also illustrated that behavioural intentions are determined by other variables such as moral norms. Other scholars (e.g. Ekpe, Mohamad, Mat, & Simpong, 2016) found that behavioural intentions are also determined by socio-cultural influence and self-identity (Shaw & Shiu, 2013). While the extension to the TPB theory had improved the understanding and prediction of behaviour, previous studies noted above had assumed that behaviour is guided by reasoned considerations. When considering many behaviours related to investment behavioural intention, the research that is guided by the TPB seems to ignore one important aspect which is the repetitive nature of mankind. An individual who is performing a given behaviour may likely use his/her previous experience of that behaviour to perform a present behaviour. Thus, in the context of investment behaviour, decisions to invest in stock markets and investors' attitude towards

investment may be influenced by the experiences gained from previous investment decision. Based on this argument, past behavioural biases are incorporated into the TPB model as an additional element for measure.

Generally, past behaviour can be referred to as an action or reaction of a person in response to any stimuli in the past. Aarts, Verplanken, and Knippenberg (1998) argued that "because of frequent performance in similar situations in the past, these mental representations and the resulting action can be automatically activated by environmental cues" (p. 1359). An individual maintains his/her behaviour in a unique way and this can lead to behavioural biases. Many types of behavioural biases exist and they can be applied for investigating behaviour. Cognitive biases which are referred to as the tendencies to think and act in particular ways is one example of behavioural biases. Cognitive biases can lead to systematic deviations from a good judgement thereby, resulting in irrational decisions. Literature (Fiedler, 2016; Meiser & Hewstone, 2006) has revealed that cognitive biases lead to illusionary correlations which allow people to overestimate the extent of the correlation between two distinct variables. In addition, cognitive biases may also be related to the individual's tendency to allow a typical past behaviour to exert biased decisions on future behaviours (Morewedge & Todorov, 2012). In this study, past behavioural biases are examined in the form of cognitive biases. These are represented by anchoring, representativeness and availability biases. Anchoring occurs when a person experiences something and makes it as a referral point (anchor) to make a subsequent decision. Representativeness is a cognitive bias where an individual categorises situations on the basis of the patterns of past experiences, under the condition of uncertainty. Finally, the availability bias is termed as a cognitive error in decision making when a person relies on the readily available information in his/her mind rather than examining the whole circumstances. Based on the arguments, this study hypothesises that:

H_4: Past behavioural bias is positively related to the attitude of investors towards investment.

H_5: Past behavioural bias is positively related to the behavioural intention to invest in the stock market.

Based on the literature review and the hypotheses formulated, a research framework was developed for this study, as shown in Figure 1.
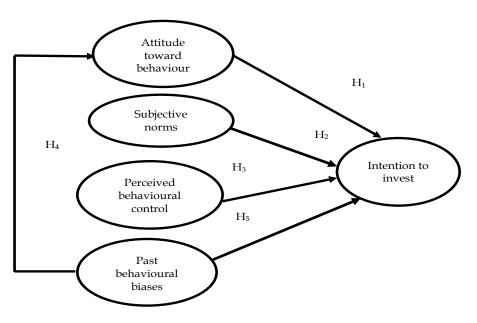
Figure 1: Research Model

3. Methodology

3.1 Operationalisation

This study employed a questionnaire survey to test the conceptual model and the hypotheses developed. As indicated in Table 1, the measurement used in this study were adapted from prior literature. In an effort to reduce the measurement bias, multiple items were used to measure each construct in this study (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Respondents were asked to answer questions based on the 5-point Likert scale. In order to ensure that the measurements utilised in this study satisfy the content validity, the questionnaire was also pre-tested with three fund managers, two experienced investors and two academicians. The reviewers were required to uncover any flaws in the questionnaire design and to assess whether the measurement items used correspond with the construct of interest. Feedback from the reviewing process is incorporated into the questionnaire as a re-vision. Based on the reviewing process, no major changes were made. Following this, a pilot study involving 40 experienced individual in-vestors was conducted. Reliability analysis was made; and Cronbach's

Table 1: Measurement of Constructs and Their Sources

Constructs	Measurement Variables	Sources
Attitude	AT1. Investment in stock market is a good idea. AT2. Investing in stock market is a wise choice. AT3. I like the idea to invest in stock market.	Chen (2007); Taylor and Todd (1995)
Subjective norms	SN1. My colleagues and friends are investing in stock market. SN2. Those who have important influence on me think that I should invest in stock market. SN3. People whose opinion I value would prefer that I should invest in stock market.	Taylor and Todd (1995)
Perceived behavioural control	PBC1. I know where to buy stocks. PCB2. I can identify profitable stocks easily. PCB3. I can invest in favourable stocks conveniently.	Taylor and Todd (1995); Bansal and Taylor (2002)
Past behavioural biases	PBB1. Past performance of stock affects present investment decision. PBB2. For an investment, whose historical performance has been consistently excellent, I will treat it as important. PBB3. Available information is enough for making investment decision. PBB4. Investing in the companies with poor earning history should be avoided. PBB5. Good stocks are firms with past consistent earnings growth.	Bloomfield and Hales (2002); Kaustia, Conlin and Luotonen, (2018).
Intention to invest	IID1. I will invest in stock market frequently. IID2. I will encourage my friend and family to invest in stock market. IID3. I will invest in stock market in near future.	Chen (2007)

alpha values of all the five constructs were noted to be above 0.7, indicating a good internal reliability.

3.2 Sample and Data Collection

The unit of analysis for this study is individual. This study targeted experienced individual investors who were working in eleven financial institutions that were located in four different states namely, Jharkhand, Bihar, Orissa and West Bengal. The respondents were drawn from a population of 700 individual investors by using the consecutive sampling approach where every subject in the population was selected until the required sample size was achieved. They were approached with the help of fund managers of the 11 financial institutions. Of the 700 questionnaires distributed, 550 were returned, resulting in a 75.7 per cent response rate. Of these numbers, only 396 responses were suitable and valid thereby considered for further analysis. Table 2 depicts the demographic profiles of the respondents. The results revealed that

Table 2: Demographic Profile of Respondents (n=396)

Variables	Category	Frequency	Percentage
Gender	Male	289	73
	Female	87	27
Age	<20	0	0
	20-30	130	33
	31-40	148	37
	41-50	82	21
	>50	36	9
Marital status	Married	278	72
	Unmarried	118	28
Education	< High School	19	5
	High School	13	3
	Diploma	9	2
	Bachelor's Degree	197	50
	Post Graduate	158	40
Annual income (in Rupees)	<200000	78	20
	200000–300000	23	6
	300000–500000	158	40
	>500000	137	34

majority of the respondents were males, aged between 31-40 years old and they possessed a bachelor's degree, with an annual income of between 300,000 to 500,000 rupees.

4. Analysis and Findings

This study employed structural equation modelling (SEM) by using the Analysis of Moment Structures (AMOS) as the primary data analysis technique. The usefulness of the SEM lies in its capacity to test the entire model and to assess the measurement errors, simultaneously (Schumacker & Lomax, 2012). This is particularly important if the errors are sizeable (Byrne, 2001). These characteristics have made SEM a powerful tool which has rigorous techniques that are capable of dealing with complex models (Tabachnick & Fidell, 2007; Hair, Anderson, Tatham, & Black, 1998). Given these considerations, the SEM was therefore, employed as a primary data analysis technique. In line with Anderson and Gerbing (1988), this study also used a two-model estimation technique such that a confirmatory factor analysis was first conducted before it is followed by a structural model analysis. This approach is better in facilitating the identification of the source of a poor model fit. Prior to the primary data analysis process, data were screened and examined to ensure that the assumptions about the data (e.g. sample size, missing variables, outliers and normality) were not violated. The descriptive analysis indicated that the percentage of missing data was 0.6 per cent with the data missing randomly. The missing data were then replaced with "regression imputation" (Lynch, 2003). Six responses were deleted due to the violation of outliers as they exceeded the threshold value of 1 (Stevens, 2012). The values of skewness and kurtosis were less than the threshold value, indicating that the data distribution was normal.

4.1 Measurement Model

A measurement model comprising all the construct of interests was evaluated. This study conducted convergent and discriminant validity tests to ensure that the measurements were in agreement and do not reflect other variables (Hair, Hult, Ringle, & Sarstedt, 2013). Convergent validity was examined based on factor loadings, composite reliability and the average variance extracted (AVE).

As illustrated in Table 3, all the variables had composite reliability ranging from 0.846 to 0.917, which exceeded the recommended values

Table 3: Result of Measurement Model: Convergent Validity

Constructs	Items	Factor Loading	Cronbach's Alpha Extracted	Composite Reliability	Average Variance
Attitude towards investment (ATI)	AT1	0.890	0.838	0.846	0.650
	AT2	0.820			
	AT3	0.700			
Subjective norms (SN)	SN1	0.910	0.916	0.917	0.787
	SN2	0.830			
	SN3	0.920			
Perceived behavioural control (PCB)	PCB1	0.720	0.847	0.850	0.655
	PCB2	0.860			
	PCB3	0.840			
Past behavioural biases (PBB)	PBB1	0.840	0.907	0.907	0.663
	PBB2	0.880			
	PBB3	0.840			
	PBB4	0.730			
	PBB5	0.770			
Intention to invest (IID)	IID1	0.880	0.856	0.859	0.671
	IID2	0.840			
	IID3	0.730			

of 0.7. In addition, the AVE of these constructs achieved the cut-off point of 0.5 (Hair et al., 2013). All the items loaded significantly with a factor loadings value of more that 0.6 (Bagozzi & Yi, 1988). These results demonstrate the convergent validity of the measures used.

In this study, discriminant validity was tested through the Hair et al. (2013) approach. All the scales appear to have a substantial-ly higher AVE value when compared to their correlation with other constructs thereby providing evidence of discriminant validity (Table 4).

The results of the measurement model indicate that various validity and reliability criteria are satisfactory. Therefore, constructs developed in this measurement model could be used to test the structural model and the associated hypotheses.

4.2 Structural Model

The results of the structural model are tabulated in Table 5 and depicted in Figure 2. The data fit the model well, χ^2/df (213.73) = 21.89; p=.19. All

Table 4: Correlation among the Constructs

Constructs	PBB	AT	SN	PBC	IID
PBB	**0.814**				
ATI	0.369	**0.806**			
SN	0.048	0.070	**0.887**		
PBC	0.181	0.234	0.108	**0.809**	
IID	0.520	0.645	0.182	0.388	**0.819**

Note: Bold values represent the square root of AVE. PBB: Past behavioural biases, ATI: attitude towards investment, SN: Subjective norms, PBC: Perceived behavioural control, IID: Intention to invest.

Table 5: Result of structural model and hypothesis testing

Path	B	t-value	Hypotheses	Results
ATI→IDD	0.50	9.447*	H_1	supported
SN→IDD	0.12	2.833**	H_2	supported
PBC→IDD	0.23	5.040*	H_3	supported
PBB→IDD	0.32	6.423*	H_5	supported
PBB→ATI	0.37	6.707*	H_4	supported

Note: ATI = attitude toward investment, SN = social norms, PBC = perceived behavioural control, PBB = past behavioural bias, IDD = intention to invest; ** denotes $p<.001$, * denotes $p<0.05$.

the fit indices were above the recommended threshold values (GFI=.94, TLI=.97, CFI=.97, RMSEA=.05) (Bagozzi & Yi, 1998), further indicating a parsimonious model. The model explained 53 per cent and 14 per cent of the variance in attitude towards investment and intention to invest respectively.

As can be seen, the result shows a good fit of all the accepted criteria required for the goodness of fit statistics since it fell under the acceptable value. Attitude towards investment (β=.50; t=9.447; $p<.05$), subjective norms (β=.12; t=2.833; $p<.001$), perceived behavioural control (β=.23; t=5.04; $p<.05$) and past behavioural bias (β=.32; t=6.42; $p<.05$) had significant relationships with intention to invest in stock market. Thus H_1, H_2, H_3 and H_5 were supported. Results also showed that past behavioural bias is positively related to attitude toward investment (β=0.37, t = 6.707, $p< .01$), hence supporting H_4.
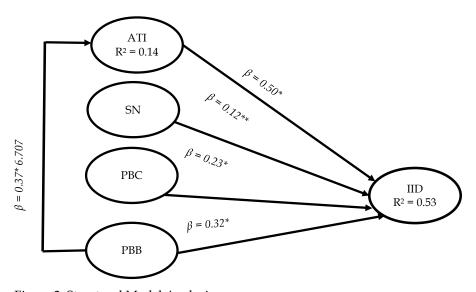
Figure 2: Structural Model Analysis

Note: PBB: Past behavioural biases, ATI: attitude towards investment, SN: Subjective norms, PBC: Perceived behavioural control, IID: Intention to invest.

5. Discussion

Building on the Theory of Planned Behaviour (TPB), this study aims to provide insights into the behavioural decision making process of individual investors in the Indian capital market. Unlike previous empirical works that also applied the same theory of TPB, the current study extends on the theoretical model by incorporating past behavioural biases as an element for examining investors' intention to invest in the stock market. The results show that the TPB seems to be very applicable to be used in determining the investment behaviour in the context of the Indian capital market. The explanatory power of the model increased from 44 per cent to 53 per cent thereby providing support for the addition of a new construct namely, past behavioural bias, into the research model. The outcome derived from this study illustrates that attitude towards investment, social norms, perceived behavioural control and past behavioural bias influenced the Indian investors' decision making.

Similar with previous studies (Wood & Zaichkowsky, 2004; Fünf-geld & Wang, 2009), this study found that attitude towards investment is the most significant predictor for intention to invest. This finding

indicates that all the investment activities of the individual investors were most likely to be determined by themselves, guided by their own attitudes. Indian investors who can afford to lose and are willing to take financial risks would have favourable attitudes toward investment and are more likely to invest. This result is not surprising since there are very few anecdotal studies that have reported on the various trainings and education programmes provided by the Securities and Exchange Board of India (SEBI) and the Association of Mutual Funds in India (AMFI). To some extent, these trainings and programmes may have increased the level of the investors' awareness and knowledge on various investment strategies and risk minimisation techniques (Jain, 2012; Kavitha, 2015). This situation may possibly help to instil a positive attitude among the investors in the country. They may have seen investment as a profit making activity for their future, hence they were further encouraged to have a positive behavioural intention towards investment.

The findings of this study also indicate that subjective norm was a significant predictor for behavioural investment intention. There was evidence of the substantial impact of social pressures among Indian investors too. Since India is a collectivistic society, where people do not want to be isolated from the societal group but aspire to gain an in-group identity, such outcomes were expected. The outcome of this study also shows that in the case of stock market investments, individuals intend to follow the opinion of others who they think are important. There is a higher chance that these individuals would not perform a certain action if those important persons do not agree with a particular investment action. This finding can be attributed to the social pressures that are exerted by the reference group members (friends and family) which are also likely to cause a specific behaviour (Kashif, Zarkada, & Ramayah, 2016; Shahriar & Polonsky, 2013). It is important to note that India has a joint family system which increases the number of family members as the family expands through marriages (Kaur & Kaushik, 2016; Kothari & Mindargi, 2013). In this system, younger family members commonly seek the advice of their older family members before they embark on certain decision making (Gill, Biger, Mand, & Gill, 2011). In this regard, family cultures may play a dominant role in the respective individual's investment decisions. Based on this, it is possible that the individual investors of the Indian capital market are likely to observe other behaviours when making investment decision. Besides taking the advice of their elders, they may also act as a result of the mutual imitation of other investors. They may also have an increased

perception of their self-confidence because of the conversation held with these people and through the persuasion of these key people. This phenomenon makes it difficult for the respective individual investors to distinguish between what is relevant and irrelevant information regarding the investment (Pascual-Ezama, Scandroglio, & Gil-Gomez de Liaño, 2014). As a result, this can lead to inconsistency in making their own judgment as well as irrational decision making (Chen, Rui, & Xu, 2003).

In this study, perceived behavioural control was found to be a significantly influencing factor for the investment decision process in the stock market of India. This outcome signifies that the level of financial knowledge, investment experience and resources like time, money and other peoples' cooperation, can affect the individual investor's investment decision making process. These findings are in line with the findings of previous studies (e.g. Mathieson, 1991; Shih & Fang, 2004; Fu, Farn, & Chao, 2006) which have accounted for a considerable positive link between perceived behavioural control and intention. This result is expected, given that more than 50 per cent of the samples were males. Previous studies looking at the investment patterns in India have recorded that males tend to have higher experiences and confidence in making investments (Arti, Sunita, & Julee, 2011). Hence, it is plausible that the investors in the current samples have engaged in investment activities longer, and so are more inclined to having a better experience which subsequently, allow them to gain more control over their behaviour. This would lead to their positive behavioural intention.

Further, this study also finds that past behavioural biases, which have been incorporated into the original TPB can be used to analyse the impact of cognitive biases (in terms of anchoring, representativeness and availability). It clearly plays a significant role towards investment attitude and intention. The variable, in particular, has shown a prominent impact as it makes a significantly higher contribution of 31.5 per cent to the exploratory power of the proposed theoretical model. This indicates the importance of past behaviours for determining the individuals' intention to invest in the stock market. In this regard, the findings indicate that individuals who depend on past behaviours are more likely to engage in cognitive biases which allow their typical past behaviour to exert a biased decision on their future behaviours. Past studies (e.g. Trehan & Sinha, 2011) have documented that experienced Indian investors tend to be overconfident about their knowledge and ability to pick up stocks. They commonly take credit for their previous successes assuming that they have full control over their portfolio. The

tendency of Indian investors to overestimate their abilities, their precision of information and knowledge may lead them to be too confident about their decision. This may affect their investment behaviour which may sometimes backfire, causing harm to the investors' portfolio.

6.   Conclusion and Implication

This research had set out to contribute to the body of literature in many ways. Firstly, this study extended on the knowledge of the behavioural aspects of individual investment rather than adhering to fundamental or traditional approaches. While there are studies highlighting the investment behaviour of Indian investors, these were mainly focussed on demographic factors. It remains unclear how the socio-psychological aspects can influence the investment behaviour of investors in the Indian context. Taking into consideration the theory of irrationality, this study is able to demonstrate that investors in the Indian capital market do not act in a purely rational manner. In fact, their investment decisions can be influenced by a number of other psychological biases.

Secondly, this study extended the TPB model by incorporating a new construct, past behavioural biases as a new construct to be used as a proxy to analyse the impact of anchoring, representativeness and availability biases. When considering the many behaviours related to investment behavioural intention, this study was also guided by the TPB although it seems to have overlooked one important aspect, the repetitive nature of human beings. It is deduced that an individual performing a given behaviour may likely use his/her past experiences of that behaviour as a model to behave. In the context of investment behaviour, the individual's decision to invest in the stock market and the individual's attitude towards investment may be influenced by the experiences gained from previous investment decisions. The results of this study suggest that the impact of PBB is not only significant for the investment intention, it is also significant for the formation of the attitude towards investment decision. It was observed that the behaviour that can be performed quickly, relatively effortlessly with minimum or sporadic attention can influence the future behaviour of the individual. Therefore, it is argued that future decisions on the individual's course of action and the individual's subsequent execution, were primarily guided by a reference point or an anchor (anchoring bias), information or events that had more resemblance with the present scenario (representativeness bias) and readily available information

in the minds of people (availability bias). Hence, this study provides a reference to the importance of PBB for explaining investment behaviour. This study also contributes to the field of behavioural finance by enriching literature with findings relevant to the Indian context. This study opens the scope for other studies to experiment with more financial market biases by working together with various behavioural models such as the TPB.

This paper also benefits practitioners. The insight on how an investment choice gets affected by the psychological variables can assist the financial advisors to advise their clients better. Many new instruments and schemes that could instil favouritism among the investors and which suit their needs, should be introduced to the public. Despite the importance of the social circle in influencing investment behaviour in the Indian capital market, it is imperative for the financial institutions to adopt a broader advertising strategy so as to create more awareness about the various channels of investments. A constant effort to promote the investment behaviour is essential as this would permit the investors to obtain higher levels of financial knowledge that would likewise facilitate their investment decision making process. This possibility is also seen as a good means to help investors to reduce irrational decision making levels. The clients, on a similar note, would appreciate the advice that suit their profile. While much of the economic and financial theories suggest that individuals act rationally, this study had shed some light which showed why people invest or do not invest in certain stocks. Despite that finding, many investors would desire to be rational by seeking advice from professionals before trading. It seems clear that individual investors are not emotionless creatures. Their choices can be affected by their emotions and they tend to use some heuristics in order to reduce the mental efforts and to ease the decision process. Realising this issue, it is thus important for the fund managers to consider behavioural biases in risk modelling where individual emotions can play a role in decision making.

Our findings also revealed that behavioural biases are inseparable from human beings' decision making. Hence, it is important for the investors to be aware of this issue so that irrational decision making can be avoided, and profitable investment strategies can be sought. As the financial market can appear to be the prominent segment where investors lose their hard-earned money due to socio-psychological factors, it is essential for them to understand these biases. This would

help them to be more aware of the existence and impact of irrational investment decisions. This would eventually prevent them from falling into the psychological trap when participating in the capital market. Investors who are more aware of the elements that may interfere with their behaviour and how the behaviour may occur, will be more precautious in making judgements.

Whilst this study extends on the previous literature on behavioural finance in India, it also carries some limitations. First, since this study was conducted only in the eastern region of India, there may be certain characteristics of the individuals that might not apply to other parts of India or other emerging markets. Therefore, it reduces the generalisability of the findings. Second, this study is only based on a single theory thus, there might be some other factors that have not been considered. It would be interesting if future research could incorporate the self-determination theory for the same purpose of examining behavioural intentions since this is seen to be helpful in gaining more in-depth findings on cognitive processes. Despite these limitations, it is believed that this study also offers some important implications for behavioural finance research from the view of an emerging economy, specifically, India.

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