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A Study on The Impact of Demographics Variable on Mental Accounting Prospect Biases of Individual Investors in Financial Decision

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Abstract
It has been asserted that investors' preferences for equities are influenced by their desires, cognitive flaws, and emotions. A succinct introduction to behavioural finance is given in this article. Research that rejects the conventional premises of expected utility maximisation with logical investors in efficient markets is referred to as behavioural finance. The study of psychology, according to financial economists, can explain stock market anomalies, market booms, and crashes as well as shed significant light on how unpredictable and erratic human behaviour can be. This has the potential to challenge the conventional wisdom that financial markets operate efficiently. Mental accounting bias is depicted in investor behaviour where Investors split their funds into many mental account tiers of a portfolio pyramid in order to achieve objectives like securing their retirement funds, paying for their kid's college, or being able to travel the world.
In accordance with the organization's power, the law, and its obligation commitments, the paper outlines ideas to improve the efficacy of financial decisions and identifies the psychological effects' limitations. In Practical, proposals about the adoption, execution, and evaluation of financial decisions were made considering scarce funds and rising need.

Keywords: Mental accounting; financial behaviour; investment decision; behavioural Bias; demographic factors

1. Introduction

As a sound financial system, behavioural finance is now being built. It provides bridges between theory, evidence, and practice and replaces some aspects of conventional finance while incorporating others (Statman, 2014). The limits of arbitrage and cognitive psychology are the two foundational concepts of behavioural finance (Ritter, 2003). It has been asserted that investors' preferences for equities are influenced by their desires, cognitive flaws, and emotions (Singh, 2012).
People get information from many sources, digest it in their minds, and then decide. When it comes to spending and investing, people are setting up several mental accounts for various objectives (Jain & Prakash, 2016). The collection of cognitive processes that people and families employ to plan, assess,

and keep track of their financial actions is known as mental accounting (Thaler, 1999). Sometimes, people divide choices that, in theory, should be integrated (Ritter, 2003). Each element of mental accounting goes against the fungibility economic tenet. The fungible theory states that the source of wealth growth—whether it comes from a regular wage, savings earnings, or winning bets—should not have an impact on subsequent spending habits (Broihanne, 2018). Mentally dividing up economic categories is referred to as mental accounting Antonides, G. (2011). As a result, mental accounting affects decision-making, meaning it is significant. Some studies show how the classification of funds differs depending on certain individual factors (Paul et al., 2017; Abeler & Marklein, 2017; Shah et al., 2015). In other words, the results of perception, appraisal, classification of finances, choice bracketing, and budgeting are the mental accounting components. For instance, money earned may not be handled the same way as money won in a lottery. It describes the differential examination of a currency's worth based on its source.

Mental accounting bias does not prevail in financial decisions only. With other aspects of life also, people show mental accounting biasness. In an effort to manage their time between work and leisure activities, people keep track of the passing time in their minds Rajagopal & Rha (2009). In order to protect investors from losses, mental accounting assesses the costs and advantages of loss avoidance choices (Armansyah, 2021). Investor bias causes stock prices to deviate from real prices and leads to incorrect stock pricing. Improper pricing of companies' shares affects financing decisions and, consequently, the company's investment decisions and causes the decisions of the company's governing bodies to deviate from the optimal investment decisions (Nofsinger et al., 2018). Jain Prakash (2016) found that distinct genders, age groups, educational levels, and income levels have different mental models for making judgments on whether to invest in gold and gold ETFs.

These results highlight the urgent need for more research that can explain how investors create and maintain mental accounting biases.

2. Literature review

Numerous studies show that people's perceptions of wealth are influenced by their mental accounting. Zhang Sussman (2017) highlighted some of the noteworthy research in this developing field that investigates how mental accounting affects budgeting, spending, and financial investments, with a special emphasis on mental accounting within the context of consumer financial decision-making. The study found an immediate connection between mental accounting and financial results. Kivetz (1999) examined current studies on how mental accounting and reason-based decision-making affect how consumers form their preferences and found that the buying and consumption of luxuries are frequently governed by mental accounting rules. Choi et al. (2009) showed that occasionally when choosing the asset allocation for one account, investors do not take their other accounts into account. Rajagopal & Rha (2009) concluded in the study that People mentally track their time and try to balance their time between work and leisure activities.

Mascareñas & Yan (2017) took into mind that varied degrees of risk and return portfolios correspond to the investors' mental accounting of risk and profit in order to satisfy their investing expectations. Only when their psychological demands are satisfied can investors engage in investing activity. Armansyah (2021) used the data on traders from 250 respondents, and the findings revealed that mental accounting and overconfidence had a substantial impact on investors' investment choices. Koohkan et al. (2021) showed that investors' mental accounting has a big impact on how corporations finance and invest their

money, and Investor bias results in stock pricing that is erroneous and causes stock prices to diverge from real prices. Broihanne et al. (2018) determine that the actual investment choices made by retail clients are in line with their mental accounting.

Kresnawati.Etik et al. (2019) explored the difference between using cash and debit cards as a form of payment will have an impact on how much money people spend on donations and shopping. Using MANOVA on 76 female samples showed that the amount of money used for shopping was unaffected by the method of payment, but the amount donated was. Li, Z. (2021) concluded that females are more likely to fulfill the criterion of rationality as they are less likely to employ mental accounting than males. Antonides, G. (2011) concluded that less wealthy individuals, those with a short-term outlook, and those with lower and intermediate levels of education are more likely to engage in mental budgeting. Despite the detrimental effects of debt load and short-term time orientation on these financial management variables, it appears that mental budgeting enhances family financial management by increasing the household's overview of spending and current accounts.

Muehlbacher, S. & Kirchler, E. (2019) found that mental accounting was shown to be adversely connected to education and impatience and significantly associated with female gender, conscientiousness, and financial education. Lee, K., Miller, S., Velasquez, N., & Wann, C. (2013) concluded that compared to women, men are more risk-tolerant. However, they suggested that rather than an innate inclination to participate in riskier action, this behaviour may be caused by a variation in how the risk being taken is perceived. According to Dolan (2013), males make more logical decisions than women, although the magnitude of the gap is diminished by a college degree. Jain.S and Prakash.D (2016) findings indicate that only knowledge of investing in gold differs considerably between men and women, with women significantly outperforming men in this area. Westerholm et al. (2003) concluded that male investors are often more diverse and engage in more trading than female investors and hypothesized that mental accounting is to blame for the lack of diversity seen by most investors. Cho, Insuk, and Dony Chalid (2021) discover that anchoring, loss aversion, and adjustment bias have a negative significant association with investment performance, whereas confirmation bias and mental accounting bias have a favorable link with investment success. Quaicoe, A., & Eleke-Aboagye, P. Q. (2021) found that along with mental accounting, overconfidence, and anchoring, it was shown that biases like regret aversion and gambler's fallacy also significantly influenced investment decisions. Quang, N. A. (2017) found that the frequency of the House Money Effect is correlated with age, gender, and investment experience. Rekik et al. (2013) found that Tunisian investors' view is influenced by factors such as loss aversion, anchoring, mental accounting, representativeness, and herding behaviour and not by overconfidence biases.

Mental accounting affects individuals in budgeting, investment, consumption, and evaluation of money. This paper concentrated on the connections between investment objectives and mental accounting, as well as how gender affects mental accounting biases in real investment decisions.

3. Research methodology

This study's dependent variable is investment choice, while the independent variable is mental accounting. In this study, an investment decision is defined as a decision taken by a responder to invest in equities on the national and Bombay stock exchanges. A sample of 197 individual investors from Delhi NCR was collected. 5 5-point Likert scale was used. The chi-square test was used for data analysis.

Objectives of the studies are:

1. To show the association between mental accounting bias and the marital status of individual investors.
2. To analyze the impact of gender on the mental accounting bias of individual investors.
3. To assess the relationship between mental accounting and the income of individual investors.
4. To determine the association between mental accounting bias and the level of education of the individual investors.

Many researchers, scholars, and professionals working in the financial markets are focusing on mental accounting as it has a big impact on how investors make financial and investing decisions. Because financial and investing decisions are personal choices made by investors, they are influenced by a variety of mental and psychological factors. It is now vital to understand the factors that influence financial decisions to buy or sell.

Markets, since comprehending investor behaviour enables one to precisely grasp and forecast the future movements of the financial markets, resulting in above-average returns or reducing the risk involved in making investments and financial choices.

Based on the objective, the following hypotheses were tested by using the Chi-square test:

H1: There is a significant statistical link between mental accounting bias and the marital status of the individual investors.

H2: There is a significant statistical link between mental accounting bias and the gender of individual investors.

H3: There is a significant statistical link between mental accounting bias and the income of individual investors.

H4: There is a significant statistical link between mental accounting bias and the level of education of the individual investors.

A total of 197 investor's data was collected. A convenience sampling technique was used. Cronch alpha test was used to validate the questionnaire, and chi-square was used to test the hypothesis.

4. Data analysis and Results

Based on the information gathered from 197 samples, we conducted descriptive and chi square analysis.

4.1 Cronbach's Alpha

Cronbach alpha is applied to check the validity of the variables. The results are given below:

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.905	4

On the bases of the Cronbach's alpha test score=0.902, which is more than 80 percent, so data is reliable.

4.2 Mental accounting bias and marital status

Ho: There is no significant statistical link between mental accounting bias and marital status of the individual investors.

H1: There is significant statistical link between mental accounting bias and marital status of the individual investors.

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.428[a]	4	.169
Likelihood Ratio	6.453	4	.168
Linear-by-Linear Association	1.074	1	.300
N of Valid Cases	197		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.62.			

Above table shows that the P values is greater than 0.5, which means null hypothesis is accepted. That is there is no impact of marital status on mental accounting bias of the investor.

4.3 Mental accounting bias and gender

Ho: There is no significant statistical link between mental accounting bias and gender of the individual investors.

H1: There is significant statistical link between mental accounting bias and gender of the individual investors.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.689[a]	4	0.0153
Likelihood Ratio	6.784	4	0.148
Linear-by-Linear Association	0.234	1	0.629
N of Valid Cases	197		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.22.

Above table shows that the P values is less than 0.5, which means null hypothesis is rejected. That is there is significant impact of income on mental accounting bias of the investor.

4.4 Mental accounting bias and education level

Ho: There is no significant statistical link between mental accounting bias and education level of the individual investors.

H1: There is significant statistical link between mental accounting bias and education level of the individual investors.

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.090[a]	4	0.131
Likelihood Ratio	7.191	4	0.126
Linear-by-Linear Association	0.482	1	0.487

N of Valid Cases	197		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.22.

Above table shows that the P values is greater than 0.5, which means null hypothesis is accepted. That is there is no impact of education on mental accounting bias of the investor.

4.5 Mental accounting bias and level of income

Ho: There is no significant statistical link between mental accounting bias and level of income of the individual investors.

H1: There is significant statistical link between mental accounting bias and level of income of the individual investors.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.617[a]	4	.039
Likelihood Ratio	4.691	4	.321
Linear-by-Linear Association	.536	1	.464
N of Valid Cases	197		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.23.

Above table shows that the P values is less than 0.5, which means null hypothesis is not accepted. That is there is significant impact of income level on mental accounting bias of the investor.

Results

The existence of behavioural biases thus implies that investors do not always make rational judgments, hence enhancing the efficiency of the stock market, and that, as psychological beings, their investing decisions are significantly influenced by their psychology. Due to signals formed in their brains, all people could make the proper or bad choice regarding financial matters.

This study shows that mental accounting bias plays an important role in investment decision-making. Although mental accounting bias is not linked with education and marital status, on the other hand, gender and income level have a significant impact on mental accounting.

Discussion

Recognising mental accounting may strengthen financial decision-making, resulting in increased savings and structured financial planning. Individual investor's self-regulation and self-control of financial decisions are also influenced by mental accounting.

When people get tax refunds, instead of wasting their tax refund on dining out, you should be asking yourself, "For what reason I paid an excessive advance tax?" It is important to think that we treat bonuses and salaries in the same manner. Both are money for us, but sometimes investors think that money is not fungible.

Zijia Li (2021). Stephan et al. (2019); Lee et al., C. (2013); Quang et al. (2017); Muehlbacher et al., 2017; Antonides et al., 2011 and Westerholm et al. (2003) also shown the impact of gender on mental

accounting bias. However, other studies (Olsen et al., 2019; Muehlbacher & Kirchler, 2013) concluded no effect of gender on mental accounting bias.

Windi Wijayanti and Suryo Budi Santoso (2022) showed education has an impact on mental accounting, but income does not. According to the results shown by Muehlbacher and Kirchler, 2013 Quang, N. A. (2017), and Muehlbacher et al., 2017, age has an impact on mental accounting bias. Olsen et al., 2019 and Muehlbacher and Kirchler, 2013 showed income has a positive impact on mental accounting, but Antonides et al., 2011 showed a negative relation with income.

When investors make judgments on each mental account independently, losing sight of the portfolio's full picture. This results in poor diversification of the portfolio and a poor risk-return ratio.

Individual investors avoid interaction between assets in different mental accounts due to cognitive errors in mental accounting. As a result, portfolios must be preferred over the mean-variance effective boundary.

Conclusion

The study examined several ways by which mental accounting influences financial decision-making. Our knowledge of mental accounting is critically dependent on knowing what causes people to construct the types of mental accounts they do, the circumstances under which the accompanying mental accounting rules stay effective, and the influence of mental accounting on outcomes.

The current study solely looked at whether individual investors in Delhi NCR have a mental accounting bias or not. Also, only a few demographic factors were analysed in this study. This study is limited to the investment decisions of individual investors only. Further impact of mental accounting on various types of decisions like retirement planning, money management, insurance planning, etc, can also be considered. Also, institutional investor's mental accounting biases can be studied by the researchers.

This study is helpful for investors in understanding the appropriate risk level of the investment, better saving, and more diversification of their portfolio as per their risk profile. Reminding the client that total returns are, after all, the top focus of any allocation is the greatest method to avoid mental accounting from decreasing total returns (Michael Pompian, 2012). Also, it will help financial experts understand their client's cognitive awareness of customer segmentation. Individual investors can maintain better self-regulation and self-control on their financial decisions after understanding the impact of mental accounting bias.

FUTURE SCOPE

The scope of this study was constrained to specific prospect mental accounting bias only. In order to further enhance the scope of future research in this particular domain, additional prospect biases should be incorporated. Other variables like risk behaviour can also include gaining a more comprehensive understanding of the subject matter and uncovering valuable insights.

This study exclusively focuses on individual investors, thereby limiting the scope to this specific group. The examination of institutional investors is also a subject of scholarly investigation.

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