"Predicting the financial behavior of Indian salaried-class individuals"

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# PREDICTING THE FINANCIAL BEHAVIOR OF INDIAN SALARIED-CLASS INDIVIDUALS

## Abstract

COVID-19 has caused not only unprecedented health crises but also economic crises among individuals across the world. White-collar (salaried-class) employees with a fixed salary face financial insecurity due to job loss, pay cuts and uncertainty in retaining a job. This study examines the financial behavior of Indian white-collar salaried-class investors to their cognitive biases. In addition, the mediating effect of financial self-efficacy on cognitive biases and financial behavior is examined. Respondents were given structured questionnaires (google forms) through emails and WhatsApp for data collection. SPSS and R-PLS are used to analyze the data. Conservatism ($r = -.603$, $p < 0.05$) and herding bias ($r = -.703$, $p < 0.05$) have a significant negative correlation with financial behavior. Financial self-efficacy has a significant positive correlation ($r = .621$. $p < 0.050$). Conservatism and herding predicted 60.5% and 62.2% of the variance, respectively. The direct and indirect paths between conservatism bias, financial self-efficacy, and financial behavior are significant. The paths between herding, financial self-efficacy and financial behavior are also significant.

| **Keywords** | behavioral finance, conservatism, herding, financial self-efficacy, financial decision-making, Bengaluru, India |
|---|---|
| **JEL Classification** | D91, G41, G50 |

## INTRODUCTION

The pandemic has distinctively increased irrational behavior (Wang et al., 2022) and has caused stress and anxiety among people. COVID-19 has had a significant effect on the Indian subcontinent. The total number of confirmed COVID-19 cases in India is around 40.46 million, with 0.528 million deaths (WHO, 2022). The pandemic has impacted the health as well as economic lives of individuals (Carroll et al., 2020). The estimated economic growth by R.B.I. was 10.5% in 2021–2022 (Business Standard, 2021b). The second pandemic wave hampered this in February 2021 (Economic Times, 2021). Indian economy faced a massive dip in Gross Domestic Product, with real GDP contracting from 8.3% in 2021 to 7.7% in 2022 (Economic Times, 2022). The effects of COVID-19 are enormous as it continues to rattle India's economy. These effects are not only limited to the macro level, but have seeped into the lives of individuals. This was mainly due to lockdowns, uncertainties, inflation, and medical expenditures. The containment measures since March 2020 have resulted in colossal unemployment (Rodriguez et al., 2021). India was facing an economic slowdown even before the pandemic arrived in India, as many salaried-class employees have been laid off periodically since 2019 (India Today, 2020). There was a massive rise in unemployment in India, which had sharply increased since the lockdown in March 2020. The pandemic was a final blow to the millions of salaried class people in India (India Today, 2020).

The weaker section of society took the initial hit of the lockdown, but the significant impact was on salaried-class urban individuals (CMIE,

2020). There was a sharp decrease in the income of salaried-class individuals as they were impacted by the economic slowdown caused by the pandemic. Indian salaried-class individuals are the key drivers of the Indian economy. Unemployment and low household incomes are the reasons why the growth of the country has been hugely hampered during the pandemic. Centre for Monitoring Indian Economy (CMIE) reported that around 18.9 million salaried-class (White-collar) individuals, including engineers, teachers, and accountants, among others, lost their jobs due to COVID-19 (India Today, 2020).

COVID-19 has impacted salaried-class employees and has had income strain since March 2020 (Kumar & Bhagavathi, 2022). Individuals with regular and fixed incomes are known as salaried individuals (Khan, 2019). Salaried individuals have fixed incomes, so they must carefully manage their resources to meet their life goals, especially after retirement (Atodari & Sharma, 2019). Investing while they are still working helps them create wealth for the future and makes them financially independent. Investors can systematically invest and plan their expenditures even after retirement (Atodari & Sharma, 2019). In these challenging times, an individual needs to be more prudent while making financial decisions, especially salaried ones. The pandemic increased the biases among individuals, which impacted their financial behavior. Cognitive biases escalate during times of fear and uncertainty (Bouri et al., 2021). Cognitive bias arises from faulty reasoning, and individuals can rectify it with reliable information and advice (Pompian, 2006). Financial uncertainty causes significant stress and leads to imprudent financial behavior.

# 1. LITERATURE REVIEW

Humans have always struggled to make decisions (Owie et al., 2017), especially if the decisions are financial (Hershey et al., 2015), and this escalated to another level during the pandemic. The availability of numerous financial products increases the complexities to another level (Weierich et al., 2011). Individuals should be rational and make prudent financial decisions by being aware of all the existing financial alternatives and taking prompt decisions to gain investment opportunities. To achieve quality decision-making capacity, they should be aware of their biases (Kannadhasan & Nandagopal, 2010a).

Individuals and households have financial disturbances during COVID-19 (Hasler et al.,2021). Individuals forcefully stayed in their homes, which caused significant stress, which is both psychological and financial (Rodriguez et al., 2021). This fear and uncertainty have caused biases among less-informed individuals (Aslam et al., 2022). Kahneman and Tversky (1979) developed prospect theory highlighting that investors weigh losses more than gains of the same magnitude. Prospect theory examines decision-making under uncertainty and reveals that investors are risk-averse or risk-taking according to the situation. Markets are not informationally efficient in real life, and individuals face constraints that act as cognitive limitations while making financial decisions (Simon, 1955). This theory is known as bounded rationality. Humans often take mental shortcuts when making financial decisions (Pompeian, 2012; Shefrin & Statman, 2011). The above two theories are the theoretical base for the study.

Herding is a cognitive behavioral bias, which is considered the root cause of volatility, bubbles and crashes and causes fragility of the financial market (Chaffai & Medhioub, 2018). Herding is a phenomenon where investors make a decision identical or similar to another investor and follows another person's actions and financial behavior (Chaing & Zheng, 2010). Hence herding can be defined as flocking with the rest. Black Swan events like terrorist attacks and epidemics create herding bias among humans (Burch et al., 2016) and cause market stress and thus increasing herding among individuals (Bouri et al., 2021). The uncertainty and fear have caused global volatility in financial markets (Aslam et al., 2020). Herding causes people to flock as they lack financial knowledge, forcing them to emulate the actions of others (Kumar & Goyal, 2016; Aslam et al., 2022). Individuals act irrationally and imitate the behavior of others out of greed or distress, which results in volatility in the market (Prosad et al., 2015). Herding further increases due to less confidence in processing the available information (Fernández et al., 2011). Individuals want to avoid risk, especially when the decision is complex. To simplify the decision, people

tend to herd, which means they follow others while making a financial decision (Fernández et al., 2011).

Sometimes people make decisions without considering the new information or are too slow to update their views on the same. This type of bias is known as conservatism (Grether, 1980). Individuals generally cling to their previous views and do not make decisions acknowledging the new information (Pompeian, 2006). Investors high on conservatism bias tend to underreact to new information due to the lack of ability to evaluate complex information, clinging to the forecast or are slow to react to new information (Juneja, 2020). Asian countries have investment biases like overconfidence and conservatism (Lim, 2012). Conservatism bias is one of the reasons why markets underreact to information. Individuals with a bad experience in the market, like a market crash, are more likely to have a conservatism bias (Shefrin, 2000).

Individuals with higher self-efficacy would not shy away from taking up a difficult task, as they treat it like a challenge rather than a threat. This initial reaction of an individual will guide his future behavior. Bandura (1978) discussed the well-being of an individual in his seminal work on self-efficacy. Self-efficacy is an individual's belief in their achievements and ability to use their skills in critical situations. Self-efficacy theory suggests that individuals will not effectively participate in those activities for which their self-efficacy is low (Van der Bijl & Shortridge-Baggett, 2002).

The concept of self-efficacy is applied in finance and is known as financial self-efficacy. A higher level of financial self-efficacy helps people make better financial decisions and strengthen their ability to bear financial difficulties easily (Bandura, 1994). Financial self-efficacy would make them more confident in their skills when making financial decisions (Noman et al., 2020). Individuals with high self-efficacy will update new information in the market effectively, which will not be the same as biased individuals.

The pandemic has threatened people's financial insecurity and impacted their financial behavior (Randi et al., 2021). The entire world is affected by COVID-19, but the impact of the pandemic differs from country to country (Kathpal et al., 2021).

Hence understanding the various biases faced by individuals in India is of utmost importance, especially when they are jobless during and after the pandemic. Unsteady income causes fear and stress among people and may further increase biases. Individuals may herd or cling to old information that impacts their financial behavior. The current study examines the role of herding and conservatism biases on the financial behavior of salaried class individuals. In addition, it also examines the role of financial self-efficacy in weakening the impact of herding and conservatism biases on financial behavior. While there have been past studies discussing the impact of biases on the financial behavior of individual investors, the mediating effect of self-efficacy has not been studied in detail, especially in the context of Indian salaried-class investors. Most of the studies have been on secondary data, and there is a paucity of research that analyzes cognitive biases using primary data. The effect of conservatism bias on financial behavior during the pandemic is also under-researched. The study examines the role of cognitive biases like herding and conservatism on the financial behavior of salaried-class individual investors.

The following are the hypotheses of the study.

$H_1$:   Conservatism bias affects the financial behavior of salaried-class individuals.

$H_2$:   There is a significant impact of herding on the financial behavior of salaried-class individuals.

$H_3$:   Financial self-efficacy of salaried investors mediates the relationship between conservatism biases and financial behavior.

$H_4$:   Financial self-efficacy of salaried-class individuals mediates the relationship between herding biases and financial behavior.

## 2. METHODOLOGY

The study was descriptive, and the data were collected using a structured questionnaire. The study population comprised of individuals living in Bengaluru, India. The researchers used purposive sampling to collect the data. To be eligible, the in-

dividual should be a white-collar salaried employee with one year of experience in investing, as they form a majority of the financially active population in the economy (OECD, 2021), and their financial behavior differs due to a regular and fixed income (Thakur, 2018).

The researchers contacted 763 salaried class investors living in Bangalore and received 500 complete responses from individuals from different socio-demographic backgrounds. The sample size is determined by using the rule of thumb that suggests a sample of more than 200 is adequate to ensure sample adequacy (Hoe, 2008; Singh et al., 2016). The final dataset also satisfied the ten times rule, which suggests that a sample of more than ten times the number of items is considered adequate (Barclay et al., 1995; J. Wang & X. Wang, 2019). The total number of items is 27; hence, the sample of more than 270 is considered adequate.

The questionnaire has four sections. Sections one, two, three and four analyzed conservatism bias, herding bias, financial self-efficacy and financial behavior, respectively, and assessed with a five-point Likert scale. Section five examined the socio-demographic characteristics of the respondents, like age, gender, and income. Herding bias and conservatism bias are measured using established scales (Waweru et al., 2008; Pompeian, 2006). A unidimensional six-item scale is used to measure the financial self-efficacy of investors (Lown, 2011). Financial behavior is measured on a 15-item scale (Nye & Hillyard, 2013).

43.1% of the sample belonged to the age group of 21 to 40 years, while 25.6% of the respondents were from the age group between 41 to 50. The rest 31.3% of the respondents were between the age of 51 to 60. 58.0% of the sample were males, while 42.0% were females. The maximum number of respondents, i.e., 52%, were in the income bracket of 11 to 20 lakhs, followed by 31% in the range of 21 to 30 lakhs. Only 17% of the respondents were from fewer than ten lakhs. The data was collected online for three months.

# 3. RESULT

First, the distribution of the variables was analyzed (Table 1). The skewness and kurtosis values were between −3 and +3; hence, the data are considered to be normally distributed (Kline, 2005).

**Table 1.** Descriptive statistics

| Variable | N | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| HERD | 500 | 2.76 | 1.15 | .105 | −1.55 |
| CONS | 500 | 2.68 | 1.09 | .152 | −1.64 |
| FSE | 500 | 3.19 | .769 | −.048 | −.692 |
| FB | 500 | 3.0 | .848 | −.098 | −1.24 |

Before testing the hypotheses, the researchers analyzed if financial behavior varies on the demographic factors of age, income and gender (Table 2). A One-way ANOVA is used to test whether financial behavior varies on age and income. Financial behavior is found to vary significantly with age (M = 3.2, S.D = 0.79 F = 203.24), income = (M = 3.22, S.D = 0.798 F = 148.75) and gender (M = 3.61, S.D = .5601 t = 16.21).

**Table 2.** ANOVA

| No. | Variable | Test | Test Statistic | Sig. |
|---|---|---|---|---|
| 1 | Age | One-way ANOVA | 203.24 | .000 |
| 2 | Income | One-way ANOVA | 148.755 | .000 |
| 3 | Gender | t-test | 16.21 | .000 |

Pearson correlation analyzes the relationship between the independent, mediating and depend-

**Table 3.** Correlation matrix

| Variables | Test | Conservatism | Herding | Financial self-efficacy | Financial behavior |
|---|---|---|---|---|---|
| Conservatism | Pearson Correlation | 1 | – | – | – |
| | Sig. (2-tailed) | – | – | – | – |
| Herding | Pearson Correlation | .924 | 1 | – | – |
| | Sig. (2-tailed) | .000 | −.534 | – | – |
| Financial self-efficacy | Pearson Correlation | −.374 | −.440 | 1 | – |
| | Sig. (2-tailed) | .000 | .000 | | – |
| Financial behavior | Pearson Correlation | −.603 | −.704 | .621 | 1 |
| | Sig. (2-tailed) | .000 | .000 | .005 | |

ent variables. There is a moderate negative correlation between conservatism (r = −.603 p < 0.05) and herding (r = −0.704, p < 0.05), while financial self-efficacy correlates positively with financial behavior (r = .621, p < 0.05).

The correlation analysis suggests that increasing biases results in imprudent financial behavior. On the other hand, as individuals' self-efficacy level increases, it results in favorable financial behavior. On the other hand, biases have a negative relationship with financial self-efficacy. With every unit increase in financial self-efficacy, the conservatism and herding bias would decrease.

The next step was to test the hypotheses of the study. R-PLS was used to examine the hypotheses.

## 3.1. Model 1

Model 1 will test the below hypotheses.

$H_1$:   *Conservatism bias affects the financial behavior of salaried-class individuals.*

$H_3$:   *Financial self-efficacy of a salaried-class individual mediates the relationship between conservatism biases and financial behavior.*

The first model consists of three variables such as conservatism (C), financial self-efficacy (F.S.E.), and financial behavior (F.B.).

### 3.1.1. Measurement model (C-FSE-FB)

The instrument is tested for reliability with the help of Cronbach's alpha value, DG.rho and eigenvalues. The results of the reliability are shown below(Table 4).

**Table 4.** Internal consistency reliability (C-FSE-FB)

| Variables | C.alpha | DG.rho | eig.1st | eig.2nd |
|---|---|---|---|---|
| C | 0.872 | 0.940 | 1.77 | 0.227 |
| FSE | 0.846 | 0.887 | 3.41 | 0.810 |
| FB | 0.818 | 0.880 | 2.59 | 0.659 |

The Cronbach's alpha value of conservatism (0.872), financial self-efficacy (0.846) and fincial behavior (.818) are above the threshold value of 0.7. The values of DG.rho of conservatism bias, financial self-efficacy and financial behavior are

0.940, 0.887 and 0.880, respectively, which are also above 0.7. Finally, the first eigenvalues are above one, and the second eigenvalues are less than one. After checking the reliability of the scales, the next step is to check the validity.

**Table 5.** Validity of scales (C-FSE-FB )

| Variables | Fornell-Larcker values | | | AVE |
|---|---|---|---|---|
| | C | F.S.A. | FB | Values |
| C | 0.941 | | | 0.886 |
| FSA | −0.452 | 0.753 | | 0.568 |
| FB | −0.694 | 0.627 | 0.804 | 0.647 |

Convergent and discriminant validity are used to analyze the validity of the scales. The values of AVE are used to examine the convergent validity. The AVE values of conservatism bias (0.886), financial self-efficacy (0.569) and financial behavior (0.647) are above the acceptable value of 0.5. Discriminant validity is established as there are no cross-loadings. The discriminant validity is also tested with Fornell-Larcker values. It is calculated by taking the square root of the AVE. The values of conservatism bias (0.941), financial self-efficacy (0.753) and financial behavior (0.804) are more than their correlation values. Hence it can be inferred that the model had discriminant validity.

### 3.1.2. Analysis of the structural model (C-FSE-FB)

The next step was to examine the inner model. The data set comprised 500 respondents, and bootstrapping was performed on 5,000 samples. The coefficient of determination is shown below (Table 6).

**Table 6.** Coefficient of determination (C-FSE-FB)

| Variables | Original | Mean. Boot | Std. Error | perc.025 | perc.975 |
|---|---|---|---|---|---|
| FSA | 0.205 | 0.210 | 0.0341 | 0.141 | 0.273 |
| FB | 0.605 | 0.609 | 0.0259 | 0.551 | 0.657 |

The $R^2$ value for financial self-efficacy is 0.205, which implies that the model can predict 20.5% of the variance in financial self-efficacy. The R2 value for financial behavior is 0.605, suggesting that the model can predict 60.5% of financial behavior. The bootstrapping results indicate that the model can predict 21.0% of the variance in financial self-efficacy and 60.9% in financial behavior.
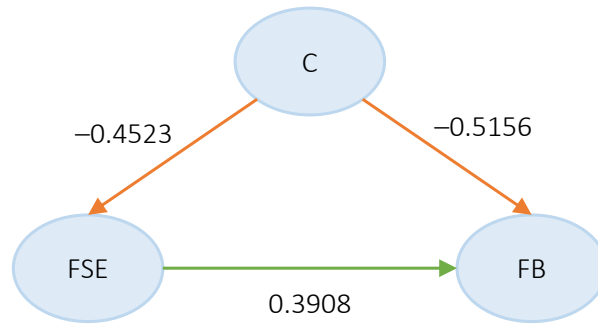
**Figure 1.** Mediation model (C-FSE-FB)

**Table 7.** Total effect size (C-FSE-FB)

| Relationships | Direct | Indirect | Total | Mean. boot | Perc.025 | Perc.975 |
|---|---|---|---|---|---|---|
| C → FSE | −0.452 | 0.000 | −0.452 | −0.456 | −0.522 | −0.375 |
| C → FB | −0.516 | −0.178 | −0.694 | −0.695 | −0.747 | −0.640 |
| FSE → FB | 0.394 | 0.000 | 0. 394 | 0.395 | 0.318 | 0. 465 |

The total effect size of the direct-indirect paths between the dependent and the independent variables are analysed (Table 7). Conservatism has a significant indirect effect (–0.178) on financial behavior, while the total effect is –0.694. The total effect on conservatism is 0.452. The path from financial self-efficacy is significant, and the effect size is 0.394. The mediation model is shown in Figure 1.

The analysis proved that conservatism bias impacts an individual investor's financial behavior and is mediated significantly by financial self-efficacy.

## 3.2. Model 2

Model 2 will test the below hypotheses.

$H_2$: *There is a significant impact of herding on the financial behavior of salaried-class individuals.*

$H_4$: *Financial self-efficacy of a salaried-class individual mediates the relationship between herding and financial behavior.*

### 3.2.1. Measurement model (H-FSE-FB)

The instrument is tested for reliability with the help of Cronbach's alpha value, DG.rho and eigenvalues (Table 8).

**Table 8.** Internal consistency reliability (H-FSE-FB)

| Variables | MVs | C.alpha | DG.rho | eig.1st | eig.2nd |
|---|---|---|---|---|---|
| H | 4 | 0.862 | 0.906 | 2.83 | 0.534 |
| FSE | 6 | 0.846 | 0.887 | 3.41 | 0.810 |
| FB | 4 | 0.818 | 0.880 | 2.59 | 0.659 |

The alpha value of herding (0.862), financial self-efficacy (0.846) and financial behavior (.818) is above the threshold value of 0.7. The values of DG.rho of herding, financial self-efficacy and financial behavior are 0.906, 0.887, and 0.880, respectively, which is also above 0.7. Finally, the first eigenvalue is above one, and the second is less than one under the acceptable limits. After checking the reliability of the scales, the next step is to check the scales' validity.

**Table 9.** Validity of scales (H-FSE-FB)

| Variables | Fornell-Larcker values | | | AVE |
|---|---|---|---|---|
| | H | F.S.A. | FB | Values |
| H | 0.841 | – | – | 0.708 |
| FSA | −0.444 | 0.754 | – | 0.569 |
| FB | −0.704 | 0.627 | 0.804 | 0.647 |

The AVE values of herding (0.708), financial self-efficacy (0.569) and financial behavior (0.647) are above the acceptable limits of greater than 0.5. Discriminant validity is determined as there were no cross-loadings. The discriminant validity is also tested with Fornell-Larcker values. It is calculated by taking the square root of the AVE. The values of herding (0.841), financial self-efficacy

**Table 10.** Coefficient of determination (H-FSE-FB)

| Variable | Original | Mean. Boot | Std.Error | perc.025 | perc.975 |
|---|---|---|---|---|---|
| FSA | 0.197 | 0.201 | 0.0343 | 0.137 | 0.269 |
| FB | 0.619 | 0.622 | 0.0246 | 0.572 | 0.668 |

**Table 11.** Total effect size (H-FSE-FB)

| Relationships | Direct | Indirect | Total | Mean. boot | Perc.025 | Perc.975 |
|---|---|---|---|---|---|---|
| H → FSE | −0.444 | 0.000 | −0.444 | −0.446 | −0.519 | −0.370 |
| H → FB | −0.531 | −0.174 | −0.704 | −0.705 | −0.751 | −0.657 |
| FSE → FB | 0.391 | 0.000 | 0. 391 | −0.392 | 0.321 | 0. 461 |

(0.754) and financial behavior (0.804) are more than their correlation values.

### 3.2.2. Analysis of the structural model (H-FSE-FB)

The next step was to examine the inner model. The data set comprised 500 respondents, and bootstrapping was performed on 5,000 samples.

The $R^2$ value for financial self-efficacy is 0.197, which implies that the model can predict 19.7% of the variance in financial self-efficacy. The $R^2$ value for financial behavior is 0.619, suggesting that the model can predict 61.9% of financial behavior. The bootstrapping results indicate that the model can predict 20.1% of the variance in financial self-efficacy and 62.2% in financial behavior (Table 10).

The total effect size of the direct-indirect paths between the dependent and the independent variables are analysed (Table 11). Herding has a significant indirect effect (−0.174) on financial behavior, while the total effect is −0.704. The total effect on herding is 0.444. The path from financial self-efficacy is significant, and the effect size is 0.391. Figure 2 shows the mediation model of herding, financial self-efficacy and financial behavior of an investor. The mediation model is shown in Figure 2.

## 4. DISCUSSION

COVID-19 has affected not only the physical and mental well-being of an individual, but also affected employment situations in many countries. Jobs and businesses were affected due to COVID worldwide, and India is one of the nations impacted the most. Around 60% of people could not go to work due to a significant decline in economic activities in India (OECD, 2020). Even after the lockdown ended, reemployment was a challenge, and it changed people's financial behavior (Luo et al., 2020). Uncertainties during the lockdown were the reason for the high volatility in the markets during the pandemic, as various biases clouded the judgement of the individuals (Kathpal & Siddiqui, 2021). The current study found a statistically significant relationship between conservatism bias, herding bias and financial behavior of Indian salaried-class individuals. Moreover, financial self-efficacy has significantly mediated the relationship between conservatism bias, herding bias and financial behavior.

The conservatism bias of Indian salaried-class individuals negatively impacts their financial behavior. Conservatism bias has an adverse effect on people's decision-making capacity, as they
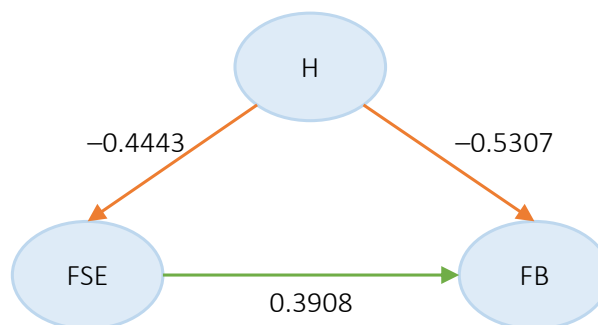


**Figure 2.** Mediation model (H-FSE-FB)

do not have a prompt reaction to new information, which clouds their judgement (Juneja, 2020). During the pandemic, individuals in India were slow to react to new information and suffered from conservatism bias. The fear of the unknown makes them stick to old information, affecting their decision-making capacity (Shankar, 2022). Investors fail to upgrade their notions, which significantly affects financial behavior, and this increases in times of uncertainty (Altig et al., 2020). Conservatism causes investors to underreact (Luo, 2012) and is detrimental to their financial behavior, and analytical reasoning can rectify it (Hoppe & Kusterer, 2011). Only a few studies have focused on conservatism bias in Asian countries and its impact on financial behavior (Bakar & Yi, 2016; Rahim et al., 2019). Conservatism bias restricts individuals from acting promptly on new information, and this is amplified during the pandemic. During COVID-19, individuals leaned towards the information or data which supported their prior beliefs. They further surround them with people and news that validate their beliefs. The main motive for witnessing such behavior is to reduce risk in uncertain situations (Wang & Young, 2020).

Herding has a negative impact on the financial behavior of salaried-class Indian individuals. It implies that people with herding bias cannot make prudent financial behavior. Herding often increases during panic, fear and uncertainty (Yousaf et al., 2018). COVID-19 shocked investors, as individuals have never seen such health crises (Liu et al., 2020). The fear of the pandemic has exposed the vulnerabilities of financial markets, especially in emerging economies. The markets have never seen extreme volatility and have amplified herding (Baker et al., 2020). Investors in emerging markets are less experienced, struggle to get information, and have insufficient financial knowledge (Pattnaik et al., 2013). These induce herding in a crisis and cause dire financial consequences (Chen et al., 2014). The results suggested that the herding among the individuals magnifies fear, stress, anxiety and uncertainty. The results align with other studies in the same area (Balcilar & Demirer, 2015; Dhall & Singh, 2020). Financial self-efficacy is the key to making effective financial decisions, and eventually, it changes people's financial behavior (Qamar et al., 2016). Individuals with a higher level of financial self-efficacy may weaken the effect of conservatism and herding bias on financial behavior. Financial self-efficacy helps incorporate all the information, safeguard investors from conservatism bias, and make effective financial decisions.

The mediation effect was negative, meaning that with an increase in financial self-efficacy, the impact of biases will reduce, resulting in better financial behavior. Financial self-efficacy improves the investors' ability to make better financial decisions. Investors with a higher level of financial self-efficacy believe in their ability to organize and implement the course of action and will have lesser biases (Forbes & Kara, 2010). It also assists investors in making better financial decisions like financial planning (Topa et al., 2018) and saving behavior (Ismail et al., 2017; Magendans et al., 2017).

## CONCLUSION

The study aimed to examine the role of herding and conservatism biases on the financial behavior of Indian salaried-class individuals. In addition, the study also measured the effect of financial self-efficacy on the financial behavior of salaried-class Indian individuals. The study highlighted that herding and conservatism bias negatively affect individual financial behavior. Financial self-efficacy weakens the effect of conservatism bias, herding bias on financial behavior.

While Indian salaried-class investors are affected by cognitive biases like conservatism bias and herding, a higher level of financial self-efficacy reduces the biases among the investors leading to wise financial decisions. In comparison, a lower level of financial self-efficacy would push the investors to herd, cling to their prior beliefs, and suffer from conservatism bias. The study results will help salaried-class individuals understand biases' role in imprudent financial behavior. The policymakers and the government should focus on improving the investors' financial self-efficacy to help them make wise financial decisions. A study on behaviors has its limitations. While researchers tried to minimise response bias,

the same cannot be ruled out completely. The study is based on perception data, and while the method is acceptable, establishing the causal relationship would require further study. The study only discusses the effect of two biases on the financial behavior of a salaried-class individual, other biases like overconfidence, loss aversion, and regret aversion should be analyzed too. The study only focuses on salaried-class individuals, and studies can be conducted on financial behavior of self-employed/business-class individuals. Factors such as emotions, financial literacy, personality, and stress were not part of the study and should be explored by other researchers.

## AUTHOR CONTRIBUTIONS

Conceptualization: Ankita Mulasi, Jain Mathew.
Data curation: Ankita Mulasi.
Formal analysis: Ankita Mulasi Jain Mathew.
Investigation: Ankita Mulasi.
Methodology: Ankita Mulasi, Jain Mathew.
Project administration: Ankita Mulasi, Jain Mathew, Kavitha Desai.
Supervision: Jain Mathew, Kavitha Desai.
Validation: Ankita Mulasi, Jain Mathew.
Visualization: Ankita Mulasi, Jain Mathew, Kavitha Desai.
Writing – original draft: Ankita Mulasi.
Writing – review & editing: Jain Mathew, Kavitha Desai.

## ACKNOWLEDGMENT

## REFERENCES

1. Altig, D., Baker, S., Barrero, J. M., Bloom, N., Bunn, P., Chen, S., Davis, S. J., Leather, J., Meyer, B., Mihaylov, E., Mizen, P., Parker, N., Renault, T., Smietanka, P., & Thwaites, G. (2020). Economic uncertainty before and during the COVID-19 pandemic. *Journal of Public Economics, 191,* 104274. https://doi.org/10.1016/j.jpubeco.2020.104274

2. Aslam, F., Ferreira, P., Ali, H., & Kauser, S. (2022). Herding behavior during the Covid-19 pandemic: a comparison between Asian and European stock markets based on intraday multifractality. *Eurasian Economic Review, 12*(2), 333-59. https://doi.org/10.1007/s40822-021-00191-4

3. Aslam, F., Mohmand, Y. T., Ferreira, P., Memon, B. A., Khan, M., & Khan, M. (2020). Network Analysis of Global Stock Markets at the beginning of the Coronavirus Disease (Covid-19) Outbreak. *Borsa Istanbul Review, 20*(1), S49-S61. https://doi.org/10.1016/j.bir.2020.09.003

4. Atodaria, Z., & Sharma, R. (2019). Investment Pattern of Salaried Class of Somnath (Daman) – a Study of Various Investment Options Available. *International Academic Journal of Social Sciences, 6*(1), 49-61. https://doi.org/10.9756/iajss/v6i1/1910005

5. Bakar, S., & Yi, A. (2016). The impact of psychological factors on investors' decision making in Malaysian stock market: a case of Klang Valley and Pahang. *Procedia Economics and Finance, 35,* 319-328. https://doi.org/10.1016/S2212-5671(16)00040-X

6. Baker, S. R., Bloom, N., Davis, S. J., Kost, K. J., Sammon, M. C., & Viratyosin, T. (2020). *The unprecedented stock market impact of COVID-19* (Working Paper No. 26945). NBER. https://doi.org/10.3386/w26945

7. Balcilar, M., Demirer, R. (2015). Effect of global shocks and volatility on herd behavior in an emerging market: Evidence from Borsa Istanbul. *Emerging Markets Finance and Trade, 5*(1), 140159. https://doi.org/10.1080/1540496x.2015.1011520

8.  Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. *Advances in Behaviour Research and Therapy, 1*(4), 139-161. https://doi.org/10.1016/0146-6402(78)90002-4

9.  Bandura, A. (1994). *Self-efficacy* (Vol. 4). New York: Academic Press.

10. Barclay, D., Higgins, C., & Thompson, R. (1995). The Partial Least Squares (PLS) Approach to Causal Modelling: Personal Computer Adoption and Use as an Illustration. *Technology Studies Special Issue on Research Methodology, 2*(2), 285-309.

11. Bouri, E., Demirer, R., Gupta., R., & Nel, J. (2021). COVID-19 Pandemic and Investor Herding in International Stock Markets. *Risks, 9*(9), 168. https://doi.org/10.3390/risks9090168

12. Burch, T. R., Emery, D. R., & Fuerst, M. E. (2016). Who Moves Markets in a Sudden Marketwide Crisis? Evidence from 9/11. *Journal of Financial and Quantitative Analysis, 51*(2), 463-487. https://doi.org/10.1017/S0022109016000211

13. Carroll, N., Sadowski, A., Laila, A., Hruska, V., Nixon, M., Ma, D., & Haines, J. (2020). The impact of Covid-19 on health behavior, stress, financial and food security among middle to high income Canadian families with young children. *Nutrients, 12*(8), 1-14. https://doi.org/10.3390/nu12082352

14. Chaffai, M., & Medhioub, I. (2018). Herding behavior in Islamic G.C.C. stock market: a daily analysis. *International Journal of Islamic and Middle Eastern Finance and Management, 11*(2), 182-193. https://doi.org/10.1108/IMEFM-08-2017-0220

15. Chen, H., Chong, T. T. L., & She, Y. (2014). A principal component approach to measuring investor sentiment in China. *Quantitative Finance, 14*(4), 573-579. https://doi.org/10.1080/14697688.2013.869698

16. Chiang, T. C., & Zheng, D. (2010). An Empirical Analysis of Herd Behavior in Global Stock Markets. *Journal of Banking & Finance, 34*(8), 1911-1921. https://doi.org/10.1016/j.jbankfin.2009.12.014

17. CMIE. (2020). *Centre for Monitoring Indian Economy Pvt. Ltd.* Retrieved from https://www.cmie.com/kommon/bin/sr.php?kall=warticle&dt=2020-07-16%2013:48:16&msec=253

18. Dhall, R., & Singh, B. (2020). The COVID-19 pandemic and herding behavior: Evidence from India's stock market. *Millennial Asia, 11*(3), 366-390. https://doi.org/10.1177/0976399620964635

19. Economic Times. (2022). *India's GDP to slow from 8.3% in 2021 to 7.7% in 2022: Moody's.* Retrieved from https://economictimes.indiatimes.com/news/economy/indicators/indias-gdp-to-slow-from-8-3-in-2021-to-7-7-in-2022-moodys/articleshow/93917960.cms

20. Fernández, B., Garcia-Merino, T., Mayoral, R., Santos, V., & Vallelado, E. (2011). Herding, information uncertainty and investors' cognitive profile. *Qualitative Research in Financial Markets, 3*(1), 7-33. https://doi.org/10.1108/17554171111124595

21. Forbes, J., & Kara, S. M. (2010). Confidence mediates how investment knowledge influences investing self-efficacy. *Journal of Economic Psychology, 31*(3), 435-443. https://doi.org/10.1016/j.joep.2010.01.012

22. Ghosh, S., & Vinod, D. (2017). What constraints financial inclusion for women? Evidence from Indian microdata. *World Development, 92*(C), 60-81. https://doi.org/10.1016/j.worlddev.2016.11.011

23. Grether, D. M. (1980). Bayes rule as a descriptive model: The representativeness heuristic. *Quarterly Journal of Economics, 95*(3), 537-557. https://doi.org/10.2307/1885092

24. Hasler, A., Lusardi, A., &Valdes, O. (2021). *Financial Anxiety and Stress among U.S. Households: New Evidence from the National Financial Capability Study and Focus Groups.* Retrieved from https://gflec.org/wp-content/uploads/2021/04/Anxiety-and-Stress-Report-GFLEC-FINRA-FINAL.pdf

25. Hershey, D. A., Austin, J. T., & Gutierrez, H. C. (2015). Financial decision making across the adult lifespan: Dynamic cognitive capacities and real-world competence. In T. M. Hess, J. Strough & C. E. Lockenhoff (Eds.), *Aging and Decision Making: Empirical and Applied Perspectives* (pp. 329-349). New York: Academic Press. https://doi.org/10.1016/B978-0-12-417148-0.00016-9

26. Hoe, S. L. (2008). Issues and procedures in adopting structural equation modelling technique. *Journal of Quantitative Methods, 3*(1), 76. Retrieved from https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=6171&context=sis_research

27. Hoppe, E., & Kusterer, D. (2011). Behavioral biases and cognitive reflection. *Economics Letters, 110*(2), 97-100. https://doi.org/10.1016/j.econlet.2010.11.015

28. India Today. (2020a). Coronavirus: Economic slowdown leaves India's aspiring middle class in limbo. Retrieved from https://www.indiatoday.in/business/story/india-economic-slowdown-middle-class-income-salaried-population-coronavirus-1713544-2020-08-21

29. Ismail, S., Faique, F. A., Bakri, M. H., Zain, Z. M., Idris, N. H., Yazid, Z. A., Daud, S., & Taib, N. (2017). The role of financial self-efficacy scale in predicting financial behavior. *Advanced Science Letters, 23*(5), 4635-4639. https://doi.org/10.1166/asl.2017.8992

30. Juneja,P.(2020).Management study guide. Retrieved from https://www.managementstudyguide.com/conservatism-bias.htm

31. Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, 47*(2), 263-291. https://doi.org/10.2307/1914185

32. Kannadhasan, M., & Nandagopal, R. (2010a). Influence of decision

makers' characteristics on risk analysis in strategic investment decisions. *Journal of Modern Accounting and Auditing, 6*(4), 38-44.

33. Kathpal, S., & Siddiquei, M. I. (2021). Investigating the impact of covid-19 on investor's bias: An empirical study. *Finance India, 35*(1), 187-204. Retrieved from https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-1245156

34. Kathpal, S., Akhtar, A., Zaheer, A., & Khan, M. N. (2021). Covid-19 and heuristic biases: evidence from India. *Journal of Financial Services Marketing, 26,* 305-316 https://doi.org/10.1057/s41264-021-00116-x

35. Khan, F. (2019). A study of saving and investment avenues of salaried class people with reference to Kerela. *Journal of Information and Computational Science, 9*(9), 781-793. Retrieved from http://www.joics.org/gallery/ics-1437.pdf

36. Kline, R. B. (2005). *Principles and practice of structural equation modeling.* New York: The Guilford Press.

37. Kumar, S., & Goyal, N. (2016). Evidence on rationality and behavioral biases in investment decision making. *Qualitative Research in Financial Markets, 8*(4), 270-287. https://doi.org/10.1108/QRFM-05-2016-0016

38. Lim, L. C. (2012). The Relationship between Psychological Biases and the Decision Making of Investor in Malaysian Share Market (Unpublished Paper). *International Conference on Management, Economics & Finance (ICMEF 2012).* Retrieved from https://www.semanticscholar.org/paper/THE-RELATIONSHIP-BETWEEN-PSYCHOLOGICAL-BIASES-AND-Chin/8e3aabb784aba1781892d0208d5964c0707e886d

39. Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, Z. (2020). The COVID-19 Outbreak and Affected Countries Stock Markets Response. *International Journal of Environmental Research and Public Health, 17*(8), 2800. http://dx.doi.org/10.3390/ijerph17082800

40. Lown, Jean M., (2011). Development and Validation of a Financial Self-Efficacy Scale. *Journal of Financial Counseling and Planning, 22*(2), 54. Retrieved from https://ssrn.com/abstract=2006665

41. Luo, G. Y. (2012). The psychological explanation of asset price overreaction and underreaction to new information: representativeness heuristic and conservatism bias. *Journal of Accounting and Finance, 12*(2), 38-50. Retrieved from https://www.semanticscholar.org/paper/The-Psychological-Explanation-of-Asset-Price-and-to-Luo/02be1a6d4db87f20738793927b2cebd3f-bef55c8

42. Luo, Y., Chen, Y., & Lin, J.-C. (2020). *Do terrorist attacks make inventors more risk-taking?* (Working Paper). http://dx.doi.org/10.2139/ssrn.3321554

43. Magendans, J., Gutteling, J. M., & Zebel, S. (2017). Psychological determinants of financial buffer saving: the influence of financial risk tolerance and regulatory focus. *Journal of Risk Research, 20*(8), 1076-1093. https://doi.org/10.1080/13669877.2016.1147491

44. Noman, S., Bashir, T., & Javed, S. (2020). Taking charge of your life: Locus of control, self-efficacy and saving behavior. *International Journal of Advanced Science and Technology, 29*(6), 569-587. Retrieve from http://sersc.org/journals/index.php/IJAST/article/view/8877

45. Noor, N., Batool, I., & Arshad, M. H. (2020). Financial Literacy, Financial Self-Efficacy and Financial Account Ownership Behavior in Pakistan. *Cogent Economics & Finance, 8*(1), 1806479. https://doi.org/10.1080/23322039.2020.1806479

46. Nye, P., & Hillyard, C. (2013). Personal Financial Behavior: The Influence of Quantitative Literacy and Material Value. *Numeracy, 6*(1), 3. http://dx.doi.org/10.5038/1936-4660.6.1.3

47. OECD. (2020). The impact of the COVID-10 pandemic on jobs and incomes in G20 economies. *ILO-OECD paper prepared at the request of G20 Leaders Saudi Arabia's G20 Presidency 2020.* Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_756331.pdf

48. OECD. (2021). Demography – Working age population. OECD. Retrieved from https://data.oecd.org/pop/working-age-population.htm

49. Owie, E., Ademola, E. O., & Adams, D. (2017). The reality of Human Decision-Making: An Analysis Making. *Humanities, Management, Arts, Education & the Social Science Journal, 5*(2), 1-4. Retrieved from https://www.academia.edu/34370349/Reality_of_Human_Decision_Reality_of_Human_Decision_Reality_of_Human_Decision_Reality_of_Human_Decision_Making_An_Analysis_Making_An_Analysis_Making_An_Analysis_Making_An_Analysis

50. Pattnaik, C., Chang, J. J., & Shin, H. H. (2013). Business groups and corporate transparency in emerging markets: Empirical evidence from India. *Asia Pacific Journal of Management, 30,* 987-1004. https://doi.org/10.1007/s10490-011-9273-5

51. Pompeian, M. (2006). *Finance and Wealth Management: How to Build Optimal Portfolio That Accounts for Investor Biases.* New Jersey: John Wiley and Sons, Inc.

52. Pompian, M. M. (2012). *Behavioral Finance and Investor Types: Managing Behavior to Make Better Investment Decisions.* Hoboken, NJ: John Wiley & Sons.

53. Prosad, J. M., Kapoor, S., & Sengupta, J. (2015). Behavioral biases of Indian investors: a survey of Delhi-NCR region. *Qualitative Research in Financial Markets, 7*(3), 230-263. https://doi.org/10.1108/QRFM-04-2014-0012

54. Qamar, M. A. J., Khemta, M. A. N., & Jamil, H. (2016). How knowledge and financial self-efficacy moderate the relationship between money attitudes and personal financial management behavior. *European Online Journal of Natural and Social Sciences, 5*(2), 296. Retrieved from https://www.semanticscholar.org/paper/How-Knowledge-and-Financial-Self-Efficacy-Moderate-Qamar-Khemta/7d542bf8c97ecb97aca4f65f9d55017fbc3539e1

55. Rahim, A., Shah, M. H., & Aamir, A. (2019). Impact of conservatism bias effect on investment decisions of Pakistani stock investors. *City University Research Journal, 9*(1), 85-97. Retrieved from https://www.proquest.com/openview/5264bb2339e94381a1220fe7c20d8f45/1

56. Rasdi, R. M., Zaremohzzabieh, Z., & Ahrari, S. (2021). Financial Insecurity During the COVID-19 Pandemic: Spillover Effects on Burnout–Disengagement Relationships and Performance of Employees Who Moonlight. *Frontiers in Psychology, 12,* 1-14. https://doi.org/10.3389/fpsyg.2021.610138

57. Rodriguez, L. M., Litt, D. M., & Stewart, S. H. (2021). COVID-19 psychological and financial stress and their links to drinking: A dyadic analysis in romantic couples. *Psychology of Addictive Behaviors, 35*(4), 377-390. https://doi.org/10.1037/adb0000724

58. Shankar, B. (2022). *Lessons in Behavioral Bias: The COVID-19 Equity Markets*. C.F.A. institute. Retrieved from https://blogs.cfainstitute.org/investor/2022/05/20/lessons-in-cognitive-bias-the-covid-19-equity-markets/

59. Shefrin, H., & Statman, M. (2000). Behavioral Portfolio Theory. *Journal of Financial and Quantitative Analysis, 35*(2), 127-151. https://doi.org/10.2307/2676187

60. Shefrin, H., & Statman, M. (2011). Behavioral finance in the financial crisis: market efficiency, Minsky, and Keynes. In *Rethinking the Financial Crisis* (pp. 99-135). Santa Clara, CA: Santa Clara University. Retrieved from https://www.econbiz.de/Record/behavioral-finance-in-the-financial-crisis-market-efficiency-minsky-and-keynes-shefrin-hersh/10009741001

61. Simon, H. A. (1955). A Behavioral Model of Rational Choice. *The Quarterly Journal of Economics, 69*(1), 99-118. https://doi.org/10.2307/1884852

62. Singh, K., Junnarkar, M., & Kaur, J. (2016). *Development and Validation*. Berlin: Springer.

63. Thakur, G. (2018). *Financial awareness and investment behavior of salaried class in Himachal Pradesh* (Doctoral Thesis). Retrieved from http://shodhgangotri.inflibnet.ac.in:8080/jspui/bitstream/123456789/6436/1/geetika%20final%20synopsis%20%281%29.pdf

64. Topa, G., Lunceford, G., & Boyatzis, R. E. D. (2018). Financial planning for retirement: a psychosocial perspective. *Frontiers in Psychology, 8,* 2338. https://doi.org/10.3389/fpsyg.2017.02338

65. Van der Bijl, J. J., & Shortridge-Baggett, L. M. (2002). The theory and measurement of the self-efficacy construct. In E. Lentz, & L. M. Shortridge-Baggett (Eds.), *Self-efficacy in nursing: Research and measurement perspectives* (pp. 9-28). New York: Springer.

66. Wang, F., Zhang, R., Ahmed, F., & Shah, M. S. (2022). Impact of investment behavior on financial markets during COVID-19: a case of U.K. *Economic Research-Ekonomska Istraživanja, 35*(1), 2273-2291. https://doi.org/10.1080/1331677X.2021.1939089

67. Wang, J., & Wang, X. (2019). *Structural equation modeling: Applications using Mplus*. John Wiley & Sons.

68. Wang, Y., & Young, M. (2020). Terrorist attacks and investor risk preference: Evidence from mutual fund flows. *Journal of Financial Economics, 137*(2), 491-514. https://doi.org/10.1016/j.jfineco.2020.02.008

69. Waweru, N. M., Munyoki, E., & Uliana, E. (2008). The effects of behavioral factors in investment decision-making: A survey of institutional investors operating at the Nairobi Stock Exchange. *International Journal of Business and Emerging Markets, 1*(1), 24-41. https://doi.org/10.1504/IJBEM.2008.019243

70. Weierich, J. D., Kensinger, E. A., Munnell, A. H., Sass, S. A., Dickerson, B. C., & Wright, C. I. (2011). Older and wiser? An affective science perspective on age-related challenges in financial decision making. *Social and Cognitive Affective Neuroscience, 6*(2), 195-206. https://doi.org/10.1093/scan/nsq056

71. WHO. (2022). *Coronavirus disease (COVID-19) dashboard with vaccination data India: WHO Coronavirus disease (COVID-19) dashboard with vaccination data.* Retrieved from https://covid19.who.int/region/searo/country/in

72. Yousaf, I., Ali, S., & Shah, S. Z. A. (2018). Herding behavior in Ramadan and financial crises: The case of the Pakistani stock market. *Financial Innovation, 4,* 16. https://doi.org/10.1186/s40854-018-0098-9