

INVESTMENT BEHAVIOUR OF GOVERNMENT EMPLOYEES IN TELANGANA STATE: AN EMPIRICAL STUDY

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ABSTRACT

Saving and investment form the bedrock of any nation's economy. They contribute to capital formation, which sustains the economic activities of a country. Economic growth and development are dependent on the ability of the people of the country to earn, spend, save and invest money. Investment refers to the purchase of an asset with the objective of generating more income and wealth over a period of time. Investment decision making is an important skill, which can lead an investor to prosperity. By fusing psychology as well as micro-level investing (i.e., the decision-making process of individuals and organisations) and macro perspective (i.e., the role of financial markets), the study of investment behaviour seeks to understand and explain investor decisions. In this paper, an attempt has been made to study the investment behaviour of government employees in Telangana State. The focus is to examine the impact of various factors and biases including economic factors, emotional factors, financial knowledge, cognitive biases, herding factors, market factors and the risk-taking ability on the investor behaviour using path analysis. The findings of the study have a significant value for the researchers, policy makers and designers of financial products and services.

Keywords: *Investment Behaviour, Government Employees, Telangana State, Factors Affecting Investment Behaviour, Biases.*

Introduction

Investment is the use of money to generate more income. The term "investment" generally refers to the purchase of a financial instrument or any other valuable good with the expectation of receiving favourable returns in the future. The only way to maximise investment returns is planning investments carefully, setting deadlines for achieving financial goals, researching different investment options, and distributing money wisely among the chosen investment options. The economy will be significantly impacted by how people invest. A propensity for saving in real estate or livestock, or an excessive amount of informal investment, may indicate a lack of financial investment for long-term growth. Financial market instability might result from a reliance on foreign investment funds looking to make a rapid profit.

People are completely perplexed when trying to determine where to spend their money in today's competitive climate because so many public and private financial institutions offer investment opportunities. The investing decisions will be influenced by a number of factors. Understanding these aspects would allow the investors to make correct investment decisions and also guide the government and financial organisations to create the investment avenues suitable for various classes of investors hence improve the capital creation. One significant group of investors are those who work in government. There is a need to research their behavioural approach to making investing decisions because they have high levels of money and education. They are guaranteed a high income, and have a high percentage of savings and their high purchasing power allows them to make larger investments. They act differently than self-employed professionals, businesspeople, or farmers whose income is uncertain, whereas the salaried class have a regular source of income that is certain, which results in different attitudes about

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saving and investing. An attempt is made to examine the investment behaviour of government employees in Telangana State, especially the factors that influence their investment decisions by making use of various statistical tools. Although several factors affect the investment behaviour, the focus here is on the impact of economic, psychological and market factors on investment decision making.

Review of Literature

Swati Prasad et al (2021) examined the gender-specific effects of behavioural, socioeconomic, and financial literacy characteristics on the investing choices of Indian retail investors. The model created using the multivariate technique partial least squares-structural equation modelling (PLS-SEM) demonstrates that both genders' investing decisions are highly influenced by behavioural, socioeconomic, and financial literacy characteristics.

Leena Roy Mallick & Shantanu Chakraborty (2020) found that an individual's life is greatly impacted by their financial decisions. Despite having convenient access to information and formal investment routes today, ordinary investors occasionally make poor investment choices that frequently lead to substantial losses. According to the results, it can be said that the interaction and synchronisation of the different investor behaviour dimensions—propriety, financial literacy, savings attitude, and risk attitude—influences how investors behave.

Sarthak Goswami et al (2020) attempted to determine whether Indian investors exhibit biases such as Overconfidence Bias (Self Deception), Loss Aversion Bias (Heuristics), Framing Bias (Heuristics), Representative Bias (Heuristics), Herding Mentality, and Herding Behavior (Social Influence). It can be seen that investors do not blindly follow what everyone around them is doing, but they are likely to blindly follow what those who they view as successful do.

Pawankumar S Hallale & Manjiri Gadekar (2019) found in their study that the NSE & BSE Stock Exchange's individual investors' financing decisions are influenced by five behavioural factors: herding, market, prospect, overconfidence-fallacy, gamblers and anchoring-ability bias.

Bashar Yaser Almansour & Yaser Ahmad Arabyat (2017) in a study found how psychological factors affect people's willingness to take risks while making investing decisions are examined. Psychological influences, such as herding, heuristics, prospect, market, self-attribution bias, and familiarity bias, may affect investment choices.

Devika Jayaprakash et al (2017) made an effort to pinpoint employee investment habits in both the public and private sectors. The majority of investors choose to keep their money in places like insurance, bank accounts, and provident funds. Economic variables like the GDP, inflation rate, governmental policies, unemployment rates, etc. influence investors' decisions.

M. Bala Swamy & R. Priya (2016) examined the relationship between salaried people's financial literacy and their knowledge of financial products. The study's findings imply that a person's level of financial literacy influences their awareness of financial goods as well as their investing preferences.

A. Charles and R. Kasilingam (2016) stated that a relatively new area of finance called behavioural finance investigates how people make financial decisions using their cognitive psychology. The study concluded that the behavioural bias factors like personality, gambling, heuristics, emotions, and mood have an impact on equity investors' investment choices.

Anurag Agarwal et al (2016) stated that an investor's illogical financial decisions can be explained by behavioural finance. They illustrate how an investor's decision-making is influenced by emotions and cognitive biases. Anchoring, mental accounting bias, overconfidence, availability bias, conservatism, gamblers' fallacy bias, herd behaviour, over and under response, and loss and regret aversions are only a few of the causes or biases that affect investor behaviour.

Y. Imthiyas et al (2015) found that there are several factors that affect investment decisions, including perception, awareness, behavioural biases, and others. The study looked at how individual investors' behavioural biases affected their choice of investments. The findings of this study support the notion that individual investors exhibit behavioural bias.

Conceptual Framework for the Study

The core tenets of Traditional Finance are the Efficient Market Hypothesis, the Investor Rationality Hypothesis, and Markowitz's Modern Portfolio Theory. Until 1990, traditional financial theories were not seriously questioned. However, since the middle of the 1990s, academics have shown numerous flaws in the accepted theory, particularly the notion of investor rationality. As a result, Behavioural Finance, a new paradigm, was created. (Amlan Jyoti Sharma 2016) The term "behavioural

finance” refers to a modified version of conventional financial models, theories, or concepts that incorporates ideas from sociology, neuroscience, the law, psychology, and organisational behaviour. There are many complexities involved in the decision-making process when it comes to money, and behavioural biases are a key part of it. Anomalies, heuristics, biases, social factors, emotional factors, and many more intricacies directly affect the results. (Anuradha Samal and A K Das Mohapatra 2020)

Examining the investment habits of various social strata in India, the study found that fixed deposits in banks, post office savings, and gold are the most popular investment options for everyone. It may be because of the lack of financial understanding and goal of protecting invested funds. Professionals and salaried employees alike frequently invest in mutual funds, tax benefit investments, and insurance policies. It might be because long-term rewards like retirement, children's education, and marriage are considered very important. Due to their heavy spending habits, investors in the middle income bracket have no choice but to invest in bank and post office deposits. (S. Sabarinathan & R. Vanathi, 2020).

A number of factors affect how individual investors behave in the stock market. These factors can be classified into demographic, economic, social, and psychological categories. Herding, overreaction, cognitive bias, confidence levels, irrational thought, gender, age, income, education, risk factor, dividends, opinion of others, past performance of the company, accounting information, ownership structure, bonus payments, and expected corporate earnings are the most frequent factors that influence investor behaviour. (Mohammad Shafi 2014). It has been found that investors frequently make cognitive and psychological mistakes that prevent them from acting rationally. Because they affect the investors who make financial decisions, behavioural variables in the financial markets are crucial. (Babaraju K. Bhatti & Apurva A. Chauhan 2014)

The review of literature reveals that a variety of factors and biases affect a person's behaviour when making investing decisions. For the current study, the following variables are taken into account:

- **Economic Factors (EF):** The term “economic factor” as used in the study refers to a person's excess of investable assets. The investible excess is crucial in choosing which asset class to invest in due to the variations in the minimum investment amounts, risks, and returns. An individual makes investment decisions using the discretionary money that is still available after spending. A person's economic and financial stability may have a big impact on their investment decisions.
- **Emotional Factors (EM):** Emotions have a significant impact on decisions as well as on the decisions themselves. Both before and after decisions are made, emotions can have an impact. A pre-decision feeling can be either positive or negative. Negative feelings foster inward concentration and dissuade searching for alternatives.
- **Financial Knowledge (FK):** Financial literacy, also known as financial knowledge, is the understanding of financial concepts and instruments. Understanding fundamental financial concepts includes being aware of the money illusion, inflation, time worth of money, and interest calculations. Advanced knowledge includes, but is not limited to, understanding of financial concepts, instruments, and market operations, the function of the stock market and mutual funds, interest rates, risk spreading, and determining how risky various assets are.
- **Risk-taking Ability of the Investor (RA):** How each individual perceives risk is among the most crucial variables influencing how they make decisions. Risk-taking capability is the measure of an investor's comfort level with market volatility. In general, those with a high risk-taking aptitude are more likely to accept a greater risk liability by accepting sole responsibility, acting without sufficient understanding, and requiring less control than those with a low risk-taking aptitude.
- **Cognitive Biases/Factors (CF):** The concept of cognition refers to one's way of thinking while making choices. An ongoing pattern of judgement that deviates from reality or reason and causes one to infer incorrect information about other individuals and situations is known as a cognitive bias. Mental shortcuts known as heuristics provide fast estimations of the likelihood of unknown events. Heuristics are simple for the brain to calculate yet they have the potential to lead to “severe and systematic errors.”
- **Herding Factors (HF):** A fundamental truth about human civilization is that people who often interact with one another tend to think similarly. The influence of society has a huge impact on people's judgement. Even the most logical people can act in a herd-like manner when they take into account the opinions of others and even if they are aware that everyone else is behaving in a herd-like manner. When seeking information, people frequently rely more on friends, family, and coworkers than on the media.

- **Market Factors (MF):** External factors, such as market conditions, have an impact on how investors act. The media and the internet have grown to be essential tools for sharing information and ideas.

Experts advise investors to adopt systematic investment habits that connect investments with their financial objectives when making personal financial plans, but they have not yet succeeded in developing a scale for measuring such behaviours. Sanjay Rastogi & Saurabh Gupta (2019) attempted to create a scale, doing exploratory and confirmatory factor analyses, and offered proof that the scale is reliable for capturing investment behaviours that are goal-oriented. The study reveals that the majority of investors do not exhibit behaviour that is focused on aims after analysing 448 investors' cross-sectional data gathered using the new scale. The findings show that the distribution of cash and choice of investment outlets did not correspond to the financial goals of the participants.

Objectives of the Study

The study is an attempt to examine the impact of Economic, Psychological and Market Factors on the investment behaviour of government employees in Telangana State.

Hypotheses

The following seven hypotheses were formulated for empirical testing in the present study.

- H0₁:** There is no impact of Economic Factors on the Investment Behavior of Government Employees.
- H0₂:** There is no impact of Financial Knowledge on the Investment Behavior of Government Employees.
- H0₃:** There is no impact of Risk-Taking ability of the investor on the Investment Behavior of Government Employees.
- H0₄:** There is no impact of Emotional Factors on the Investment Behavior of Government Employees
- H0₅:** There is no impact of Herding Factors on the Investment Behavior of Government Employees
- H0₆:** There is no impact of Cognitive Factors on the Investment Behavior of Government Employees.
- H0₇:** There is no impact of Market Factors on the Investment Behavior of Government Employees

Research Methodology

Sources of Data

The primary and secondary data were used for the study. The primary data was collected through a structured questionnaire. The secondary data was collected from published articles in journals, websites and other online databases.

Sampling Techniques

Government employees working in Telangana State are the target population for this study. The sampling technique used for the study is Non-Probabilistic Convenience sampling method. 200 employees working in various government departments who have invested in any of the investment avenues like shares, debentures, bank deposits, etc. irrespective of the investment amount were selected for the study.

Research Instrument

A questionnaire with short, direct questions was employed as the research instrument. There are two sections in the questionnaire. In the first half of the questionnaire, demographic data is collected, and in the second, respondents are asked to rate how much they agree with various statements on the impact of various factors on investment decisions using a 5-point Likert scale with five possible responses, with 1 being the strongest disagreement and 5 being the strongest agreement.

In order to examine the impact of various factors on investment behaviour the following constructs were developed from review of various studies.

- **Economic Factors - 4 item scale**
 - I accept full responsibility for how my investing choices turned out.
 - Never do I take my investment out before it matures.
 - I receive returns that are at or above the going rate in the market.
 - I didn't ever engage in any speculative business.

- **Financial Knowledge of employee - 5 item scale**
 - I am knowledgeable about business credit ratings, lending rates at financial institutions, and bank interest rates.
 - I am aware of the objectives of various investment strategies.
 - I am aware that inflation causes the value of money to decrease over time.
 - My funds are secure because I invest in a variety of avenues rather than just one.
 - I am knowledgeable in the investment industry.
- **Risk-taking Ability of the Investor - 4 item scale**
 - Even if the market is volatile or fluctuating, I am ready to invest.
 - I enjoy making risky investments.
 - I think that by taking chances, I can increase my earnings.
 - The underwhelming performance of my stocks doesn't concern me.
- **Prospect Factors/Emotional Factors – 5 item scale**
 - I steer clear of risk following a loss. (Loss Aversion)
 - I'm anxious about potential losses.
 - I have faith in my ability to manage my investment.
 - My usual fear is investing in opportunities that will guarantee a profit.
 - When the market is performing poorly, I won't raise my investment.
- **Herding Factors - 4 item scale**
 - My investment choices are influenced by the investment strategies used by other investors.
 - Like my friends, I would invest in similar financial items.
 - I make my financial judgements by copying the buy and sell decisions of other investors.
 - I promptly alter my investing choices after assessing how other investors respond.
- **Cognitive/Heuristic Factors - 5 item scale**
 - I invest in markets that have recently experienced rapid expansion.
 - I consistently outperform the market by using my foresight.
 - I like to invest in domestic rather than international avenues since domestic avenues have more readily accessible information.
 - When the market is booming, I am upbeat and I think the trend will last.
 - I usually handle each component of my investment portfolio differently.
- **Market Factors - 4 item scale**
 - I pay close attention to the current market trend in the sector I typically invest in.
 - When the investment market moves, I overreact.
 - For me to make an investment decision, market information is crucial.
 - When the interest rate is higher, I save more money.
 - I search the internet for investment-related information.
- **Investment behavior of government employees with respect to their objective-orientation - 6 item scale**
 - Before making an investment, I decide what my goals are.
 - For the accomplishment of each of my investment goals, I create a timetable.
 - I make investing decisions based on my investment goals.
 - With my future financial goals and expectations in mind, I invest my money in a variety of possibilities.
 - To reflect the changes in my investment goals, I update my investment portfolio.
 - I adjust my investing quantities in accordance with my shifting projected needs for money.

Data Analysis Technique

Path Analysis is a method to determine and assess the effects of a set of variables acting on a specified outcome through multiple causal pathways. Path Analysis can be used to analyze models that are more complex and realistic than multiple regression. The present study uses Path Analysis to determine the pathways by which the Economic, Psychological and Market Variables influence the investment behaviour of government employees.

Demographic Profile of the Respondents

The demographic profile of the respondents was presented in Table 1. It reveals the majority of the respondents are male (65%), age group of 31 to 45 years (41.5%), married (95%), post graduates (64.5%) and in the income group of Rs.10 Lakhs to 20 Lakhs per annum (38%).

Table 1: Demographic Profile of the Respondents

S. No	Factors		N	Percent
1	Gender	Male	130	65
		Female	70	35
		Total	200	100
2	Age	Below 30 years	69	34.5
		31 to 45 years	83	41.5
		Above 45 years	48	24
		Total	200	100
3	Marital Status	Married	190	95
		Unmarried	7	3.5
		Divorced/Separated/Widowed	3	1.5
		Total	200	100
4	Highest Education Qualification	Non-Matriculation	6	3
		SSC/Intermediate	11	5.5
		Graduate	54	27
		Postgraduate	129	64.5
		Total	200	100
5	Annual Income	Less than Rs.5.00 lakhs	54	27
		Rs.5.00 lakhs to Rs.10.00 lakhs	28	14
		Rs.10.00 lakhs to Rs.20.00 lakhs	76	38
		Above Rs.20.00 lakhs	42	21
		Total	200	100

Results and Discussion

Reliability of the Instrument

The reliability of the questionnaire was tested by calculating the Cronbach alpha which is an established method to work out the internal consistency. Fornell and Larcker (1981) recommended a CR value of 0.60 or more. The measures included in the study are above 0.60 (Table 2) which demonstrates good reliability. These indexes show that items included in the factors are reliable for further use.

Table 2: Results of Cronbach's Alpha test

Factors	No of items	Cronbach's Alpha	Composite Reliability
Economic Factors	4	.689	.672
Financial Knowledge	5	.822	.832
Risk Taking Ability	4	.841	.845
Emotional Factors	5	.653	.677
Herding Factors	4	.751	.773
Cognitive Factors	5	.731	.737
Market Factors	5	.760	.780
Investment Behaviors	6	.906	.863

Source: Computed from primary data

Assessment of Model Fit

A preliminary analysis was conducted to test the validity of the measurement portion of the model using Confirmatory Factor Analysis (CFA) (Table 3). The model if Standardized RMR is less than or equal to 0.05 is considered a Good Fit. So, the present model is perfect. Standardized parameter estimates representing direct and indirect effects were obtained at baseline. Significance level was set at **0.05**.

Table 3: Model Fit Summary

Acronym	Explication	Accepted Fit	Observed Value	Reference
Likelihood Ratio	P-value	≥ 0.05	0.05	Joreskog & Surbom (1996)
CMIN/DF	Chi-square divided by Degree of Freedom	≤ 3 = acceptable fit ≤ 5 = reasonable fit	0	Kline (1998); Marsh & Hocevar (1985)
RMR	Root Mean Squared Residual	≤ 0.05 = acceptable fit ≤ 0.07 = acceptable fi	.000	Diamantopoulos & Sigauw (2000) Steiger (2007)
GFI	Goodness of Fit Index	1 = perfect fit ≥ 0.95 = excellent fit ≥ 0.9 = acceptable fit	1.000	Kline (2005) Hu & Bentler (1998)
CFI	Comparative Fit Index	1 = perfect fit ≥ 0.95 = excellent fit ≥ .90 = acceptable fit	1.000	West et al. (2012) Fan et al. (1999)
RMSEA	Root Mean Square Error of Approximation	≤ 0.05 = reasonable fit	0.05	MacCallum et al (1996)
SRMR	Standardized Root Mean Squared Residual	≤ 0.05 = acceptable fit	.000	Diamantopoulos & Sigauw (2000)

Hypothesis Assessment Summary

The Model Estimate is **.687**. R-Square indicates that **68.7%** of the variance in IB is explained by all the independent variables in the model.

Figure 1 presents the Graphical presentation of causal relationship among variables under the study with Unstandardized Regression Co-efficients and Figure 2 presents the Standardized Regression Co-efficients.

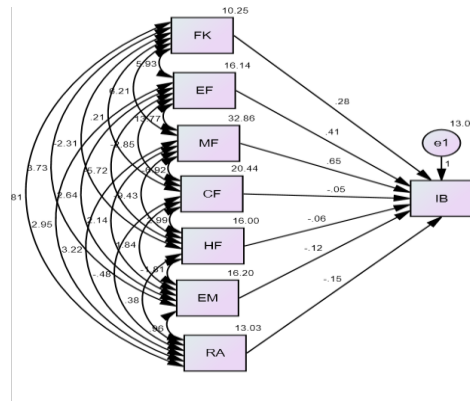


Figure 1: Path Analysis with Unstandardized Regression Co-efficient for Investment Behaviour

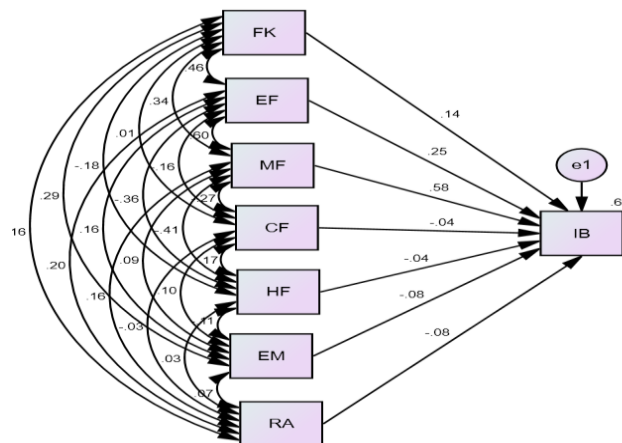


Figure 2: Path Analysis with Standardized Regression Co-efficient for Investment Behaviour

Table 4 presents the Path Coefficient values, which are known as the Unstandardized Regression Weights that determine the probable causal relationship among statistical variables, that is EK, EF, FK, RA, CF, HF, MF, and IB. The t-values determine the insights regarding the rejection or acceptance of hypotheses. A threshold for a t-value greater than **1.96** (for two-tailed tests) indicates that the hypothesis is accepted.

In this model five factors are found to have an impact on the investment behaviour: Economic Factors, Financial Knowledge, Risk Taking Ability of the Investor, Emotional Factors and Market Factors.

Economic Factors, Financial Knowledge and Market Factors have a positive and significant impact on investment behaviour of Government Employee (IB) whereas *Risk-taking Ability of the Investor and Emotional Factors have a negative significant impact* on investment behaviour.

The market factors have the highest positive impact with the regression estimate of .576 ($P = .000$) followed by Economic factors with regression estimate of .253 ($P = .000$) and financial knowledge ($\beta = .138, p < .005, t > 1.96$).

Hence the results indicate that **H0₁, H0₂, H0₃, H0₄, and H0₇ are rejected and alternate hypotheses are accepted.**

On the other hand, Cognitive Factors and Herding Factors do not appear to significantly influence investment behaviour ($P > .05$). Hence the results indicate that **H0₅ and H0₆ are accepted.** Thus, *the Cognitive Factors and Herding Factors have no impact* on the investment behaviour of Government Employees in Telangana state.

Table 4: Regression Weights/Regression Co-efficients

Regression Paths	Regression Co-efficients (B)	Standardized Co-efficients (β)	S.E.	t-value	P-Value	Results
EF → B	.407	.253	.059	6.879	.000	H0₁ Rejected
FK → IB	.278	.138	.064	4.313	.000	H0₂ Rejected
RA → IB	-.145	-.081	.050	-2.883	.004	H0₃ Rejected
EM → B	-.122	-.076	.046	-2.643	.008	H0₄ Rejected
HF → B	-.062	-.038	.049	-1.256	.209	H0₅ Accepted
CF → IB	-.055	-.038	.041	-1.335	.182	H0₆ Accepted
MF → IB	.649	.576	.041	15.909	.000	H0₇ Rejected

Findings & Conclusion

According to the study, *Economic Factors* have a positive influence on investment behaviour. When employees' financial situation is stable, they fully accept responsibility for their investment choices, never withdraw money from an investment before it reaches maturity, and patiently wait to see a return on their investment. On the other hand, if the employees' financial situation is poor, they will not have extra money to invest or diversify their investments. Regret aversion, loss aversion, and mental accounting are some of the mental states that have an impact on a person's decision-making processes, according to the Prospect Theory (Waweru et al., 2003). According to the current study, *Emotional Factors* have a negative impact on the investment behaviour of government employees.

The study has discovered a direct link between *Financial Literacy* and investment behaviour and a similar link was found by M. Balaswamy & R. Priya, (2016). It can be concluded that employees who are aware of interest rates, a variety of investment opportunities, the advantages of diversification, and investment markets can make better and more timely investment decisions than employees who lack basic financial knowledge. Employee investment behaviour is negatively impacted by the investor's capacity for *risk-taking*.

Heuristics are generally highly helpful, especially when time is restricted (Waweru et al., 2008), however they can occasionally result in biases (Kahneman & Tversky, 1974 & Ritter, 2003). The study finds that government employees' investment behaviour is not significantly impacted by heuristics. They use caution when making investing decisions, avoiding biases or short cuts.

Investors may prefer *herding* if they think it will enable them to gather accurate and helpful information. The greater an investor's level of confidence, the more they rely on their personal information while making investment decisions. The study shows that the choices of other investors have no influence on the investment behaviour of government employees. When making decisions about purchasing and selling, they do not follow the herd.

According to Waweru et al. (2008), *market information* has a significant influence on investors' decisions. The present study finds that government employees constantly monitor the trend of investment avenues they intend to participate in and take market information into account when making investment decisions.

Thus, the study concludes that Economic Factors, Market Factors and Financial Knowledge have a significant bearing on the investment behaviour of government employees in Telangana State, Cognitive Biases and Herding Factors are found to have limited impact on the investment decisions made by the employees. Emotional Factors and the Risk-taking Ability of the Investor have a negative impact on the investment behaviour of employees.

Limitations and Directions for Further Research

The study is restricted to the study of government employees' investment behaviour in Telangana State. Private sector employees are excluded from the inquiry. The influence of Economic, Psychological and Market Factors on the investment behaviour of employees is investigated. Other factors and biases which may have an impact on investment decision making have been excluded from research. Limited but relevant statistical tools have been used to arrive at findings and conclusions.

The scope for further research on similar lines is immense. Little research has been done on the behaviour of investors belonging to the Telangana State. All categories of investors from the state including private sector employees, self-employed professionals and businessmen, women investors, etc., may be taken up for study. A study of several other factors and biases influencing investment decision making may be taken up for a thorough investigation.

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