

**A STUDY ON FACTORS AFFECTING INDIVIDUAL
INVESTOR'S RETURNS IN HYDERABAD AND
MUMBAI**

A Thesis submitted during June, 2017 to the University of Hyderabad in partial
fulfillment for the award of

Doctor of Philosophy

In

MANAGEMENT STUDIES

By

LAKSHMI RAWAT

Reg. No. 11MBPH01

Under the Supervision of

Prof. V. MARY JESSICA



SCHOOL OF MANAGEMENT STUDIES, UNIVERSITY OF HYDERABAD

PROF. C. R. RAO. ROAD, HYDERABAD- 500046

TELANGANA STATE, INDIA, 2017

DECLARATION

I, Lakshmi Rawat hereby declare that the thesis titled “A Study on Factors Affecting Individual Investor’s Returns in Hyderabad and Mumbai” has been prepared by me under the guidance and research supervision of Prof. V. Mary Jessica, is a bonafide research work which is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this University or any other Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodganga/ INFLIBNET.

Place: Hyderabad

Date:

Signature:

Name: LAKSHMI RAWAT

Regd.No:11MBPH01



CERTIFICATE

This is to certify that the thesis entitled “**A Study on Factors Affecting Individual Investor’s Returns in Hyderabad and Mumbai**”, submitted by **LAKSHMI RAWAT**, bearing Regd. No. 11MBPH01 in partial fulfillment of the requirement for the award of Doctor of Philosophy in Management is a bonafide work carried out by her under my supervision and guidance.

This thesis is free from plagiarism and has not been submitted previously in part or in full to this or any other University or Institution for award of any degree or diploma.

Further, student has the following Publication(s) before submission of the thesis/monograph for adjudication and has produced evidence for the same in the form of acceptance letter or the reprint in the relevant area of his research: (Note: at least one publication in referred journal is required)

1. Rawat, Lakshmi & Jessica, Mary. (2016). Effect of Ex-Dividend Date on Stock Returns of Nifty Stocks in India. *People: International Journal of Social Sciences*, 2(1), 1-19.
2. Rawat, Lakshmi & Jessica, Mary. (2015). An Event Study analysis of Rights Issue Announcement by Indian Corporates. *IPE Journal of Management*, 5(1), 87-101.

And has made presentations in the following conferences:

1. Rawat, L. (2012). An Empirical Analysis of Effect of Earnings Announcements on Stock Prices of BSE Sensex. In Rao, Ullas. & Parasuraman, N. R. (Eds), *International conference on Emerging Trends in Finance and Accounting*. Mysore: Shri Dharmasthala Manjunatheshwara Institute for Management Development (SDMIMD). (ISBN: 978-81-922146-2-7)
2. Rawat, R., & Devi, N.K. (2013). An Empirical Study of Effect of Dividend Announcements on Stock Prices of BSE Sensex. In Lenka, U (Ed.). *Paradigm for Sustainable Business: People, Planet and Profit*. Roorkee: Indian Institute of Technology, Roorkee (IIT). (978-93-81583-94-4)

Further, the student has passed the following courses towards fulfillment of coursework requirement for Ph.D.

Course Name	Credits	Pass/Fail
1. Quantitative Methods	3	Pass
2. Research Methodology	3	Pass
3. Financial Management and Strategic Finance	3	Pass
4. Financial Services and SAPM	3	Pass

Supervisor

Head of Department

Dean of School

ACKNOWLEDGEMENTS

Several people have been instrumental in making this thesis possible and deserve special mention. I grab this opportunity to thank them all for their invaluable contributions. First and foremost my profound gratitude to my esteemed research supervisor Prof. V. Mary Jessica for her expert guidance, her intellectual rigour which has always energised me, her sustained interest in the study, her desire to discuss and for her impartial commitment which I respect. She has been a constant source of encouragement, and instilled confidence in me through her inspirational words, providing me with the necessary zeal in the process of the successful completion of this study. I am also thankful to my co-supervisor Prof. Ram Kumar Mishra, Director, Institute of Public Enterprise, Hyderabad for his guidance and suggestions from time to time to enhance my research quality.

I express my gratitude and thanks to Prof. B. Raja Shekhar, Dean, School of Management Studies, University of Hyderabad, for his support during my research work. I express my sincere thanks to Dr. Mallikarjuna Rao, Dr. Chetan Srivastava, and Dr. B. Ramulu, School of Management Studies, University of Hyderabad, for their valuable advice and guidance in the capacity as doctoral committee members throughout my research work. I am thankful to Prof. V. Venkata Ramana, Prof. P. Jyothi, Dr. V. Sita, Dr. G.V.R.K. Acharyulu, Dr. Sapna Singh, and Dr. D. Srinivas Kumar, Faculty, School of Management Studies, University of Hyderabad, for their continuous support during my Ph.D. program.

My special thanks to Dr. Jayashree Ravindran (former research director) and Dr. Srikanth, Research Director, from Institute of Public Enterprise, Osmania University for their

valuable suggestions during the course of my study. I am thankful to IPE, Hyderabad for extending financial assistance to continue my research work smoothly.

I express my special thanks regards to Prof. Kamaiah (Dean, School of Social Sciences) and Prof. Debashis Acharya (Faculty, School of Management Studies) for their guidance in helping me understand Econometric tools. I would also acknowledge the contributions from the blog's of Professor Andy Field (Author of 'An adventure in statistics: the reality enigma'; 'Discovering Statistics Using SPSS/R/SAS') and Prof. Dave Giles from University of Victoria, Canada which helped me understand various concepts of statistics and econometrics. I would also want to thank Prof. Sayed Hossain for his youtube videos series which were a great learning resource. I would also express my sincere gratitude to Dr. Y. Ramakrishna, Founder and Director R.K. Business School (Hyderabad), Dr. Bharat Bhushan Singh, Associate Professor ICFAI Business School (Hyderabad), for their wonderful help in clarifying various issues during the journey of my present research.

I am deeply thankful to my teachers with particular reference to Sister Vimala and Mrs. Girija Gopinath, from Holy Family High School, (Trimulgherry- Secunderabad); who have been my mentors and motivators during my academic journey.

I would like to acknowledge Mrs. Parimala, Mr. Srinivas, Mrs. Padmamma and Mrs. Rebecca Gajjula and other supporting staff members of School of Management Studies, University of Hyderabad as a whole for their support and assistance during my research.

Special thanks to friends and co-scholars Mrs. Syeda Rukhsana Khalid, Ms. Kamala, Mr. Appa Rao and Dr. B. Renuka who have been a perennial source of support academically as well as emotionally. I would like to thank my co-research scholars Mr. Syed Azhar, Mr. Asif

Hassan, Mr. Ashish, and Mrs. Richa Pandey for their continuous help and suggestions to improve my thesis.

My deepest gratitude and thankfulness are especially conveyed to my parents Mr. R.B. Singh, Mrs. Sulochana Devi, Mr. Gambhir Singh and Mrs. Jyoti, for their ceaseless prayer and support for my success. I express my thanks to my extended family members Rakesh Rawat, Manoj Rawat, Vibha Rawat, Arjun Singh and Arpana for their care and support.

No words are enough to express my gratitude and thankfulness to my husband Mr. Vikram Singh Negi for his unconditional support and encouragement. Special thanks to my dear children Harsh Singh Negi and Nitya Singh Negi.

LAKSHMI RAWAT

ABSTRACT

The literature on investor's behaviour has indicated that there are several factors that affect their behaviour, which may be both internal and external. Internal factors include behavioural bias and external factors may include information from financial markets, firm, and other relevant information. This may include the effect of various market factors, corporate actions, information in financial markets, and opinion from brokers, friends and relatives as the external factors. The personal aspect of investor behaviour include his personal traits, stage of life cycle, education level, income level financial objectives, risk taking ability etc. among all other behavioral aspects. There is lot of ambiguity in understanding which aspect of individual investor plays a significant role in determining their investment behaviour.

This study has been designed in an endeavour to understand the various factors which according to literature have been found to have some influence on individual investors with respect to equity investments. The direction of the study involves understanding the effect of these factors through literature review and further analysis created through descriptive and exploratory research. Five objectives have been framed with relevant sub-objectives and hypotheses, wherever required to understand the effect of various factors which have an impact on individual investor's decisions. The objectives of the study are as follows:

- (1) To examine the association between macroeconomic variables with stock market prices and perceptions of investors.
- (2) To study the effect of corporate actions on stock returns of Nifty 50 companies and perceptions of investors.

- (3) To examine the association between investors preference of investment instruments and their demographic characteristics.
- (4) To study the relation between investor perceptions on the importance of stock market information and their demographic characteristics.
- (5) To determine and study the investment profile of investors from Hyderabad and Mumbai.

To fulfill the objectives of the study, the data has been collected from various secondary sources as well as through survey of individual investors. To have an insight about the influence of location of investor and other demographic characteristics, study has been spread across two cities (i.e.) Hyderabad and Mumbai. Survey was conducted using questionnaires by the researcher which was personally administered. The location selected for approaching individual investors were depository participants, which included banks and brokerage houses. In addition to these locations, investors were also contacted during the Investor Awareness Programs for data collection.

Factors effecting investor decisions were broadly classified under three categories namely macroeconomic variables, corporate actions and investor demographic related attributes, to fulfill the objectives of the present study. Secondary data analysis has been performed using six macroeconomic variables, by testing for their causal relationship with price movements of Nifty 50 index. Granger causality technique which is one of the most popular techniques in econometrics have been used for understanding the causal relation between variables using E-views 8 software. The study of four corporate actions which have been identified to be important through review of literature has been included in the study. These include impact of dividend announcement, bonus issue announcement; rights issue announcement and stock

splits announcement. All corporate announcements related to these four events by companies listed under Nifty 50, during the period 2011-2015 have been included for the study. Primary data comprised of questionnaire which consisted of 53 items, which included questions related to demographics, preference of investment instrument, macroeconomic variables, corporate actions, 11 questions related to investment objective, risk taking ability and choice of investment portfolio, sources of market information and frequency of acquisition of information. For most of the questions feedback was collected on five point likert scale where the value of one indicates "strongly disagree" and value of five was for "strongly agree". The final sample included only such investors who had at least two years of investment experience, as indicated by response to question related to number of years of holding demat account (Q.No.4).

Cronbach's Alpha which is used for confirming the reliability of questionnaire was checked using SPSS 20 software. It was found to be within acceptable limits with a value of 0.731 for overall scale reliability. Statistical tools used for the analysis of data were Chi-Square Test, Paired t-test, Granger Causality Test, and Event Study Methodology.

The results from the analysis of data revealed that investor returns from equity investments are found to be dependent upon corporate actions to some extent and macroeconomic variables apart from investor's demographic and personal characteristics. Macroeconomic variables had significant correlation with Nifty 50 index; however the causal relationship with many variables could not be established. Study of corporate actions it was concluded that except in the case of dividend and stock split announcement other two announcements had a significant effect on stock prices for almost all the event windows, thus indicating existence of semi-strong form of market efficiency. Study on the perceptions of

investors on corporate actions, revealed that investors followed the information on bonus issue, stock splits and rights issue more seriously when compared to that on dividend announcement. It was also found that education level of investors did not have an association with their perception on the importance of information about corporate actions.

Preference of investment instrument by individual investors were found to be associated with the demographic variables such as city of residence, income level of investors as well as the education level of investors. Post office deposits and bank deposits were found to be more attractive options among majority of investors. Investors from different income groups perceived them to be equally important. It was also observed that equity investment avenue was mostly preferred by investors from income group with income level of Rs.15,000 to 30,000 p.m. as well as Rs.50,000 to Rs.1,00,000 per month.

Education level of individual investors from Hyderabad was found to have statistically significant association with investor's preference of investment instrument, whereas in case of Mumbai investors such association was not observed. It was also found that education level did not have much standing in selection of investment instrument for investors group from Mumbai.

The fifth objective of the study was to determine the investors investment profile based on investor's feedback related to questions on investment objective, risk taking ability and portfolio volatility. Investors were classified into four categories as conservative, moderate, balanced and advanced. Most of the investors surveyed from both cities belonged to moderate category. Investment profile of these investors was also found to be associated with city of residence. Theoretical and practical implications of the study and its limitations and suggestions for future are also discussed.

CONTENTS

Description	Page No.
<i>Front page</i>	i
<i>Declaration</i>	ii
<i>Certificate</i>	iv
<i>Acknowledgements</i>	v
<i>Abstract</i>	viii
Table of Contents	xii
List of Tables	xvii
List of Figures	xxi
Abbreviations	xxiv
List of Symbols	xxvii

CHAPTER I - AN INTRODUCTION TO INDIAN FINANCIAL MARKETS

1.1	An Overview of Indian Financial Markets	1
1.2	Stock Exchanges in India	5
1.3	Importance of Household Sector	9
1.4	Individual Investors and Investment Decisions	13
1.5	Statement of the Problem	15
1.7	Conclusion	20

CHAPTER II - REVIEW OF LITERATURE

2.1	Introduction	22
2.2	Macroeconomic Variables and Stock Prices	23

2.3	Effect of Macroeconomic Variables on Stock Markets in India	26
2.4	Effect of Corporate Actions on Stock Prices	29
2.5	Individual Investor Perspective and Factors Affecting Equity Returns	35
2.6	Need for the Study	40
2.7	Objectives of the Study	42
2.8	Conclusion	43
 CHAPTER III- RESEARCH METHODOLOGY		
3.1	Introduction	44
 Section - I		
3.2	Variables Identified from the Existing Literature	45
3.3	Research Objectives and Hypotheses	47
3.4	Description of Variables for Objective 1(a)	49
3.5	Tools Used for Analysis	54
 Section - II		
3.6	Objectives and relevant Hypotheses	58
3.7	Description of Variables	60
3.8	Statistical Techniques for Evaluation	62
3.9	Data Collection and Purification Process	66
 SECTION – III		
3.10	Methodology for Primary Data Analysis	68
3.11	Objectives and Hypotheses	68

3.12	Description of Variables	72
3.13	Primary Data Sources	79
3.14	Conclusion	89

CHAPTER – IV - STUDY ON IMPACT OF MACROECONOMIC

VARIABLES ON STOCK PRICES AND INVESTORS AWARENESS

4.1	Introduction	91
-----	--------------	----

SECTION – I

4.2	Studies on Macroeconomic Variables	91
4.3	Discussion on Results from Analysis for Objective 1(a)	95

SECTION – II

4.4	Objectives and Hypotheses	104
4.5	Discussion on Results from Analysis for Objective 1(b)	106
4.6	Conclusion	115

CHAPTER V - CORPORATE ACTION'S AND THEIR IMPACT ON STOCK

RETURNS AND INVESTOR PERCEPTIONS

5.1	Introduction	117
-----	--------------	-----

SECTION – I

5.2	Stock Prices, Markets, Semi-Strong Form Market Efficiency	117
5.3	Objectives and Hypotheses	123
5.4	Discussion on Results from Analysis for Objective 2(a)	126

SECTION – II

5.5	Investor Perceptions and Corporate Actions	135
5.6	Objectives and Hypotheses	136

5.7	Discussion on Results from Analysis for Objective 2(b)	137
5.8	Conclusion	150

**CHAPTER VI - INVESTORS PREFERENCE OF INVESTMENT INSTRUMENT
AND THEIR DEMOGRAPHIC CHARACTERISTICS**

6.1	Introduction	151
6.2	Objective and Hypotheses	153
6.3	Analysis and Results	156
6.4	Conclusion	175

CHAPTER VII - INVESTOR DEMOGRAPHICS AND MARKET INFORMATION

7.1	Introduction	177
7.2	Objectives and Hypotheses	180
7.3	Analysis and Results	181
7.4	Conclusion	198

**CHAPTER VIII - INVESTMENT PROFILE OF INVESTORS ACROSS
HYDERABAD AND MUMBAI**

8.1	Introduction	200
8.2	Objective and Hypotheses	202
8.3	Results from Analysis	210

CHAPTER IX - CONCLUSION AND SUGGESTIONS

9.1	Introduction	214
9.2	Macroeconomic Variables	216
9.3	Corporate Actions	221

9.4	Investor Demographics and Choice of the Investment Instrument	227
9.5	Sources of Information and Frequency of Information Acquisition	231
9.6	Investment Profile of Investors	232
9.7	Suggestions and Recommendations	235
9.8	Limitations of the Study	237
9.9	Scope for Future Research	238
	References	239

APPENDICES

Appendix-1

Appendix-2

Appendix-3

Appendix-4

Appendix-5

Appendix-6

LIST OF TABLES

S.No.	Title of Table	Page No.
1.1	Projections of Household Savings Rate (in percent of GDP)	11
1.2	Average Annual Savings per Household	12
3.1	Description of Macroeconomic Variables	53
3.2	Sample Size Distribution According to City	85
3.3	Summary of Demographic Profile (Age Group) of Respondents from Both Cities	85
3.4	Summary of Demographic Profile (Income Level) of Respondents from Both Cities	86
3.5	Summary of Demographic Profile (Level of Education) of Respondents from Both Cities	87
3.6	Frequency Analysis of Equity Investing Experience of Investors	88
4.1	Descriptive Statistics for Macroeconomic Variables	95
4.2	Correlation and Descriptive Statistics of Macroeconomic Variables	97
4.3	Results of Unit Root Test – Using ADF TEST	102
4.4	Results of Granger Causality Test	103
4.5	Description of Macroeconomic Variables (Included for Survey)	105
4.6	Reliability Test for Macroeconomic Variables	106
4.7	Mean Analysis of Perceptions on Macroeconomic Variable	107
4.8	Summary from Analysis of Chi-Square Test between Variables: City and Macroeconomic Variables	108
4.9	Summary from Analysis of Chi-Square Test between Variables: Investor Age and Macroeconomic Variables	109
4.10	Frequency Analysis of Education Level of Investors	110
4.11	Summary from Analysis of Chi-Square Test Between Variables:	111

	Education Level of Investor and Macroeconomic Variables	
4.12	Frequency Analysis of Income Level of Investors	112
4.13	Summary from Analysis of Chi-Square Test Between Variables: Income Level of Investor and Macroeconomic Variables	113
4.14	Summary from Analysis of Chi-Square Test Between Variables: Investing Experience and Macroeconomic Variables	114
5.1	Analysis of Average Abnormal Returns for Ex-Dividend Date	127
5.2	Summary of Analysis for Average Abnormal Returns for Ex- Bonus Date	129
5.3	Summary for Analysis of Average Abnormal Returns for Ex- Split Date	131
5.4	Summary for Analysis of Average Abnormal Returns for Ex- Rights Date	133
5.5	Results of Reliability Test	137
5.6	Corporate Actions Included for the Study	138
5.7	Summary from Analysis of Chi-Square Test Between Variables: City of Residence and Corporate Actions	143
5.8	Summary from Analysis of Chi-Square Test Between Variables: Age of Investor and Corporate Actions	145
5.9	Summary from Analysis of Chi-Square Test Between Variables: Education Level of Investor and Corporate Actions	146
5.10	Summary from Analysis of Chi-Square Test Between Variables: Income Level of Investor and Corporate Actions	147
5.11	Summary from Analysis of Chi-Square Test Between Variables: Investing Experience of Investor and Corporate Actions	149
6.1	Description Investment Option Selected for Study	154
6.2	Mean Analysis of Investor Preference of Investment Avenue from Two Cities	155
6.3	Summary from Analysis of Chi-Square Test Between Variables: Investment Option and City of Residence	157

6.4	Summary from Analysis of Chi-Square Test Between Variables: Age of Investor and Preference of Investment Instrument	158
6.5	Summary from Analysis of Chi-Square Test Between Variables: Education Level of Investor and Preference for Investment Instrument	165
6.6	Summary from Analysis of Chi-Square Test Between Variables: Income Level of Investor and Investment Instrument	172
6.7	Summary from Analysis of Chi-Square Test Between Variables: Investing Experience and Investment Instrument	174
7.1	Results of Analysis for Hypotheses $H_{18(b \text{ to } e)}$	187
7.2	Results of Analysis for Hypotheses $H_{19(b \text{ to } e)}$	197
7.3	Results of Analysis for Hypothesis $H_{18(a)}$ and $H_{19(a)}$	198
8.1	Description of Each Category of Investors Based on Investment Objective	205
8.2	Description of Each Category Investors Based on Risk Taking Ability	206
8.3	Description of Each Category Investors Based on Portfolio selection	208
8.4	Distribution of Investor Category Based on Investment Objective, Risk Profile and Portfolio Selection of Investors	209
8.5	Summary of Results of Chi-square Test for Hypotheses 20 to 22	211
8.6	City and Investor Profile Cross Tabulation and Percentages	211
8.7	Results of Chi-square Test for H_{23}	213
9.1	Summary of Objectives, Hypotheses and Conclusions for Objective 1(a)	216
9.2	Summary of Objectives, Hypotheses and Conclusions for Objective 1(b)	219
9.3	Summary of Objectives, Hypotheses and Conclusions for Objective 2(a)	222
9.4	Summary of Objectives, Hypotheses and Conclusions for	224

	Objective 2(b)	
9.5	Summary of Objectives, Hypotheses and Conclusions for Objective 3	229
9.6	Summary of Objectives, Hypotheses and Conclusions for Objective 4	231
9.7	Summary of Objectives, Hypotheses and Conclusions for Objective 5	233

LIST OF FIGURES

S.No.	Title of Figures	Page No.
1.1	Structure of Capital Market of India	4
1.2	Sources of Gross Savings	10
2.1	Systematic and Unsystematic Risks (Examples)	24
2.2	Dimensions of Literature Review for Research	41
3.1	Relations between Macro-Economic Variables and Stock Prices	48
3.2	Corporate Actions, Stock Returns and Investor Perceptions	58
3.3	Event Study Model	64
4.1	Movements of Nifty 50 Index and Crude Oil Prices	98
4.2	Movements of Nifty 50 Index and US Dollar Exchange Rate	99
4.3	Movements of Nifty 50 Index and European Dollar Exchange Rate	99
4.4	Movements of Nifty 50 Index General Wholesale Price Index	100
4.5	Movements of Nifty 50 Index General Index of Industrial Production	100
4.6	Movements of Nifty 50 Index and Gold Monthly Closing Prices	101
5.1	CAAR Movement for Pre and Post Ex-Dividend Dates	128
5.2	CAAR Movement for Pre and Post Ex-Bonus Dates	130
5.3	CAAR Movement for Pre and Post Ex-Splits Date	132
5.4	CAAR Movement for Pre and Post Ex-Rights Date	134

5.5	Investor Perception - Dividend	139
5.6	Investor Perception - Bonus Issue	140
5.7	Investor Perception - Stock Split	141
5.8	Investor Perception - Rights Issue	142
6.1	Distribution of Investors Based on Age	156
6.2	Distribution of Investors Based on Level of Education	159
6.3	Representation of investors of Education Category I : Preference for Investment Instrument	160
6.4	Representation of Investors of Education Category II : Preference for Investment Instrument	161
6.5	Representation of Investors for Education Category III : Preference for Investment Instrument	162
6.6	Representation of Investors of Education Category IV : Preference of Investment Instrument	163
6.7	Representation of Investors of Education Category V : Preference for Investment Instrument	164
6.8	Distribution of Investors Based on Income per month	166
6.9	Representation of Investor of Income Group I : Preference for Investment Instrument	167
6.10	Representation of investor of Income Group II : Preference for Investment Instrument	168
6.11	Representation of investor of Income Group III : Preference for Investment Instrument	169
6.12	Representation of investor of Income Group IV : Preference for Investment Instrument	170
6.13	Representation of Investor of Income Group V : Preference for Investment Instrument	171
6.14	Investing Experience of Investors from Hyderabad and Mumbai	173
7.1	Representation of Frequency Information Acquisition by Investors from Hyderabad and Mumbai	182
7.2	Frequency of Information Acquisition and Age of Investors from Hyderabad and Mumbai	183

7.3	Frequency of Information Acquisition and Income Level of Investors from Hyderabad and Mumbai	184
7.4	Frequency of Information Acquisition and Education Level of Investors from Hyderabad and Mumbai	185
7.5	Frequency of Information Acquisition and Investing Experience of Investors from Hyderabad and Mumbai	186
7.6	Sources of Market Information Used by Investors from Hyderabad and Mumbai	188
7.7	Investor Age Group and Sources of Information Used (Hyderabad)	189
7.8	Investor Age Group and Sources of Information Used (Mumbai)	190
7.9	Investors Income Level and Market Information Sources (Hyderabad)	191
7.10	Investors Income Level and Information Sources (Mumbai)	192
7.11	Investors Education Level and Information Sources (Hyderabad)	193
7.12	Investors Education Level and Information Sources (Mumbai)	194
7.13	Investing Experience Level and Information Sources (Hyderabad)	195
7.14	Investing Experience Level and Information Sources (Mumbai)	196
8.1	Determinants of Investment Profile of Investors	203
8.2	Distribution of Investor Category Based on Investment Objective and City of Residence	205
8.3	Distribution of Investor Category Based on Risk Taking Ability	207
8.4	Distribution of Investor Category Based on Choice of Portfolio	208
8.5	Distribution of Investors Based on Profile (Hyderabad and Mumbai)	212

ABBREVIATIONS

ADF	Augmented Dickey Fuller
ADR'S	American Depository Receipts
AIC	Akaike Information Criterion
AR	Abnormal Returns
AAR	Average Abnormal Returns
BSE	Bombay Stock Exchange
CAAR	Cumulative Average Abnormal Returns
CDSL	Central Depository Services Limited
CMIE	Centre for Monitoring Indian Economy
CSO	Centre for Statistical Organisation
DP	Depository Participants
EPS	Earnings Per Share
FII'S	Foreign Institutional Investors
GDP	Gross Domestic Product
GDR'S	Global Depository Receipts
GNP	Gross National Product
H	Hypothesis
IAP	Investor Awareness Programme
ICICI	Industrial Credit and Investment Corporation of India
IDBI	Industrial Development Bank of India
IFCI	The Industrial Finance Corporation of India

IIBI	The Industrial Investment Bank of India
IIP	Index of Industrial Production
INR	Indian Rupee
IPO	Initial Public Offering
KYC	Know Your Customer
MCX	Multi Commodity Index
MF'S	Mutual Funds
N	Number
NBFC'S	Non-Banking Financial Corporations
NCAER	National Council for Applied Economic Research
NFO	Non-Financial Organisations
NII'S	Non Institutional Investors
NSE	National Stock Exchange
NSDL	National Securities Depository Limited
No.	Number
POSS	Post Office Savings Scheme
PPF	Public Provident Fund
QIB'S	Qualified Institutional Investors
RBI	Reserve Bank of India
RGESS	Rajiv Gandhi Equity Savings Scheme
RII'S	Retail Individual Investors
RSSR	Restricted Residual Sum of Squares

RSSUR	Unrestricted Residual Sum of Squares
SE	Standard Error
SEBI	Securities and Exchange Board of India
SENSEX	Sensitivity Index
SFC'S	State Financial Corporations
Sig.	Significance
Sl.	Serial
SRO'S	Self-Regulatory Organisations
TDS	Tax Deducted at Source
UTI	Unit Trust of India
USD	United States Dollar (\$)
WPI	Wholesale Price Index

LIST OF SYMBOLS

Σ	Sigma
Π	Pi
t	Time Period
p	Probability
B	Beta
α	Alpha
μ	Mu
λ	Lambda
∞	Infinity
P	Rho
σ	Sigma (Standard Deviation)
σ^2	Sigma Square (Variance)
γ	Gama
δ	Delta
χ^2	Chi Square
df	Degrees of Freedom
r	Correlation Coefficient
R^2	Coefficient of Determination
Log	Logarithm of Future Price Series
\$	Dollar
€	Pound

CHAPTER I
AN INTRODUCTION TO INDIAN
FINANCIAL MARKETS

CHAPTER-I

AN INTRODUCTION TO INDIAN FINANCIAL MARKETS

1.1 An Overview of Indian Financial Markets

The economic history of India is well known since Indus Valley Civilisation. During the Indus Valley Civilisation economy of India was well developed and the presence of coins from various sites of Indus Valley cited an evidence for the same. Among the largest economies of the world, India occupies third place with United States being the first and China in second place. Economic growth has created investment opportunities in India, leading to wealth creation which is the key element for the development of any nation.

Stock markets are the arrangements which function in facilitating purchase and sale of financial securities such as equities and bonds to investors and corporates. It functions under the rules and regulations of SEBI (Securities and Exchange Board of India) in India. They gain prominence as they provide convenient platform to corporate, individual and government to access new capital and realise their investments. Through such arrangement, corporates gain public access whereas investors find new instruments to maximise their returns.

Shareholder's returns are derived in the form of capital gains and dividends over a given time frame. Returns of investors are also influenced by factors such as decision skills and choice of investment instrument, depending upon their expected rate of return. Information asymmetry of investors about market factors and firm performance sometimes helps in deriving better returns. Unlike other instruments of investing, stock market investment is a different game, past success and performance of stocks does not always

imply future success as observed in case of other investments. It is also found to be influenced by various other factors and sometimes luck may also play a significant role.

Indian economy no doubt is considered to be one among the fastest developing economies of the world. It's financial markets are now in their buoyant stage enjoying investor optimism in the form of huge investments. Most of the investments in recent times are flowing in the form of Foreign Direct Investments (FDI), which has made domestic investors very optimistic. However, it is not possible that all expectations made by investors shall be fulfilled, but yes the roadmap for their aspirations has definitely been laid.

After the implementation of liberalisation, privatisation and digitisation in India a demonstrable change has been observed. There has been a considerable advance in all sectors, one such change is the dematerialisation of securities. Investors today are not much scared to invest their hard earned money through the market securities. On account of new reforms and regulations brought in by the Indian government, the doors for more and more individuals to participate in securities markets have opened. It is also a known fact that the increased aggregate income has created scope for higher savings and thereby made way for higher investments.

Burton Malkiel (2011) in his book defines *“investing as a method of purchasing assets to gain profit in the form of reasonably predictable income (dividend, interest, or rentals) and/or appreciation over the long term. It is the definition of the time period for the investment return and the predictability of the returns that often distinguish an investment from a speculation. All investment returns whether from common stocks or exceptional diamonds are dependent, to varying degrees, on future events. That's what*

makes the fascination of investing: It's a gamble whose success depends on an ability to predict the future.” Most of the dictionaries also define investment as the process of investing for profit. In an economic sense, it implies utilisation of resources in order to increase income or production output in future. In finance terms, it refers to the process of buying a financial product with an anticipation of positive returns in future.

In this new era of economic development, complemented by the development of internet and telecommunication, investment in stock markets is gaining significant support from the government. It has also become a significant medium of channelising savings from deficit sector to surplus sector in the economy. Researchers, economist and policy makers have always regarded stock markets to be a subject of great concern. It is considered to be the barometer of any nation’s development.

Capital Markets in India

It is a part of Indian financial system which majorly deals with raising capital through shares, bonds and other instruments. It is further segregated into primary and secondary markets. During the pre-independence era, Indian Capital Markets were almost non-existent as most of the revenue was from agricultural sector, there were very few companies which operated and not a few amongst them traded on exchanges, and moreover, the investors in these companies were from prosperous communities from rural and urban areas.

Indian capital markets have been adequately strengthened and regularised through legislative acts from time to time. SEBI which is the statutory market regulator since 1992 was further empowered on account of several other amendments in 1999. Further in 2002 with SEBI Act, it was endowed with compliance and enforcement powers along with

search and seizure powers. On account of rigorous efforts by SEBI today Indian indices like Nifty and Sensex have gained a place among major global indices.

Capital markets include various institutions operating in primary and secondary markets which have the following structure. Each segment has a distinct feature and contribution. Figure 1.1 presents the structure of capital markets in India.

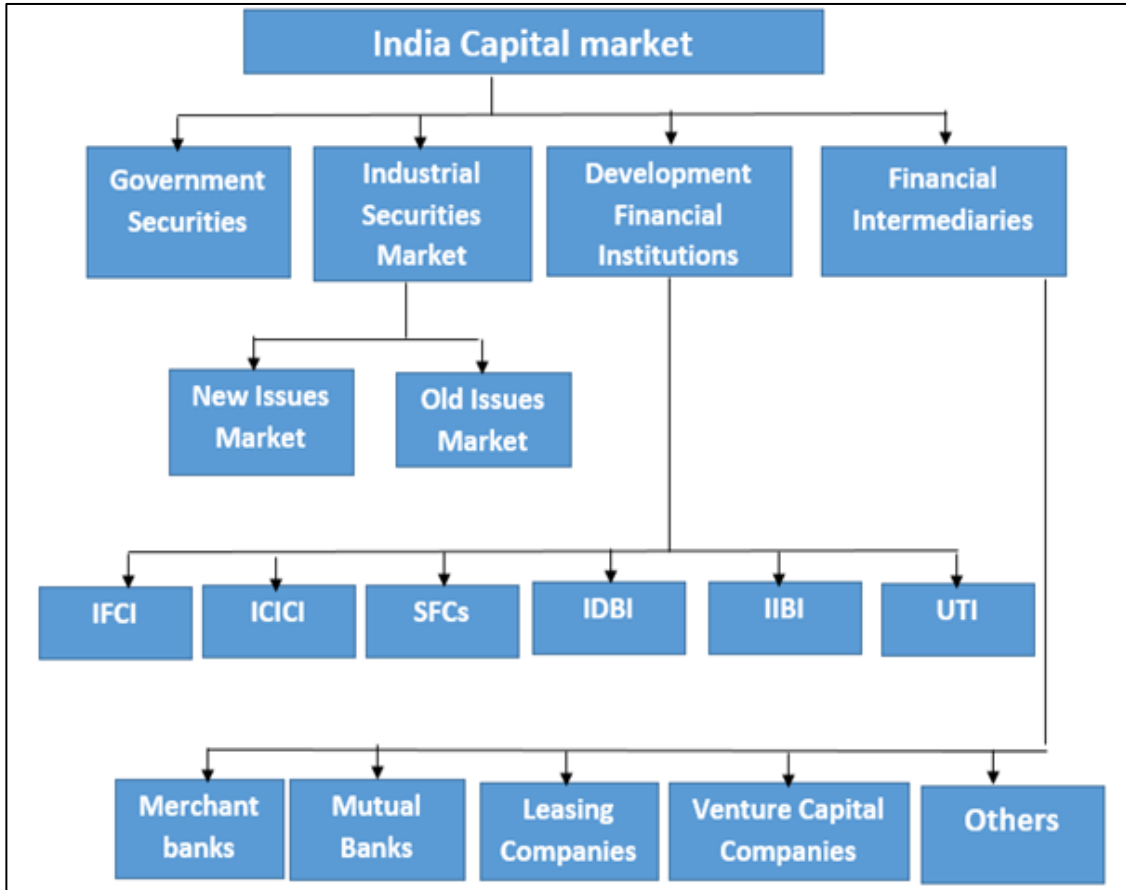


Figure 1.1 Structure of Capital Market of India

Source: <http://www.civildserviceindia.com/subject/Management/notes/recent-reforms-in-financial-sector.html>

Figure 1.1 illustrates that the capital markets are divided broadly into four segments. The first classification comprises of the Government Securities Markets which are also known as Gilt edged markets. These are market securities which are supported by

the Reserve Bank of India (RBI). The second classification comprises of Industrial Securities Market which involves trading of shares and debentures of existing and new corporate firms. The trading takes place through registered stock exchanges. In the third category are present the Development Financial Institutions which are special financial institutions to provide long term finances for the purpose for which they have been set up. Fourth are the Financial Intermediates which are an important segment of Indian capital markets. They include merchant banking institutions, mutual funds, leasing financial institutions etc.

1.2 Stock Exchanges in India

A Stock exchange is a platform from where stock brokers and traders can sell and buy their stocks, bonds, and other securities. Stock exchanges are part of stock markets which includes trading of shares from all listed firms. They are organisations where it's members gather to trade company stocks or other securities. There are 19 recognised stock exchanges in India according to SEBI publications of May 2016 from “The Handbook of Statistics on Indian Securities Market.”

“A dematerialised exchange is where the functions of management, ownership, and trading are clearly segregated, that is to mean they are in different hands. The two most important stock exchanges are the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). BSE is one of the oldest stock exchanges in India and is existent since 1875; NSE was founded in 1992 and started trading from 1994. They follow the same trading system, settlement process, trading hours etc. All major firms are listed in these two exchanges with about 5,835 companies listed during (April – December) 2015 with BSE and 1,794 securities from NSE according to SEBI.”

BSE has 30 most prominent companies listed under BSE SENSEX index and also comprises of other major indices such as BSE Small Cap, BSE Mid Cap and BSE 500. Nifty comprises of major indices namely Nifty 50 with 50 companies listed under it, and other indices such as Nifty Junior and Nifty 500 with most popular companies listed under it. While BSE is one among the oldest stock exchanges in Asia, NSE is believed to be the largest stock exchange in Asia in terms of daily turnover and number of trades.

SEBI has been successful in improving the functioning of Indian stock markets to some extent; however, there is a long way to go. There have been many changes brought on account of reforms introduced by SEBI. Indian capital markets consist of stocks from large financial sectors, FMCG (Fast Moving Consumer Goods) companies, pharmaceutical companies and other such corporates. Thereby it provides an array of choice to investors, to select portfolio for equity investments.

Securities Traded in Capital Markets

Capital markets broadly comprise various financial institutions and instruments. Government securities are mostly bonds or any other form of a debt obligation issued by the government with a promise to repay at the date of maturity. These are low-risk investments as they are backed by the government.

Industrial securities market comprises of securities in the form of shares and debentures from various companies across industries. It is further divided into primary and secondary markets. The major difference between primary and secondary markets is that in primary market's investors buy securities directly from companies during the new issue or Initial Public Offering (IPO), whereas a secondary market exists when the investors trade securities among themselves. Secondary markets comprise of equity and debt

markets which are traded by investors after IPO (Initial Public Offering) and listing of firms on the stock exchange. Secondary markets are a good avenue of investment for individual investors along with corporate investors. The financial products that are traded are defined by SEBI.

Equity Shares: The word equity implies “quality of being fair and impartial.” It may also be explained as the stock or any other security representing ownership interest. Pandey, I.M. (2015) ordinary shares, preference shares, and debentures are three important securities used by the firms to raise funds to finance their activities. Ordinary shares provide ownership rights to ordinary shareholders. They are the legal owners of the company. As a result, they have residual claims on income and assets of the company. They have the right to elect the board of directors and maintain their proportionate ownership in the company, which are called the pre-emptive rights. These rights of the ordinary shareholders are maintained by raising new equity funds through rights offering. Rights issue does not affect the wealth of a shareholder. The price of the share with rights-on gets divided into the ex-rights. So what the shareholder gains in terms of the value of right, he loses in terms of the low ex-rights price. However, he will also lose if he does not exercise his rights.

Debenture is a long-term promissory note. The debenture trust deed or indenture defines the legal relationship between the issuing company and the debenture trustee who represents the debenture holders. Debenture holders have a prior claim on the company’s income and assets. They will be paid before others.

Convertible Security is either a debenture or a preference share that can be exchanged for a stated number of ordinary shares at the option of the investor. Companies offer convertible

securities to sweeten debt and thereby make it attractive. It is a form of deferred equity financing which provides low-cost funds during the early stage of the investment project. *Bonds* are debt instruments or securities. In the case of bonds, the stream of cash flows consists of annual interest payments and repayment of principal on maturity. These flows are fixed and known.

Commercial Paper: It is a short-term promise to repay a fixed sum that is placed on the market either directly or through a specialised intermediary. It is usually issued by firms with a high credit standing in the form of a promissory note which is redeemable at par to the holder at maturity. Therefore, it doesn't require any guarantee. Commercial paper is a money-market instrument issued normally for tenure of 90 days.

Treasury Bills: These are short-term (up to 91 days) bearer discount security issued by the government as a means of financing its cash requirements to interested parties. The auction of treasury bills is made by Reserve Bank of India at a discount on face value at regular intervals. For an individual to meet the future requirements such as child education, marriage, old age financial support or any other requirements, implementing a planned investment strategy may help in meeting their goals.

Apart from above-mentioned investment options, there are other investment avenues open for investment in stock markets. They can further be classified under various segments such as (i) Mutual Funds (ii) Initial Public Offerings (iii) Security lending and borrowing schemes (iv) Derivatives in equity or currency (v) Post Office Savings Schemes (vi) Bank deposits (vii) Provident Fund etc.

After the introduction of depository system in 1996 under Depository act, trading began on National Stock Exchange (NSE) with shares in demat form for the first time.

Dematerialisation of accounts has helped investors to get rid of physical possession of certificates and shortened the time of delivery. Now, an electronic settlement of trades takes place with various benefits such as immediate transfers, without any stamp duty on the transmission of securities, no risk related with physical certificates such as bad delivery, no security thefts, postponements, reduced deal cost, automatic credit, etc. These benefits not only help investors but are also a blessing for companies and brokerage houses.

Government policies and laws have played an important role in encouraging the habit of saving among the Indians. One of the major reasons for an Indian to save could be on account of the absence of inheritance tax or estate tax in India. It is a tax which is levied at the time of inheriting any asset; it is not existent in India as it is exempted under section 56(ii) Income Tax Act, 1961.

1.3 Importance of Household Sector

For economic development of a nation Gross Domestic Product (GDP) is one of the major indicators, it measures the total value of goods and services produced in a country for a given period of time. It is the total of consumption, investment, government expenditure and the surplus/deficit from the activity of imports and exports. Gross Domestic Saving is derived by deducting the final consumption from Gross Domestic Product. These savings are lying either with public or government and re-enter the economy in the form of investments made by government or households.

Figure 1.2 illustrates the sources of Gross Savings. Gross savings accumulate from three sectors viz. (i) Government and public sector (ii) Private corporate sector and (iii) Household sector.

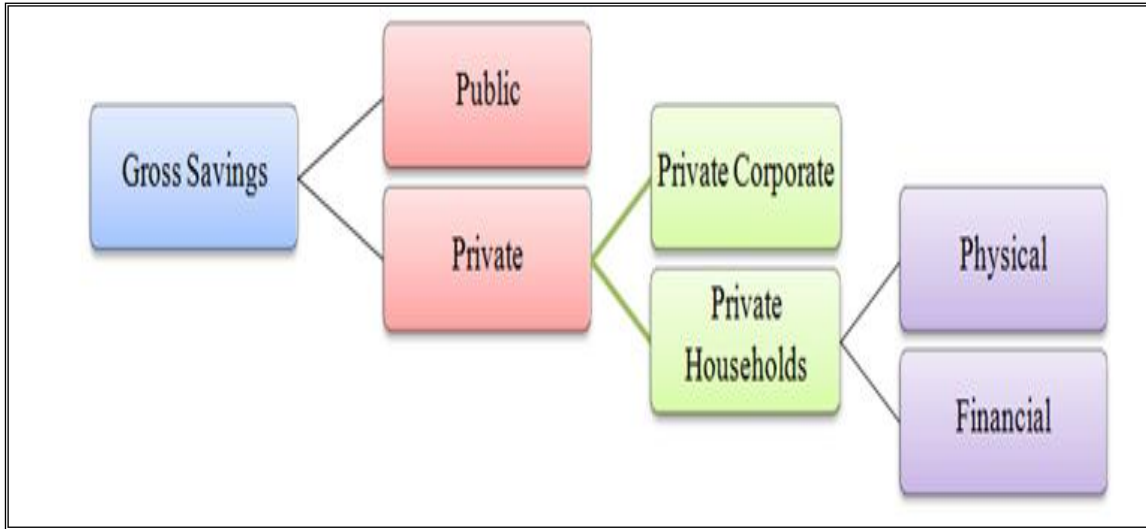


Figure 1.2 Sources of Gross Savings

Source: <http://www.gktoday.in/blog/savings-investment-and-capital-formation/>

Government sector includes government administration, departmental undertaking and other government companies and corporates. The Private sector includes enterprises which are non-government and non-financial corporates. The household sector is a residual sector and comprises of savings accumulating from three types of assets (i) Physical assets, (ii) Financial assets and (iii) Uncounted savings of the household sector.

Gross savings in an economy are a source of large investments, and hence an important condition for economic development. In some open economies as in the case of India they are also supplemented by foreign investments. In the opinion of few economists a rise in savings is on account of factors such as (i) Rising per capita income (ii) Continued development of financial system and (iii) Weakening share of agriculture in Gross Domestic Product (GDP).

Table 1.1 shows the trend in the growth of Household Savings Rate as a percentage of GDP during 2011 to 2016.

Table 1.1

Projections of Household Savings Rate (in percent of GDP)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	12 th Plan Average
Household savings rate	23.2	23.6	24.0	24.4	24.8	25.2	24.4

Source: Report given by the planning commission on savings during the 12th five-year plan

Table 1.1 indicates the projections of household savings rate from the 12th five-year plan (2012-13 to 2016-17) by use of three years moving averages. It indicates that the household savings rate have been consistently growing between 2011 to 2016. As reported by the working group on savings this increase was felt due to the impact of average and annual savings of household sector and the projected age structure of population in India. There was sharp pick up during 2005-06 to 2007-08 possibly due to the growth phases and contrasting movements which were observed in the proportion of assets constituted from gross domestic savings and public sector savings. This trend was reported to be on account of increase in bank deposits. Bank deposits are perceived to be the safest investment in case of financial crisis.”

The information on the average annual savings per household was provided by the survey conducted by Max Life New York and NCAER jointly which has been presented in table 1.2.

Table 1.2

Average Annual Savings per Household

Age of Chief Earner of Household (in years)	Average Annual Savings per Household (in Rupees)
Less than 25	8,515
26-35	13,465
36-45	15,522
46-55	20,444
56-65	21,196
More than 65	17,011
Average	16,139 ^s
Source: Max Life New York - NCAER Survey (2007)	

Source: Report of the working group on savings during the 12th five-year plan

From the above table 1.1 it is found that the average annual savings of the chief earner of household on average is approximately Rs.16,139 per annum (p.a.). The highest average annual savings are by chief earners who are in the age group of 56 to 65 years, and the lowest is saved by those who are of age less than 25 years. It can also be noticed that the average annual savings of chief household earner from the age group of less than 45 years are less than the average of Rs. 16,139 p.a. Therefore, it may be concluded from above table that a majority of individual's annual savings are less than the average annual savings.

Investments of individuals are sourced from their savings and these decisions of individual investor are influenced to a large extent by their aspiration for future return. These motivations may be linked to personal characteristics, demographics and socio-

economic environment.

1.4 Individual Investors and Investment Decisions

There are various indigenous methods adopted for financial investment in India such as financing on daily interest rates (which is a popular practice in most urban and rural areas) and Chit fund companies. There are clusters of few favourite chit fund companies among all incomes groups as the investment destination. Ministry of Corporate Affairs reports reveal about the existence of 5,836 chit fund companies throughout India at the end of December 2012 according to the latest statistics available on the website. However, investment in chit funds is not actually investment but it is a form of pooling money in small proportions for a given timeframe and getting it back in the form of lump-sum amount. This money is majorly sourced through individual's savings or someone else's money.

An investment means the process of investing money. From an individual's perspective, it refers to commitment of money with certain expectation. Investments by individual investors can be classified into two broad categories as financial assets and non-financial assets. Financial assets are such assets that are non-physical by nature and derive value from a contractual claim. Example: bonds, stocks, bank deposits etc. They may be traded on financial markets and are more liquid compared to other tangible assets. Non-financial assets are such assets which are tangible, have a useful economic life and loose value on account of depreciation in most cases; examples are precious metals, machinery, land, tools etc. The need for investing in the present times has increased on account of higher income, higher rate of inflation, tax incidence and interest rate.

Definition of Retail Investor

According to SEBI, Retail Individual Investor in a public issue is defined as per DIP (Disclosure and Investor Protection) guidelines as follows: “*Retail Individual Investor in a public issue who applies or bids for securities for a value of not more than Rs.2,00,000*” with effect from September, 2011 which is the latest amendment (Annexure-3). They are such investors who own/purchase securities for personal use and not for any organisation. In comparison to institutional investors they trade in small amounts.

Indians are traditionally found to be good savers and the habit of saving is imbibed in them culturally. National Council for Applied Economic Research (NCAER) in its survey report titled “How households save and Invest: Evidence from NCAER Household survey 2011 found that distribution of savers in India from urban locations was 15.23 million investors which constituted 21% of urban households. This shows that majority of household savers belong to the urban area.”

There have been studies in the area of understanding the market behaviour and research articles published in support of Efficient Market Hypothesis as well as Random Walk Theory, they are particularly oriented towards understanding stock market behaviour. Nevertheless, there is no solution to this question as to what factors direct the movement of stock prices.

Investor’s age, income, education, gender, city of residence and other socio-economic factors influence investor decisions on equity investment. NCAER reports suggest that the major reason for non-participation of households in financial markets is on account of perceived non-safety of returns apart from other reasons such as budget constraints and inadequacy of returns.

Some of the most popular investment options in India which are an easy destination for individuals are Post Office Savings Schemes (POSS), Public Provident Fund (PPF), Company Fixed Deposits, Mutual Fund Investment, Investing in Gold, and Chit Funds Investment. Equity investment is one such investment option which is believed to yield high returns although there is not much awareness about it in India. When investing in equity it requires awareness about procedures and information on market movements. It is unlike other investment options and may require awareness and information on market movements.

1.5 Statement of the Problem

With the rising number of dematerialisation accounts, it is implied that more and more investors are participating in the capital markets. But are they able to make good returns and meet their expectations from this investment still remains' a question.

With the rising number of scams, the SEBI has brought in many amendments and regulations to control financial markets and protect investors. Despite all it's efforts, there are a large number of complaints that are received every year. An additional problem for demotivation of equity investing by small investors seems to be the burden of high transaction charges. Small investors have a different trading pattern as compared to High Net-worth Investors and speculators, their needs and objectives are different but the charges levied are same for all categories of investors.

It is therefore implied that in most of the cases, individual investors fall prey to brokers or financial intermediaries in hope of making some quick money from trading in shares. The only way to come out of this is by means of gaining awareness and information before anyone starts investing. Therefore, an investor needs to understand the

formalities before starting to invest and the right decision should be taken while buying and selling securities. Although most of the finance theories are based on the assumption of rational investor and perfect market information, yet it may not be true practically. It is good to make an evaluation for following questions before making any equity investment decision:

- What are the investment objectives of individual investors?
- What are the time horizons of individual investors?
- Why does an investor think it is the right time to sell/buy a stock?
- Do the investors have proper background information about the market conditions and firms in which they wish to invest?
- What is the risk taking ability of investors?
- Is the source of information of investors completely reliable?

1.5 Need for the Study

With the rising working population in India and growing urban habitat, markets have become more dynamic. Technological advancement has brought in various investment options at the tip of fingers for most of the individual investors. The major questions which the present research attempts to answer are as follows:

- (1) What are the most important aspects that would influence an investors returns from equity investments?
- (2) Which specific factors cannot be ignored and need to be evaluated in the process of equity investments?
- (3) Do the demographic characteristics of investors have an association with their choice of investment instruments?

(4) Do the investor's personal characteristics such as age, income, education level, city of residence and investing experience have an association with their perception on importance of corporate actions and macroeconomic variables?

(5) Is there a difference in the individual investors profile across Hyderabad and Mumbai?

With limited access to information and limited knowledge about finance terminology an investor is scared and has his own inhibitions before he starts investing. As per the reports from NCAER report (2015) "a significant percentage of respondents (household investors) stated that they are unable to understand the demat system and they find the procedure complicated."

Investment decisions are backed by the traditional economic theory which says that "markets are efficient and that people make rational decisions to maximise profits". Individual investor decisions on equity investment are influenced by their demographic characteristics and external financial environment. As per a survey conducted by L. C. Gupta (1980) and team funded by Society for Capital Market Research and Development it was found that "investment decision of investors is to a large extent influenced by their needs and expectations."

Equity investments are unlike other investment avenues in a sense that a retail investor places his investment in someone else's business without any guarantee of return. Further, there is a need to wait and watch how the company performs and possibly get back the equity returns at right time in the form of capital gain or dividend. With the abundance of information available to the investor, being selective for monitoring information becomes important for an investor. To make the right decision at right time; it is not possible to monitor all the information that is available.

The Government has also introduced “Rajiv Gandhi Equity Savings Scheme” (RGESS) in 2012 to motivate more and more investors to enter domestic capital markets. As reported by SEBI “this scheme was introduced to attract new investors into equity investments and was exclusively for investors with an annual income less than Rs.12 lakhs per annum. Tax exemption up to Rs.50,000 worth equity investments is the most important attraction of this scheme.” Other important and difficult question for investors is what factors he needs to monitor once he/she starts investment to gain better returns. It is also a challenge for an investor to decide on the selection of investment portfolio with the future risks involved.

Therefore, there is a need to explore all the factors which may affect retail investor’s equity returns. Further, there is a need to understand these factors from the perspective of individual priority. These factors can be understood from different dimensions such as macroeconomic factors, firm related factors, demographics and individual’s investment profile.

The present study is an effort to analyse and summarise the importance of these factors depending upon both secondary data analysis and survey of investor’s perceptions. The study is unique in nature as it attempts to study the perceptions of investors from two major cities in India (i.e.) Mumbai and Hyderabad. Mumbai being the hub for investors with largest investor accounts, and Hyderabad which is among the fast developing cities with a lot of scope to attract higher investments in equity segment. The study is also an endeavour to understand the differences in demographic attributes and investor perceptions on account of the location.

There is a need to understand these factors using statistical tools using both primary

and secondary data sources and detailed study of perceptions of investors. Present research is motivated by the documented evidence from literature where factors related to each aspect of retail investors are researched upon from different dimensions. There has been not much study which has been able to compile all these factors together. There is a need to understand the investment profile of investors in terms of their risk taking ability, financial objective and choice of the portfolio from time to time. Such an assessment may enable financial intermediaries in understanding the expectations of investors from their equity investments and clearly define those factors which affect them the most.

Conclusions of the study will be instrumental for usage by policy makers, brokerage firms, portfolio managers, and individual investors for designing products for investors. As most of the financial investment products are designed generally and sometimes depending upon the tax regime, but if financial investment products are specifically designed depending upon the investment profile by customising financial services there is an opportunity for higher investor participation.

The focus of the present study is to understand ‘what are the most prominent factors that influence the equity investments in Indian markets’. These three dimensions have been identified from literature as macroeconomic factors, corporate actions of firms and individual’s demographic characteristics. This study fills the gap in literature through the study of individual investors’ perceptions on the importance of macroeconomic factors and corporate actions of firms and individuals’ investment profile.

Another segment of literature connects to relation between investor’s demographics and their investment decisions. Rajarajan V. (1997, 1998, 2000 & 2003) “Investment Size based segmentation of Individual Investors, Study of lifecycle and

Investment pattern, Investor's Lifestyles and Investment characteristics, Investors Demographics and Risk bearing capacity"; Mittal & Vyas (2008), "Demographics and Investment Choice among Indian Investors"; Gupta L.C (2012) "Long Term Rates of Return on Industrial Equities in India" are some of the prominent studies with reference to India in recent times which have been conducted on Individual investors to understand the relationship between different demographic factors and perceptions of investors from different regions. Abreu, M & Mendes, V (2011) there is no direct evidence of the impact of sources of information in investor's financial choices and frequency of information acquisition.

A survey conducted by SEBI and NCAER titled "Urban Saving Survey" in 2015 to identify and understand investor perceptions regarding investment choices and savings instruments and to probe further into the decision-making processes of non-investors, particularly by attempting to understand their non-participation in market instruments and their approaches to saving.

1.7 Conclusion

Throughout the present chapter, a brief introduction of capital markets in India is made with an understanding of different types of securities traded and various investment options available with particular reference to individuals. The emergence of first stock exchange in India and the success story of financial markets are also presented in a bird's eye view.

Investment decisions of individual investors are discussed, as being influenced, either on account of demographic attributes or personality traits. It is found that Indian households have a good proportion of their savings attributed towards investments. They

form an important component of GDP of our country. With limited information and knowledge of financial markets, investors are found to be keen in equity investing.

The focus of the present study is to understand what factors most prominently influence the equity returns and stock prices from three major dimensions (i.e.) macroeconomic factor, corporate actions of the firm, and individual's demographic characteristics. Further, there is a need to understand these factors from the perspective of individuals' priority and impact of these factors according to the perceptions of investors. The above-mentioned discussions are elaborately presented in the following chapters.

CHAPTER II

REVIEW OF LITERATURE

CHAPTER - II

REVIEW OF LITERATURE

2.1 Introduction

In this chapter ‘Review of the literature’, relevant information on various dimensions of the study is included. It is organised according to the contents, which are categorised into three sections depending on the factors influencing individual’s equity investment. These are the factors related to the macroeconomic variables, corporate actions, demographics, and investor’s behavioural attributes. Other influencing factors such as demographic characteristics and it’s relation to individual investment decisions are also focused.

The literature is collected from various books, conceptual papers and journal publications of national and international repute. More than 180 research articles have been systematically examined to gain critical insights on these different dimensions, which influence individual investor’s decisions on equity investment. These materials have been collected from different databases such as EMERALD, Springer, Scopus, ProQuest, Wiley, Taylor and Francis, JSTOR, Sage, etc. Articles were explored based on keywords such as in “individual investor, equity returns, macroeconomic variables, efficient market hypothesis, corporate announcements/actions, behavioural finance theories of economics etc.” Literature has been collected by visiting libraries of various universities which are University of Hyderabad, Osmania University, Institute of Public Enterprise, ICFAI Business School located at Hyderabad. Various reference resources were also collected from Indian Institute of Management – Ahmedabad, Indian Institute of Management-Indore, Pune University, Indian Institute of Technology – Roorkee and Mumbai.

2.2 Macroeconomic Variables and Stock Prices

There are various factors which are believed to affect the stock prices and thus the research on this subject is extensive and debatable. As stock markets are a part of a nation's economy and there is a great scope for capital markets to be influenced by changes in such macroeconomic variables. This change is active due to its dynamic nature; therefore in spite of existent literature in the same area, there is further scope for research.

From the literature, it can be known that equity markets may be under the influence by various macroeconomic factors such as Index of Industrial Production (IIP), Money Supply, Exchange rate, Treasury Bill Rates, Inflation and other factors. There has been research conducted by scholars across nations on this topic from different dimensions, different methodologies, short-run interactions, long-run interactions and different geographic locations. Various models such as "Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory (APT), and Discounted Cash Flow Method (DCF)" are very popular regardless of their limitations. The application of each of these models depends on the relevant assumptions laid in the countries where they have initially been tested and also the availability of data.

Changes do occur in the inter-relationship in macroeconomic variables in changing market conditions from time to time on account of developments in the financial atmosphere and advancement of technology. It is, therefore, a good idea to test the application of these models in different market conditions.

Capital Market Efficiency: The firm-specific variables that affect the investor return or the stock prices come in the form of public information shared by the firms through

announcements through media in the form of news or reports. While the financial economists from their research very generally agreed to the presence of Random Walk Hypothesis; Malkiel (2011) argues that “asset prices typically exhibit signs of random walk and that one cannot consistently outperform market averages.” On examination of modern investing techniques including technical and fundamental analysis in light of academic research studies of these methods, an observation was made that for most investors adoption of above methods has produced inferior returns. The random walk theory believes it’s impossible to outperform market without assuming additional risk.

Fama (1970) developed “Efficient Market Theory which states that asset prices fully reflect all available information, which implies that it is impossible to beat the markets by following market news or expert stock selection or timing and the only way an investor can obtain higher returns are by purchasing riskier investments.”

Market risk can be classified as systematic and unsystematic risk. Examples of the same are presented in the following figure 2.1.

SYSTEMATIC RISK	UNSYSTEMATIC RISK
<ul style="list-style-type: none"> • A war among the oil producing countries • Ruling party votes for a huge tax cut. • Reserve bank bringing changes in repo rate and reverse repo rate. 	<ul style="list-style-type: none"> • Death of a company's CEO • Entry of a market competitor • Discovery of natural reserve (ex.Oil, Gold) on a company's territory

Figure 2.1 Systematic and Unsystematic Risks (Examples)

Source: <http://www.accaglobal.com/us>

Systematic risk is also known as diversifiable or market risk. It occurs on account of uncertainty inherent to the entire market. While unsystematic risk is also

known as specific/diversifiable/residual risk. It occurs on account of the risk involved with the industry or company. It can be reduced through diversification of portfolio.

Capital Asset Pricing Model (CAPM) was first presented by Sharpe (1964) however even before him the foundations of asset pricing models were laid. Markowitz (1952), and Tobin (1958) these studies suggest that the risk of an individual security is on account of its volatility (i.e.) its standard deviations. Therefore, risk increases with the increase in the standard deviation of the securities returns. For an individual investor, the risk involves the total risk of all his securities (i.e.) his portfolio. The following suggestions were made:

- (i) When two risky assets are consistent, their standard deviation is not additive, provided the returns from the two assets are perfectly and positively correlated.
- (ii) And when a portfolio of risky assets is formed, the standard deviation risk of the portfolio is less than the sum of the standard deviation of its constituents.

Markowitz also suggested “efficient frontier of portfolios and suggested that the investors are expected to select a portfolio, which is most appropriate for them, from the useful set of securities available to them to take appropriate portfolio diversification decision. Therefore, it is important to possess adequate market information. Sharpe (1964)

Capital Asset Pricing Model has various assumptions:

- Security Markets are perfectly competitive. (many small investors are price takers)
- Markets are frictionless. (no taxes and transaction costs)
- All investors have the same holding period.
- Investments are restricted to openly traded assets with limitless borrowing and lending at the risk-free rate.

- Stockholders use Markowitz model for portfolio choice.
- All stockholders have the similar information and use it in a similar manner.
- All investors use the same estimates of expected returns and same variance/covariance matrix.”

2.3 Effect of Macroeconomic Variables on Stock Markets in India

As an investor is a part of the nation and economy at large, his stock holding decision is influenced by many independent factors. The relationship of equity markets and macroeconomic performance has been empirically analysed with the help of “Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Model (APT).”

An understanding of the effect of these macroeconomic factors and various indicators guide us forward. In this context, an analysis of the economic survey released by the Reserve Bank of India, and CMIE has made various publications. These studies are related to leading indicators like rainfall, unemployment, corporate profit, money supply, stock market indices, indicators like GDP/GNP (Gross National Product), sectoral output, Index of Industrial production, etc., Many other Lagging Indicators like piled up inventories, large-scale unemployment, outstanding debt, the interest rate on commercial loans, etc., help us to predict the likely performance of the economy.

Through present research, an attempt is made to understand key implication which these macroeconomic variables may have on the stock price movement with specific reference to Nifty 50 index.

Nair & Ladha (2013) suggest that “Behavioural Portfolio Theory (BPT) was in existence even before the more famous Modern Portfolio Theory (MPT) was developed by (Markowitz, 1952). According to BPT, investment choices are affected by the investor’s

cognitive biases and emotions, because unlike MPT, in BPT, investors seek both ‘utilitarian’ (maximising return and minimising risk) and ‘expressive’ benefits (investment as a means of expressing personal values) from their investments. Thus, investment choice may be determined by a tradeoff between financial (practical) benefits and psychological (emotional) benefits derived by an investor. In the late 1970s and early 1980s, discussions on the environment and the negative impact of certain actions of individuals on the situation gained impetus.”

Srivastava (2010) study concludes that emerging economies like India are more affected by domestic macroeconomic factors when compared to changes in global markets. Industrial production, interest rate and Wholesale Price Index (WPI) are the most important variables affecting in the long-run. Naka A, Mukherjee T, Tufte. D, (1998) found through their study that three long-term equilibrium relationships exist among stock prices and macroeconomic variables. Domestic inflation is the most severe deterrent to Indian equity markets performance, and national output growth is it’s predominant driving force.

“Three among seven variables studied are more important and are expected to influence stock markets, these factors are call rate, foreign institutional investors, and exchange rate; other factors are index of industrial production, consumer price index, dollar price, crude oil price.” (Makan.C, Ahuja, A & Chauhan. S, 2012; Bhatia, 2015). The study also investigated the impact of macroeconomic variables on the functioning of Indian Stock Market. The monthly data of ten macroeconomic variables, namely Broad Money, Call Money Rate, Crude Oil Price, Exchange Rate, Foreign Exchange Reserve, Foreign Institutional Investors, Gross Fiscal Deficit, Index of Industrial Production,

Inflation Rate and Trade Balance and one stock market index i.e. BSE 500, were used. The results indicated towards existence of causal relation with exchange rate.

Naik, K.P. (2012) in his study on the significance of five macroeconomic variables on BSE index during 1994:2004 using monthly data has indicated that the short-term interest rate and exchange rate were insignificant to determine stock prices. The bidirectional causality exists between industrial production index and stock prices, whereas, unidirectional causality from stock prices to inflation, long run interest rates to stock prices and money supply to stock prices. Sankar, De (1975), provides evidence how the marginal investor is indifferent between dividend yields and capital appreciation through retained earnings. The study was conducted on selected segment of industries for data of 9 years' duration.

It is also opined by various researchers that these models suffer from many limitations; assumptions and the existence of perfect market condition are far from reality. As it can be observed that market imperfections in many developing markets can be understood and each market has its own market characteristics, which makes these models unsuitable for developing country like India.

Sharma and Kennedy (1977) tested for the weak form efficiency of Bombay Stock Exchange during 1963-1973 based on quarterly data and confirmed from their analysis that Indian stock markets follow random walk theory.

Gujarati, D (2004) considered macroeconomic variables which are in time series assuming that the presence of non-stationary data leads to autocorrelation. Yadav and Lagesh (2011) considered the application of co-integration that requires the determination

of the order of co-integration of each of time series which is done by using unit root, the first differencing of variables of such time series are stationary and integrated into order 1(1). The primary purpose of the co-integration analysis is to obtain the presence of long-run coefficients of the co-integrated variables. But using this method of differencing usually confiscates the existing long-term relationship between the underlying time series and end up providing short run causal relationship. In absence of meeting the assumptions of econometric tests criteria, regression analysis has been found to be the best tool to understand the relationship between these macroeconomic variables and stock prices.

2.4 Effect of Corporate Actions on Stock Prices

The firm-specific variables that affect the investor return from equity stocks are of different nature, they can be related to various accounting information or may gain source from corporate actions.

Corporate Actions

Corporate actions are such changes brought in by corporate which cause material changes to the company and affect shareholders and all stakeholders of the company. Events of such nature are made public through announcements made formally and to the public through mass media. Changes are brought in after being approved by the board of directors of the company. Fama and French (1992, 1993, 1996) study reveals that in United States stock returns can be predicted by use of price to earnings ratio. They also have concluded that price to book value and size of the firm can be used to explain cross-sectional variation in stock returns in any country including India.

Few corporate actions which are pursued by investors and affect shareholders' returns are dividend issue, rights issue, stock split, mergers, and acquisitions etc.

Corporate action is one of the most sought after market information. There are four different corporate actions which created momentum in stock prices namely dividends, rights Issue, bonus and share splits according to literature. Corporate announcements are statements which can be broadly listed under the following categories:

Dividend Issue Announcement

Dividends have been a means of attracting investors as it increases overall returns. Information about dividend is one of the most awaited information by stockholders, and it is found that market reaction starts much before the ex-dividend date. According to SEBI “companies announce dividend payment and ex-dividend dates during Annual General Meeting (AGM) along with other important and relevant information.” All companies during AGM present details on the declaration of dividends, dividend payout ratio; ex-dividend dates after the consent of board members/shareholders and publish such information through different channels of information. Now, this becomes public information.

Dividends are a share of profits regularly paid by the company to all the equity shareholders. *Ex-Dividend Date*: Once dividend payment is announced by the company, this date is decided. It is also known as record date. It is the time/date on and after which stocks do not carry any dividend.

Aamir & Shah (2011) conducted a study to understand the impact of dividend announcements for the companies belonging to cement oil and gas companies listed on Karachi Stock Exchange (Pakistan) during the period 2004-2008. A total of 26 dividend announcements were included in the sample and their Cumulative Average Abnormal Returns (CAAR), for the event window of 21 days prior to the announcement and 21 days

after the announcement were analysed. The results show evidence that for some firms; abnormal returns were negative on the dividend announcement date but became positive immediately after the dividend announcement date. Glan, et. al. (1995) findings reveal that in the emerging markets firms have target dividend payout rates but exhibit high volatility of dividend over time. Overall results indicate a positive impact of dividend announcement.

Other studies in emerging markets like India conducted by Singh, S & Kumari, S (2011) show mixed results for turnover and average traded quantity during the period of study for the A-Listed companies of BSE Sensex. The study was conducted by examining the stock return behaviour around dividend announcements in India during the period 2006-2007 and 2009-2010. There were 427 observations using event study methodology, and the results indicate that Average Abnormal Returns (AAR's) were not found significant on event date during the period of study.

(Rahman, L et al., 2012) through his study analysed the impact of different types of dividend declarations like cash and stock dividends using event study methodology based upon 16 firms which declared only stock dividends and 23 companies which declared the cash dividend for the period between 1st January 2007 and 31 December 2007. The findings show that record date is a critical indicator for realising abnormal returns for the stock dividend. The above study supports that dividend announcement do have an impact on the stock prices and investors can use this information to their favour by trading on the significant active days of the study period.

Another study conducted on NSE listed companies in India by Bhunia. A. (2012) using event study methodology with an event window of 15 days pre and 15 days' post-

announcement period indicates that payment of the dividend does not convey any useful information to the investing community.

Bonus Issue and Ex-Bonus Date

A company issues bonus shares to capitalise on its free reserves; this does not change the net worth of the company. Free reserves being added to equity capital will reflect the same value of liability, but it brings in a positive sentiment in the market especially the retail investors.

Ex-Bonus Date: It is the date on and after which the shares do not carry bonus.

(M, Malhotra et al., 2013) short and long-term price volatility was observed using generalized autoregressive conditional heteroscedasticity (GARCH) model. The data for the study included manufacturing and services sector industries which made rights and bonus announcements during the period 2000-2008. The results of analysis state that historical volatility around bonus and rights issue announcement has increased around 20 to 100 days of the announcement.

Guo, et al., (2006) a study in Taiwan Stock Markets reveals that there exist a positive association between the amount of stock bonus and firms operating performance. It was also found that companies with larger company size and high growth opportunity tend to adopt stock bonus, it also implies a positive association between stock bonus and firm's operating performance. Sometimes well-designed bonus compensation may lead to better performance of the company.

Fernando & Guneratne (2009) through their study on stock price performance around bonus issue announcements in Colombo Stock Exchange (CSE) over period 1991 to 2007 using alternative return-generating models; market-adjusted model, mean-adjusted

model and risk-adjusted model with the intention of providing a methodological triangulation for the context of event study was performed. It was found that security price performance had an effect by the bonus issue of shares in CSE.

Rights Issue Announcements

Companies issue rights to existing shareholders when in need of additional capital and scarcity of any other debt opportunities. Therefore, a rights issue is an invitation to existing shareholders to purchase additional shares of a company. As a shareholder, there are three options which can be considered in response to the rights issue (1) Subscribe to the rights issue in full, (2) Sell the rights to someone else or (3) Ignore your rights.

Ex-rights date is the date on and after which the shares do not carry rights to purchase additional shares.

Adnan (2013) study on 30 companies listed on Karachi Stock Exchange from 2008 to 2011 for rights issue announcement event was done, and it was found that there was no effect of the event i.e. any wealth maximization of investors on account of changes in stock prices. Pathak & Giri (2008) this research was done with two primary research objectives that were to understand the characteristics of the rights offering of listed companies and share price movement associated with the rights offering. The findings of this study indicate towards an increasing trend in rights issue, a large number of shareholders who were holding small quantities of share, (i.e.) more than 50% of investors were prepared to subscribe for rights issue just to increase the number of shares held.

Abhay, R. (2012) study on BSE 100 stocks during 2004 – 2009, was conducted. There were eight rights issues included in the sample. Using the Market Beta Model and CAPM model it was found that there was a lot of trading interest around the right issue in

some stocks. From the analysis, it could be concluded that there were excess returns generated by investors at the time of rights issue. It was also found that the generated excess returns were not statistically significant.

Stock Splits Announcement

It is a procedure which may increase or decrease the number of shares held by a company without changing its market capitalisation. Jensen, Roll, & Fama (1995) this seminal paper included splits of all stock dividends with companies listed with New York Stock Exchange from January 1927 to 1959. The study was concerned with the process of splitting and its association with specific types of return behaviour. It was further concluded that companies tend to split their shares during “abnormally” good times – that is during phases of time when the prices of their shares have improved much further than would be implied by the strong relationship between their stock prices and general market price performance.

The evidence also indicates that the market realises and uses the announcement of the split to re-evaluate the stream of expected income from the shares. Moreover, the evidence shows that on an average the market’s judgment concerning the information implications of a split are fully reflected in the price of a share at least by the end of the split month but most probably almost immediately after the announcement date. Aduda, J.O. (2010) study examines the effect of stock splits at the Nairobi Stock Exchange using data from nine companies for event window of 101 days using t-test. Findings of the study indicate towards the presence of signaling hypothesis which also suggests that stock splits are signal to investors and other stockholders regarding the good performance.

Miller & Bruce (1973) conclude from their study of companies listed on New York Stock Exchange that stock prices are not significantly affected by new capital distributions per se whether or not these distributions are splits, stock dividends announced and whether or not the distributions are processed during bull, bear, or in no-change markets. Banerjee & Banerjee (2009) this paper investigates market reaction to stock splits using data from Indian companies which announced stock splits during years 2000 to 2008, from the analysis it has been found that abnormal returns have significantly attributed to the market capitalisation of stocks.

It is found from the literature review of research papers related to corporate actions and their effect on stock prices that event study methodology is used in most cases followed by statistical techniques of econometrics or paired t-test for testing the significance of abnormal returns. Ex-event dates have been considered to be the yardstick to measure the effect of these corporate actions. However, any consensus regarding the effect of the event on stock prices; in few cases, they seem to have a positive effect while in other cases it is found to have a negative effect.

2.5 Individual Investor Perspective and Factors Affecting Equity Returns

As understood from earlier research that macroeconomic variables impact stock markets, it is further understood that a study on the perception of individual equity investors about the significance of these factors may provide further insights. Indian's traditionally are found to be good savers and habit of saving is believed to be imbibed culturally. NCAER through the survey report titled "How Households Save and Invest: Evidence from Indian Household Survey" in 2012 estimated "number of urban investor's households is 15.23 million which constitute 21 % of urban households". It is implied that

majority household savers belong to the urban area. It is a known fact that Indian markets are highly volatile, and the herd mentality of investors creates over reactions or under reactions towards information coming from the markets”.

Kremen & Block (2002) behavioural finance studies the psychological factors that influence economic behaviour both at the level of the individual as well as from market changes. It can be used to help individual investors to make optimal investment decisions. Kahnman & Riepe (1998) are the first scholars challenging financial advisors to examine the practice from a behavioural standpoint. They leverage the decision theory work of Raiffa (1968) by categorising behavioural biases on three grounds “(1) biases on judgment (2) errors of preference and (3) biases associated with living with the consequences of decisions.”

According to Pompian (2006), it is better to adapt to emotional biases because they result from intuition, which is hard to rectify. Therefore, a moderation of emotional biases is needed only for investors with low levels of wealth. Cognitive biases would be moderated unless the investor is very wealthy.

Parag, Parikh. (2010) mentions in his book on “Value Investing and Behavioural Finance” that *“people have been accustomed to making easy money from the stock markets. The challenge ahead is to have the courage of a value investor and, of course with it, the patience to hold on to investments. This calls for not only an active mind but also healthy heart to enable one not to be influenced away by emotions. They will be much stronger with the turbulent times ahead. Self-belief and conviction will sail you through. Bull and bear markets always follow each other. It’s the investor’s ability always to keep learning that will help them.”* Therefore, it is implied that learning is a process of

continuously gaining and using information, in particular, to wisely make buy and sell decisions.

Bhatt, A. K. (2013) study of individual investor in Jamnagar city from eight social classes categorised based on income level and occupation was conducted with a sample size of 200 investors. It was found that bank deposits were most preferred investment option among all classes, while investors from class A1 also had a greater preference towards insurance and mutual funds. The primary objective of investors behind investment was to create assets followed by tax benefits and future expenditures. The study concludes that investors' preference will be changing with the change in education level, income level, and occupation.

Kasilingam & Jayabal (2009) a study was conducted in Tamil Nadu to understand the Investor's Attitude in Stock Selection Decision, with 29 factors included in the questionnaire. It was found that five variables (i.e.) the yield on equity, the excellence of management, profit on investment, and price to earnings ratio and various ratios of the business influenced the decision makers. The five least influencing variables were the recommendation by the analyst, broker and research report, recommended by the friend, family, and peer, the physical location of the company and social responsibility. The analysis was conducted using factor analysis. The result also tells that factors such as earning factors, decision-making factors, industry related factors, corporate governance factors, positioning elements, image building factors, goodwill factors and industry competition factors were not important between different age groups of sample investors in the stock selection decision. But there was an important difference between the ages in the case of fundamental and market factors.

Kukreja, G. (2012) the research objective was to identify and evaluate the variables impelling investor perceptions towards investments in National Capital Region (NCR) in India. Educational qualification has significant relation with the transparency of transaction in the cash market, tax benefit in the cash market, past performance of the business in cash market. It was found that profession had a significant influence on investment pattern in cash market, services of the stock broker in cash market, risk and uncertainty in future and option, the size of investment in future and option, services of the stock broker in future and option. Age of investor was found to have a significant influence in selection of financial instruments. Therefore, age and occupation were found to be the major drivers of investor behaviour.

Mittal, M. and Vyas, R.K. (2008) explored the relationship between various demographic factors and the investment personality exhibited by the investors. Empirical evidence suggested that factors such as income, education and marital status affect an individual's investment decision. Rajarajan V (1997, 1998 and 2000) in their study classified investors based on their demographics characteristics. He found the investors' characteristics by their investment size, and the percentage of risky assets to total financial investments had declined as the investor moves up through various stages in the life cycle. Further, he noted that investors' lifestyles are based on their demographic characteristics.

Sehgal, S. et al., (2009) this study focuses on the investor sentiments and its relationship with certain economic, market and regulatory factors in addition to research on the relationship between investor sentiment and stock returns. There was no clear consensus among participants about the concept of investor sentiment. The key economic factors that impact investor sentiment were real GDP, corporate profits, the rate of

inflation, the level of interest rates and liquidity in the economy, while the market-based factors were put call ratio, advance decline ratio, earning surprises, P/E ratio and price to book value. A majority of respondents believe that better regulatory framework does influence 'Investor Sentiment' especially about legal provisions relating to corporate governance and investor grievance redressal mechanism. Most of the respondents also felt that investor sentiment and market returns were highly correlated and in fact influenced each other.

Ruta, Khaparde & Anjali, Bhute. (2014) conducted a study on individual investors in the area of Navi Mumbai, India to analyse the perceptions of investors on macroeconomic variables. The methodology was simple cross tabs, and with as sample of 200 investors, the study concluded that there is a need to study many other variables apart from those included in the study as they have an important role. It was also observed that the perception of the investors differed towards the impact of macroeconomic performance on stock market behaviour on different individual factors such as age and years of market investment experience.

It can, therefore, be found that individual investor's demographic characteristics do have a significant relation with their investment decisions and returns. The major factors were age, income, education level, gender, opinion of stock brokers and investment experience. Information related to macroeconomic factors and firm related factors also affects stock performance indirectly; however, this perspective has been ignored in most of the studies.

2.6 Need for the Study

From the above literature, it is evident that investor personal attributes, perceptions and sentiments about various factors play a significant role in the process of his decision making and equity returns from capital markets. Most of the study has been conducted in an individual geographic location, and hence the demographic attributes of investors from specific regions have an opportunity to influence the results of the survey. Hyderabad is an upcoming city with all the required technological advancement and infrastructure facility whereas; Mumbai is the financial capital of India. A comparative study on the perceptions and choices of investors from these two cities may bring in new insights.

The present research is aimed to understand the importance of various firm related and macroeconomic factors from the perspective of individual investors for which there has been very little research done so far. With the changing financial markets, new investment avenues and technological advances in stock markets more specifically equity investment may be a source of excellent return for the retail investor. Research of this nature wherein two developing cities are involved has not been taken up so far hence the results may add to the existing literature.

The study is designed to interpret the relation between various factors influencing equity investor decisions and behaviour. From figure 2.2 it can be observed that the first dimension is from the perspective of investor's demographic characteristics and attributes which determine investment profile of individual investors. The second dimension relates to various macroeconomic factors which influence stock returns; these factors are derived based on literature. The third dimension is about corporate actions and their impact on stock prices of Nifty 50 companies. There are four corporate actions which have been

included in the study based on their significance according to literature; there are dividend, bonus, rights issue and stock splits.

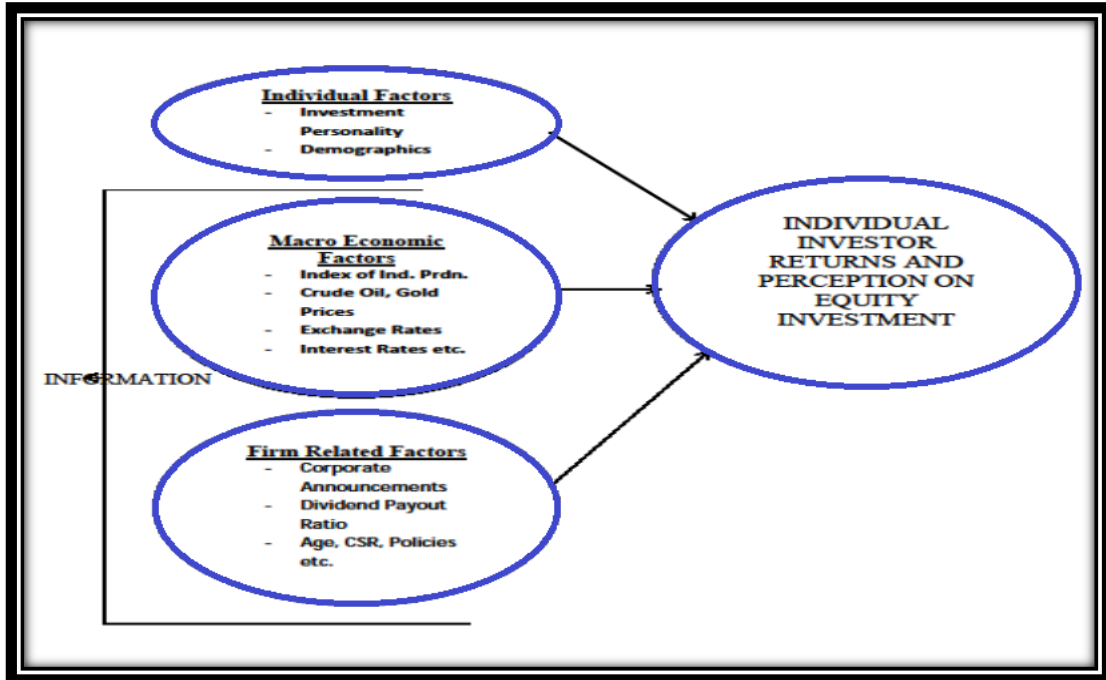


Figure 2.2 Dimensions of Literature Review for Research

Through present research, an attempt is made to assess the investment profile of individual equity investors from two different geographic locations in order to understand what factors are perceived to be most important to them. Also before starting on this endeavour a thorough literature review is made in order to select relevant factors for the study.

In the presence of massive sources of information selecting the right information for decision making is a strategic task, through the present study an attempt is made to understand which of the factors need to be considered important during decision making. Conclusions drawn from the results of the present study may be useful to retail investors to understand the importance of various factors and enable them to make error free decisions.

It is also useful for brokerage firms, investment consultants and regulatory bodies to create awareness among investors towards a successful equity investment.

2.7 Objectives of the Study

- (1) To examine the association between macroeconomic variables with stock market prices and perceptions of investors.
 - (a) To study the relationship between macroeconomic variables and stock market prices.
 - (b) To make a comparative analysis on perceptions of individual investors on the importance of macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.
- (2) To study the effect of corporate actions on stock returns of Nifty 50 companies and perceptions of investors.
 - (a) To study the effect of corporate actions on stock returns of companies in Indian markets. (Secondary Data)
 - (b) To make a comparative analysis on perceptions of individual investors on the importance of corporate actions for equity investment decisions from Hyderabad and Mumbai
- (3) To examine association between investors preference of investment instrument and their demographic characteristics.
- (4) To study the relation between investor perceptions on the importance of stock market information and their demographic characteristics.
- (5) To determine and study the investment profile of investors from Hyderabad and Mumbai.

2.8 Conclusion

Literature has been reviewed from various dimensions of the study and is presented in the similar order. It starts with studies related to macroeconomic variables and their impact on stock indices which were published during recent years. Next dimension being the effect of corporate actions on stock prices, relevant studies are reviewed and presented starting with dividend announcement, bonus issue announcements, stock splits and rights issue announcement. There are few studies which agree to the presence of efficient market hypothesis whereas others differ. Investor perceptions on the importance of these announcements, has not been studied so far and hence this element is added to the present study.

The review of the literature also incorporates research related to the demographics and individual personality factors which are mostly related to behavioural finance. These two dimensions are found to be the important attributes that impact investment decisions of the individual investor. This chapter also presents the need for the study and the research objectives.

CHAPTER III

RESEARCH METHODOLOGY

CHAPTER – III

RESEARCH METHODOLOGY

3.1 Introduction

This chapter includes the description of the research methodology adopted to achieve the objectives of the study and relevant hypotheses. It comprises of three sections which have been divided based on the methodology applied for the analysis. A separate section is created for the procedures adopted for data collection, analysis, and presentation of results. The reason being that data used for the study is partly secondary, which is time series data i.e. stock price data, and partly primary, which is collected through the survey. Section- I illustrates the methodology used for achievement and testing Hypotheses (1-6) relevant to the objective 1(a) associated to study on the relation between macroeconomic variables and stock price movement.

Section – II describes the methodology adopted for hypotheses relevant to objective 2(b), which is secondary data for the study on the effect of corporate actions on stock returns of companies listed under Nifty 50 Index using ‘Event Study Methodology’.

Section – III is associated with the objective 1(b), objective 2(b), three, four, and five which are related to the study depending on primary data collected through the survey from individual investors. This section also explains data collection and analysis procedure adopted for survey data collection.

SECTION – I

With changes in the economy, leading to economic development on account of changes in various macroeconomic variables there is a possibility that stock prices of major companies are also influenced. Investor's interest majorly lies in understanding the expected effect of the change in stock prices due to changes in macroeconomic variables and such aspects in order to make appropriate decisions. It has been observed that equity markets have always been in limelight on account of high volatility and turnover in present times. Most of the market participants get attracted to equity investment in hope of making quick money, either through day-trading or short term investments. While a group of investors are those who ponder around with equity investments as a long-term investment strategy. From the literature, it is understood that various market factors influence the stock market returns from equity investment from time to time.

3.2 Variables Identified From the Existing Literature

The study on Nifty Stock Index price returns and other select macroeconomic variables namely Index of Industrial Production (IIP), Crude Oil Prices (COP), Gold Prices (GP), Exchange Rate of US Dollars to Indian Rupee (EDR), Exchange Rate of European Pounds (EEP) to Indian Rupee and Wholesale Price Index (WPI), are used as independent variables and Nifty 50 Index closing prices are used as proxy for stock market movement. Based on the availability and accessibility of data an attempt has been made to include the most prominent macroeconomic factors in the present study. Granger causality test which is widely used for time series data analysis has been used for the present objective. The need for using econometric analysis was on account of the nature of data which is time series and opportunity to understand specific causal effect between independent and

dependent variables. Most of the above-mentioned variables are available for monthly frequency. Monthly data of all the variables have been included for period April 2006 to December 2015 which comprises of 117 observations for each variable.

Causality test is most popularly used methodology to establish the existence of the causal relation between two-time series variables. Granger Causality test by Engle & Granger (1987) “has been used to find out the direction of causality between the variables.” Present objective is to examine the causal relation between each of the above-mentioned macroeconomic variable on stock returns of Nifty 50 Index.

Patel, S (2012) in his study on the effect of macroeconomic determinants on the Performance of the Indian Stock Market used bivariate granger causality test. Kibria. et al. (2014) study on Impact of Macroeconomic variables on stock market returns: A case of Pakistan used descriptive analysis, correlation analysis, granger causality tests and regression analysis. Chen.et al. (1986) was one of the first studies on the relation between macroeconomic variables and stock prices using APT (Arbitrate Pricing Theory) model.

Other studies which have applied granger causality test for establishing the presence of relation between macroeconomic variables and stock prices are (Darrat & Mukherjee, 1987; Hamao, 1988; Brown & Otsuki, 1988; Darrat, 1990; Lee, 1992; Mukherjee & Naka, 1995). The first part of the discussion in this section is related to the methodology adopted for the fulfillment of objective 1(a) secondary sources of data have been used for it.

3.3 Research Objectives and Hypotheses

(1) To examine the relationship between macroeconomic variables and equity investment returns.

1(a) To study the relationship between macroeconomic variables and stock market prices.

H₁: There is a causal relationship between monthly stock price movement of Nifty 50 and Crude Oil Prices (COP)

H₂: There is a causal relationship between monthly stock price movement of Nifty 50 and Gold Prices (GP).

H₃: There is a causal relationship between monthly stock price movement of Nifty 50 and Index of Industrial Production (IIP).

H₄: There is a causal relationship between monthly stock price movement of Nifty 50 and Wholesale Price Index (WPI).

H₅: There is a causal relationship between monthly stock price movement of Nifty 50 and US Dollar to Indian Rupee Exchange Rate (DER).

H₆: There is a causal relationship between monthly stock price movement of Nifty 50 and European Euro to Indian Rupee Exchange Rate (EER).

1(b) To make a comparative analysis on perceptions of individual investors on the importance of macroeconomic variables for equity investment decisions from Hyderabad and Mumbai. (Hypotheses included in Section – III).

The figure 3.1 represents the conceptual framework designed for the fulfillment of objective (1) which includes two sets of data (i.e.) primary and secondary.

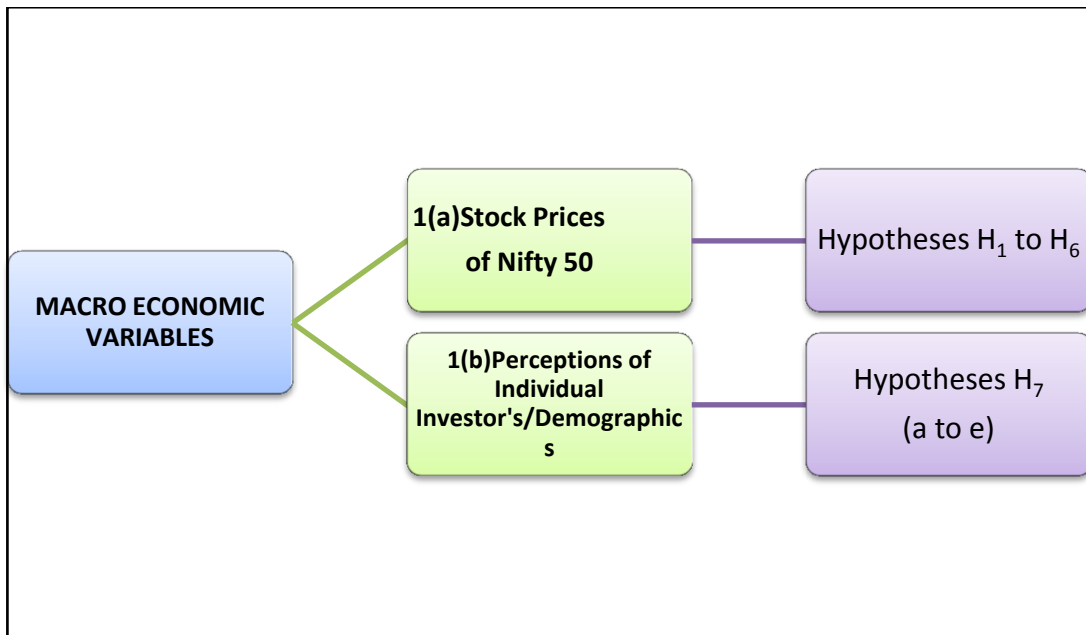


Figure 3.1 Relations between Macroeconomic Variables and Stock Prices

Source: From primary data analysis using SPSS 20 software and MS- Excel

Changes in the regulations to monitor the financial markets of a nation are made by government from time to time. Movement in stock markets occurs on account of both domestic and international events. An assumption regarding the existence of causal relation between macroeconomic variables Nifty 50 price movement is studied through objective 1(a). Objective 1(b) is framed to understand the perception of individual investors on the importance of macroeconomic variables for equity investment decisions. It includes hypotheses as mentioned in figure 3.1.

3.3.5 Methodology for Secondary Data Analysis

There are six macroeconomic variables selected for the study which are independent variables and Nifty 50 Index is the dependent variables. The study is conducted by using monthly data for all the variables. Before conducting final analysis all the values have been converted to natural log.

Monthly data of all the variables chosen for the study as mentioned in table 3.1 has been included for period during April 2006 to December 2015. Stock prices data for Nifty 50 data of stock prices are also collected for the same period using monthly closing prices from NSE India website. All the data has been converted into natural log before proceeding with any further analysis to maintain consistency.

3.4 Description of Variables for Objective 1(a)

Nifty Index: It comprises of 50 companies' stocks from thirteen sectors of the economy and is a well-diversified portfolio; it is based on derivatives and index funds. It is owned and managed by India Index Services and Products Ltd., (IISL). About 65% of free float market capitalisation of stocks are linked to NSE as on March 31, 2016 as reported by www.nseindia.com. From June 26, 2009, Nifty 50 is computed based on free float methodology. It has been included as a proxy for market returns as it is the most popularly followed index.

Crude Oil Prices: Crude oil is one of the most important natural resources and also known as black gold. It's prices influence the economy as most of the manufacturing and industrial firms depend on it for their existence. As India is a heavy importer of crude oil, and changes in oil prices affect the economy, in the present study this variable has been

considered important and hence has been included in the study. It is one such important commodity that in present times influences Indian economy as well as other nations' economies significantly. "In India, 80% of the oil used is imported which accounts for one-third of the total inputs. A fall in global oil prices would therefore, imply a current account deficit" as reported by Livemint.

Another important effect of changes in crude oil prices can be seen in the transportation sector. A rise in oil prices would also lead to increase in prices of goods and services in the transportation as the input cost of these businesses is influenced by crude oil prices. The increase in input cost increases the overall cost and may lead to a fall in consumer demands due to rising prices leading to retail inflation. This increase of input cost leads to a fall in consumer demands due to rise in prices, which further may result in retail inflation. As reported by moneycontrol.com "every \$10 per barrel fall in crude oil price helps reduce retail inflation by 0.2% and Wholesale Price inflation by 0.5%."

Gold Prices: Gold is regarded to be one of the safest hedges against inflation. In India, it is an age old practice to invest in gold. It has been considered as an important variable whose prices have potential to drive financial markets. For the present study monthly average closing prices of 10 grams of pure gold of 24 carats purity has been used for the present study. It is one such commodity whose supply is limited. Its price remains fairly constant or increases over time hence investors feel that it is an ideal hedge against inflation. Therefore, it is observed that investors switch most of their investment towards gold when they expect a major crash in stock market.

Index of Industrial Production (IIP): "IIP or the Index of Industrial Production is used to denote the growth of industrial production during a certain period, based on figures of

2004-2005 with an assigned index of 100. It is published by Centre for Statistical Organisation (CSO) six weeks after the month ends. It is updated with broader coverage of 682 items comprising 61 from mining and quarrying, 620 from manufacturing and one from electricity sector having the weight of 14.16%, 75.53%, and 10.32% respectively in the all-India IIP in 2004-2005.”

IIP figures are found to be influential as they represent the direction of the growth among the industries in Indian economy and higher growth is an attraction for better investment. It is a statistical data, a measurement which indicates the status of production in the Industrial sector for a given time frame with reference to the period of time. It is an indicator for the rate of Industrial growth. “It can also be categorised as Index of Industrial Production from the following classification:

- (i) Manufacturing sector
- (ii) Electricity sector and
- (iii) Mining and Quarrying

Wholesale Price Index (WPI): “It is a price representative of the basket of wholesale goods; it is released monthly since 2009 in India. It’s main concentration is on the price of goods traded between corporations rather than goods bought by consumers. The main drive for WPI is to monitor price movements that reflect supply and demand in industry, manufacturing, and mining. It comprises of 676 items with 2004-2005 as the base year. It is defined as the percentage change in the value of WPI on a year on year basis. In 1995 WPI inflation was 16.9% rising from 10.6% in the same month previous year, during same time Sensex fell from 3,778 to 3,260 points.”

In India, stock markets are sometimes found to be dependent on changes in wholesale price index. Investing in stocks is sometimes believed to be the hedge against inflation. From the past data it can be found that in March 2005, fuel inflation was 10.4%, with not much effect on stock prices. This data implied that Sensex may have very little correlation with Wholesale Price Index.

US Dollar Exchange Rate (\$): The US Dollar is the most powerful currency of the world and has highest recognition value. When goods are imported or exported from India the payment is made in terms of dollars, therefore any change in the exchange rate of dollars considerably influences the economy. It is a general belief that “if it’s value goes high consumers may suffers, and if it value goes low exporters may suffer.” Similarly, the next most popular currency is Euro (€). Hence the exchange rates of these two currencies have been included in the study.

In this age of multinational corporations and increasingly globalized economy, the influence of foreign exchange market on individual investors cannot be ignored. In the present study apart from the domestic macroeconomic variables exchange rate of US dollars and European Currency Euro are also included to get a better understanding of the effect of changes in global markets on the movement of Nifty 50 prices.

Data Sources and Variable Description

Table 3.1

Description of Macroeconomic Variables

Acronym	Construction of Variable	Data Source	Values
NSE	Monthly average of daily closing stock price, from Nifty 50 Index.	From NSE India official website, www.nseindia.com	Monthly closing Price in Indian Rupee INR.
COP	Crude Oil Prices monthly averages	Monthly averages of crude oil prices from commodity from Multi Commodity Exchange of India Ltd (MCX) website.	Monthly average of crude oil price per gallon in INR
GOLD	Monthly average price has been calculated from daily closing prices, of gold in which is the standard for Mumbai city	From MCX Metal and Energy https://www.mcxindia.com	Actual monthly averages per 10 grams in INR
IIP	Monthly average of Index of Industrial production which measures the short-term changes in the volume of output of Ind. sector in India	Monthly data for IIP general from India Stat database	The base year 2004-2005 =100
WPI	Monthly average of Wholesale Price Index which is a measure of changes in prices of all commodities at first transaction in bulk sale in Indian Markets.	Monthly data for WPI general for all commodities with base year 2004-05=100	The base year 2004-2005 =100
USD	Monthly average exchange rates of US Dollars in terms of Indian rupee.	From India Stat reports	Exchange rate of monthly avg. in INR
EURO	Monthly average exchange rates of European Union Euros in terms of Indian rupee.	From India Stat reports	Exchange rate of monthly average in INR

Source: Compiled depending on the secondary data reviewed

3.5 Tools Used for Analysis

Objective 1(a)

For the present objective which is to examine the presence of causal relationships between macroeconomic variables and the price movement of Nifty 50 Index (which is used as the market proxy), granger causality test has been adopted. Similar study in Indian perspective have been conducted by (Naik & Padhi, 2012; Ray, 2011) to understand the causal effect between two variables. The research has been carried on using granger causality test for time series data. However, there are pre-requisites for conducting this test.

Granger Causality Test

Granger (1969) and Sim (1972) introduced granger causality test to examine the causality between variables in economics, it is a tool that determines the forecasting ability of one-time series variable on other. It explains the direction of causality whether uni-directional or bi-directional causality. The test is based on the following:

“The null hypothesis (H_0) that is tested in this case is that the X variable does not Granger cause variable Y and variable Y does not Granger cause variable X. In summary, one variable (X_t) is said to granger cause another variable (Y_t) if the lagged values of X_t can predict Y_t and vice-versa. The test is based on the following regressions. Test for the absence of Granger causality by estimating the following model:

$$Y_t = a_0 + a_1 Y_{t-1} + \dots + a_p Y_{t-p} + b_1 X_{t-1} + \dots + b_p X_{t-p} + u_t \quad (1)$$

$$X_t = c_0 + c_1 X_{t-1} + \dots + c_p X_{t-p} + d_1 Y_{t-1} + \dots + d_p Y_{t-p} + v_t \quad (2)$$

Then, testing $H_0: b_1 = b_2 = \dots = b_p = 0$, against

H_a : 'Not H_0 ', is a test that X does not Granger-cause Y.

Similarly, testing $H_0: d_1 = d_2 = \dots = d_p = 0$, against $H_A: \text{'Not } H_0\text{'}$, is a test that Y does not Granger-cause X. In each case, a rejection of the null implies there is Granger causality. The null hypothesis is tested by using the standard F-test of joint significance.

Here RSSR & RSSUR are the Restricted and Unrestricted Residual Sum of Squares respectively. M is the number of lags, n is the number of observations and k is the parameters in the unrestricted equation. If the computed F-value exceeds the critical F-value at the chosen level of significance, the null hypothesis is rejected. This would imply that macroeconomic variable ‘Granger cause’ or improve the prediction in stock prices and vice versa.”

(Note: That it has been taken one period lag in the above equation. In practice, the choice of the lag is arbitrary.)

For the present study, granger causality has been used to test the causal relation between Nifty Index and macroeconomic variables using E-Views 8 software.

“ H_0 : Each macro economic variable do not granger cause Nifty Index Stock Prices”

Note: Lag of 2 years has been considered.

Prerequisites for conducting Granger Causality test: “Unit Root Test which uses Augmented Dickey-Fuller Test (ADF) is being used to check the time series data for stationarity. A prerequisite for using most of the econometric models based on time series data, are the stationarity of data. ADF test has been widely adopted for testing stationarity.”

“**Stationarity** of a data series implies that the means and variances are constant over a given period of time and the covariance between the two extreme time periods does not depend on the actual time at which it is computed but on lag between the two extreme time

periods. E-Views software provides with a variety of powerful tools for testing a series (or the first or second difference of the series) for the presence of a unit root. In addition to Augmented Dickey & Fuller (1981) and Phillips & Perron (1988) tests, E-Views software allows to compute the Generalised Least Square (GLS)-detrended Dickey Fuller as mentioned in several studies. If the process has a unit root, then the times series is non-stationary. The testing procedure for the ADF test is the same as for the Dickey–Fuller test but it is applied to the model.”

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \dots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t, \dots\dots(3)$$

Where,

α Is a constant

β The coefficient on a time trend

P The lag order is of the autoregressive process.

“Imposing the constraints $\alpha = 0$ and $\beta = 0$ corresponds to modeling a random walk and using the constraint $\beta = 0$ corresponds to modeling a random walk with a drift. Consequently, there are three main versions of the test, analogous to the ones discussed on Dickey–Fuller test.

By including lags of the order p the ADF formulation allows for higher order autoregressive processes. This means that the lag length p has to be determined when applying the test. One possible approach is to test down from high orders and examine the t -values of coefficients. An alternative approach is to examine information criteria such as the Akaike information criterion (AIC) which is widely accepted” Gujarati, D (2004).”

The unit root test is then carried out under the Null hypothesis $\gamma = 0$ a (Variable is not stationary) Alternative hypothesis of $\gamma < 0$.(Variable is stationary) ...

$$DF_{\tau} = \frac{\hat{\gamma}}{SE(\hat{\gamma})} \dots \dots \dots (4)$$

Once computed it can be compared to the relevant critical value for the Dickey–Fuller Test. If the test statistic is less (this test is non-symmetrical so, do not consider an absolute value) than the (larger negative) critical value, then the null hypothesis of $\gamma = 0$ is rejected and no unit root is present. Further remains a question as to what is the kind of relationship between these variables, (i.e.) is there any causation effect between these variables. There are two types of causation effects that can be understood using Granger Causality Test first one being Unidirectional that is one way ($X \rightarrow Y$) and second Bidirectional that is both way ($X \rightarrow Y$) and ($Y \rightarrow X$). Further results of data analysis is presented in Section – I of chapter IV.

SECTION – II

3.6 Objectives and relevant Hypotheses

To achieve the objective of the study few of the most popular stocks (i.e) fifty companies listed under Nifty 50 have been found to be appropriate. As these are most popularly traded stocks and attract attention in capital markets, in addition their announcements are captured through most of the public media.

Figure 3.2 below shows that corporate actions and their effect are examined from two perspectives. The relevant objectives and hypotheses are also indicated.

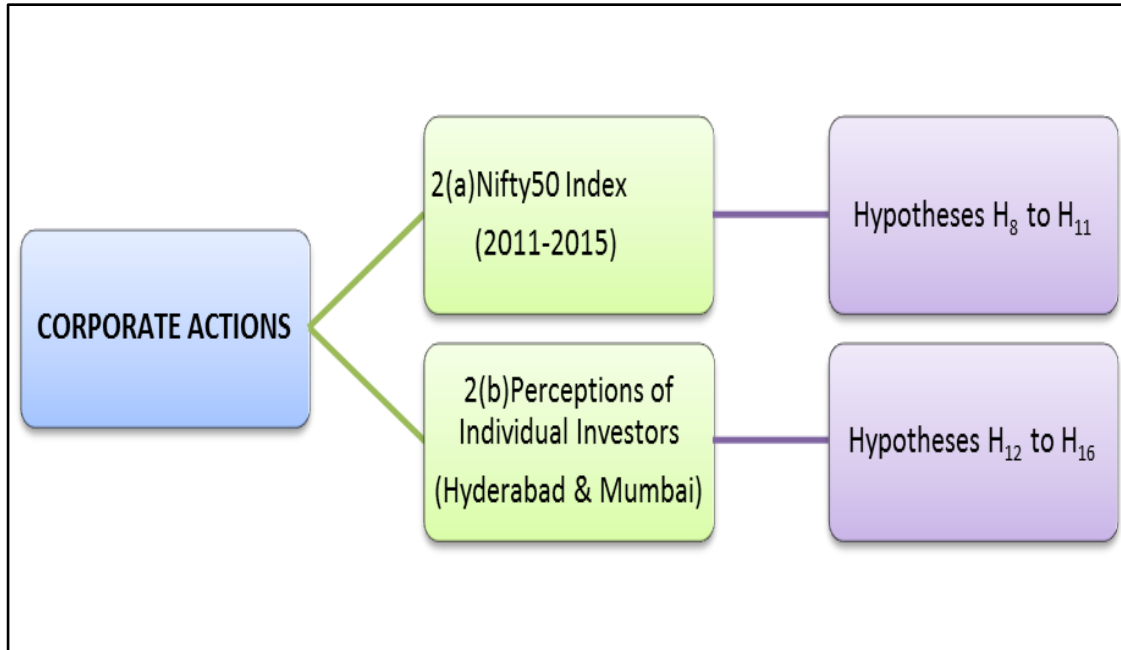


Figure 3.2 Corporate Actions, Stock Returns and Investor Perceptions

Figure 3.2 explains objective 2(a) which comprises an examination of the effect of corporate actions on the stock returns of fifty firms listed with Nifty 50 during the period 2011 to 2015. It also explains that objective 2(b) is related to the study on the perceptions of individual investors. An investigation is also made to understand these perceptions dependent on demographic attributes of investors from two cities (i.e) Hyderabad and

Mumbai using Hypotheses H₁₂ to H₁₆.

2(a) To study the effect of corporate actions on stock returns of companies in Indian Markets.

Hypotheses:

H₈ : There is an effect of the ex-dividend date on stock returns of Nifty firms

H_{8(a)} : There is an effect of the ex-dividend date on stock returns of Nifty firms for 61 days event window.

H_{8(b)} : There is an effect of the ex-dividend date on stock returns of Nifty firms for 31 days event window.

H_{8(c)} : There is an effect of the ex-dividend date on stock returns of Nifty firms for 11 days event window.

H₉ : There is an effect of the ex-bonus date on stock returns of Nifty firms.

H_{9(a)} : There is an effect of ex-bonus date on stock returns of Nifty for 61 days' event window.

H_{9(b)} : There is an effect of the ex-bonus date on stock returns of Nifty for 31 days' event window.

H_{9(c)} : There is an effect of the ex-bonus date on stock returns of Nifty firms for 11 days event window.

H₁₀ : There is an effect of the ex-rights date on stock returns of Nifty firms.

H_{10(a)} : There is an effect of the ex-rights date on stock returns of Nifty firms for 61 days event window.

H_{10(b)}: There is an effect of the ex-rights date on stock returns of Nifty firms for 31 days event window.

H_{10(c)}: There is an effect of the ex-rights date on stock returns of Nifty firms for 11 days event window.

H₁₁: There is an effect of the ex-splits date on stock returns of Nifty firms.

H_{11(a)}: There is an effect of the ex-splits date on stock returns of Nifty firms for 61 days event window.

H_{11(b)}: There is an effect of the ex-splits date on stock returns of Nifty firms for 31 days event window.

H_{11(c)}: There is an effect of the ex-splits date on stock returns of Nifty firms for 11 days event window.

3.7 Description of Variables

Corporate Actions: These are such actions which may affect the stakeholders, shareholders, or bond holders as it may bring some material change in the stock returns of these stocks. These events are announced after approval of the board members of the company and widely published through different media. The information on such corporate actions is publicly available to all. Four major corporate actions are included in the present study which is explained further:

Dividends Issue Announcement: It is a share of profits regularly paid by the company to the entire equity shareholders. *Ex-Dividend Date:* Once dividend payment is announced by company, a date is decided which also known as ex-dividend date. This is the time/date on and after which stocks do not carry any dividend. Therefore indicating that to make the

benefit from dividend announcement an investor should be holding the shares of such stocks on the ex-dividend date.

Bonus Shares Issue Announcement: A company issues bonus shares to capitalise on its free reserves; this does not change the net worth of the company. Free reserves being added to equity capital will reflect same value of liability, but it brings in a positive sentiment in the market especially for the retail investors.

Ex-Bonus Date: It is the date on and after which the shares do not carry any bonus on shares.

Rights Issue Announcement: Companies issue rights to existing shareholders when in need of additional capital and in the scarcity of any other debt opportunities. Therefore, a rights issue is an invitation to existing shareholders to make the purchase of additional shares of a company. As a shareholder, they have three options when considering what to do in response to the rights issue. They can (1) subscribe to the rights issue in full, (2) ignore your rights or (3) sell the rights to someone else.

Ex-Rights Date: It is the date on and after which the shares do not carry rights to purchase additional shares.

Stock Splits Announcement: It is company's decision to increase the number of shares owned by shareholders, whereby the existing shareholders get additional shares. After a share split, stock prices decrease as the existing shares are split in a certain ratio. The ex-split date is the date on and after which the share prices reflect the new split prices.

Relevant research

The importance of corporate actions and study on market efficiency in Capital Markets has been researched separately for each announcement as a sectoral effect of an

announcement in Indian perspective. Most of the studies conducted have used event study methodology to understand the effect of corporate announcement on stock returns in Indian markets (Conroy & Harris, 1999; Pandey, I.M. 2001; Garrett & Priestley, 2000; Raja, 2012; Barnes, 2012; Malhotra & Thenmozhi, 2012; Naidu & Suresh, 2012; Bashir, 2013).

3.8 Statistical Techniques for Evaluation

Objective two comprises of two sub objectives based on the type of data used. The major objective is to understand the role of corporate actions from the perspective of individual investors through the study of both secondary data analysis and study on perceptions of investors through primary data. According to the demand of the objective different statistical techniques are adopted for each sub objective, for:

2(a) Event Study Methodology is used whereas for 2(b) Chi-square test of association is found appropriate.

Event Study Methodology

One of the most popularly used methods is event study analysis, to capture the effect of an event on stock returns. Brown & Warner (1980) “event study methodology is one of the most popular methods used worldwide to capture the effect of events.”

Description of Terms

Event: “It is the occurrence of a particular action occurring at a specific time, and is expected to convey some information. Day “0” is the event day for each announcement/security in the present context. It is the ex-date which is announced by the corporates for four different events being studied namely dividends, bonus share, rights issue and share splits.”

Estimation Period

It is the period for which daily returns observations for the period before the event window are drawn and used for estimating expected returns. In the present case 250 days' event period which is commonly used in most of the event study analysis.

Event Window

“It is the time duration selected before and after the event being considered to study the variance in abnormal return.” In present study, three different event windows that are 61 days, 31 days and 11 days. An observation period of 11 days is shorter when compared to 31 days and 61 days; three different event windows have been studied in expectation of capturing market reaction to corporate actions during different event windows. The study included +30 days to -30 days, +15 days to -15 days and lastly, +5 days to -5 days.

Estimation Model

The model which is used to calculate estimated returns for each security is the estimation model. Market model is a statistical model which relates to the return of any given security to the return of the market portfolio. Models with linear specification follow from the assumed joint normality of asset returns. For any security 'i' the market models abnormal returns are calculated using the market model, which is commonly used in event studies to measure abnormal returns (Norman, Strong 1992).

Figure 3.3 illustrates the estimation model used for conducting event study analysis.

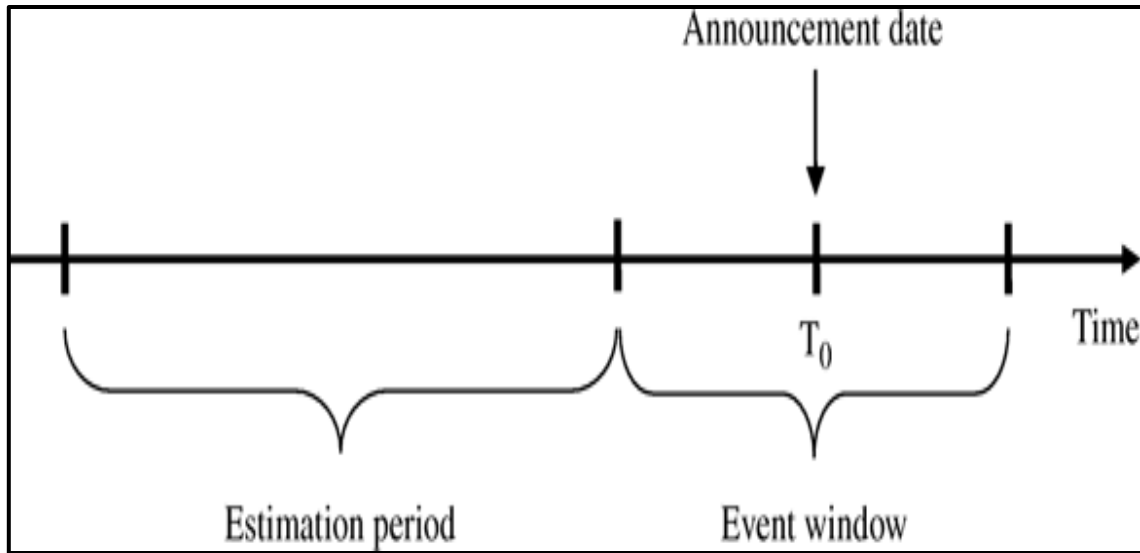


Figure 3.3 *Event Study Model*

Source : <http://eventstudymetrics.com/index.php/event-study-methodology/>

Study on corporate announcements using event study methodology with Market Model for estimation of returns has been used extensively (C. MacKinlay, 1997; Mitchell and Netter, 1994; Williams & Siegel, 1997). This model is used to calculate the estimated returns of stocks depending upon the market returns. The difference between actual returns and estimated returns are the abnormal returns. It signifies the deviation from the expected returns and hence is capable of demonstrating the market reaction to a particular event.

For the present study single factor market model is used for estimating the expected returns. The estimation period of 250 days prior to 30 days of the ex-event date is used for each of the announcement. Daily returns are calculated for each day using data of closing prices from NSE website for 50 companies listed in Table: 1 in the appendix. Daily returns are first calculated for each stock and Nifty 50 Index using the formula. All the returns have been calculated using the natural log of closing prices of security.

$$R_i = (P_1 - P_0)/P_0 \dots\dots\dots (5)$$

Where,

$R_{i,t}$ = Return on Stock i, for time t

P_1 = Price of Stock i for present day

P_0 = Price of Stock i for previous day

The equation used is: $R_{i,t} = \alpha_i + \beta_i * R_m + \epsilon_{i,t} \dots\dots\dots (6)$

Where, $R_{i,t}$ is the expected return from stock i at time t, α_i and β_i are the estimated values and $\epsilon_{i,t}$ is the error term which is assumed to be '0'.

Abnormal returns are calculated using following:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i * R_m) \dots\dots\dots(7)$$

Cumulative Average Abnormal Returns (CAAR)

$$CAAR_i(t_1, t_2) \text{ where } t_1 < t_2 < t_3 < \dots n$$

Abnormal Returns must be aggregated to draw overall inference for each announcement across two dimensions, through time and across securities. CAAR is used to accommodate multiple period event windows.

Testing for Significance of Abnormal Returns

Using parametric tests such as t-test with the assumption of normality is difficult to test. The assumption of normality of standard deviation of the average abnormal returns may not be fulfilled hence non-parametric tests is also used to measure the significance of abnormal returns. Non-parametric tests reject the hypothesis of positive abnormal, Wilcoxon signed ranks test is used for testing significance of abnormal returns. It connects both sign and magnitude of abnormal returns. The assumption of Wilcoxon test is that

“numbers of absolute values are equal and each is different from zero.” Paired sample t-test, Serra (1999) and Wilcoxon test, Corrado (1989); have been used for testing abnormal returns before and after event.

Criteria for Sample Selection

- Ex-event dates of only four corporate actions from companies listed with Nifty 50 during 2011 to 2015 depending upon availability of data.
- Ex-Event date's data is published and is publicly available.
- Availability of the data on stock prices for each of the 50 companies from the sample.
- In cases where the ex-events dates are overlapping, such events are not included in the study.

According to Arellano and Bond (1988) unbalanced panel data are commonly used in financial and economic studies as they reduce the effect of self-selection of firms within a sample. Companies of each sector keep changing semi-annually. However, the index is maintained in such a manner that the changes in securities may not affect the overall turnover. Such changes in the companies may have an impact on the returns from firm or the sectoral performance.

Analysis for ex-events, abnormal returns has been done using both parametric and non-parametric tests. ARs are tested for three different event windows comprising of AR's for pre-event and post-event period.

3.9 Data Collection and Purification Process

Data sources

Data used is secondary in nature and is related to stock prices. Following sources were accessible and appropriate for data collection such as www.moneycontrol.com,

www.yahoofinance.com, www.nseindia.com. All ex-dividend dates, ex-bonus dates, ex-split dates and ex-rights dates have been extracted after verification from respective websites. Data on daily closing prices for companies listed on Nifty 50 index and the Index daily prices have also been taken for period January 1st, 2011 to December, 31st 2015. Rigorous data cleaning was performed to check for announcements made by each company each year around the same dates in the following manner:

- Data downloaded from the websites were checked for the similarity of dates for each year for an equal number of days for all 50 companies. As there was no consistency and the downloaded data had some dates repeated. Excel was used for cleaning the data.
- The database of all the ex-event dates for dividends, bonus, share split and the rights issue was categorised in the order of the year between 2011 to 2015, after which common event dates were identified and deleted from the sample, most of the overlapping occurred in the case of dividend announcement and bonus issue announcements. It was found that out of 224 dividend announcements from all the 50 companies only 104 were usable for final sample as there was an overlap in many cases.
- In cases where ex-event dates which were very close in terms of time (i.e.) as near as 15 days only one event was included in the final sample. Each event was analysed separately to derive the abnormal return for it based on the market model formula using Nifty 50 index as a proxy for market returns.
- After calculating abnormal returns for each event they were categorised under respective categories as dividend, bonus, rights and split as events. AAR was calculated using the simple average from excel worksheet, these Average Abnormal Returns were used further to calculate Cumulative Average Abnormal Returns (CAAR).

SECTION – III

3.10 Methodology for Primary Data Analysis

In the present section the content is arranged in the order of objectives, relevant hypotheses for objectives 1(b), 2(b), 3, 4 and 5. After which the study presents the explanation of variables included followed by data collection tools and sample collection methodology and finally statistical technique adopted for achieving the objectives.

3.11 Objectives and Hypotheses

1(b) To make a comparative analysis on perceptions of individual investors on the importance of Macroeconomic variables in equity investment decisions from Hyderabad and Mumbai.

H_{7(a)}: City of residence has an association with investor perception on the importance of awareness about the macroeconomic variables for equity investment decisions.

H_{7 (b)}: Age of the investor has an association with their perception on the importance of awareness about the macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (c)}: Education level of the investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (d)}: Income level of investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (e)}: Investing experience of investor has an association with their perception on the importance on awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

2(b) To make a comparative analysis on perceptions of individual investors on the importance of awareness on corporate actions for equity investment decisions from Hyderabad and Mumbai

H₁₂: City of residence of investor has an association with their perception on the importance of awareness about corporate actions for equity investment decisions from Hyderabad and Mumbai.

H₁₃: Age of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H₁₄: Education level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H₁₅: Income level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H₁₆: Investing experience of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

(3) To examine association between investors preference of investment instrument and their demographic characteristics.

H₁₇: There is an association between investor's preference of the investment instrument and their demographic characteristics from Hyderabad and Mumbai.

H_{17(a)}: There is an association between investor's preference of the investment instrument and their city of residence.

H_{17(b)}: There is an association between investor's preference of the investment instrument and their age.

H_{17(c)}: There is an association between investor's preference of the investment instrument and their education level.

H_{17(d)}: There is an association between investor's preference of the investment instrument and their income level.

H_{17(e)}: There is an association between investor's preference of the investment instrument and their investing experience.

(4) To study the relation between investor perceptions on the importance of stock market information and their demographic characteristics.

H₁₈: There is an association between frequency of trade and the demographic characteristics of investors across two cities.

H_{18(a)}: There is an association between frequency of information acquisition and city of residence of investors.

H_{18(b)}: There is an association between frequency of information acquisition and the age of investor across two cities.

H_{18(c)}: There is an association between frequency of information acquisition and the income level of investors across two cities.

H_{18(d)}: There is an association between frequency of information acquisition and the education level of investors across two cities.

H_{18(e)}: There is an association between frequency of information acquisition and the investing experience of investors across two cities.

H₁₉: There is an association between sources of information used and the demographic characteristics of investors across two cities.

H_{19(a)}: There is an association between sources of information used and the city of residence of investors.

H_{19(b)}: There is an association between sources of information used and the age of investor across two cities.

H_{19(c)}: There is an association between sources of information used and the income level of investors across two cities.

H_{19(d)}: There is an association between sources of information used and the education level of investors across two cities.

H_{19(e)}: There is an association between sources of information used and the investing experience of investors across two cities.

(5) To determine and study the investment profile of investors from Hyderabad and Mumbai.

H₂₀: There is a significant difference in the investment objective of investors from Hyderabad and Mumbai.

H₂₁: There is a significant difference in the risk tolerance levels of investors from Hyderabad and Mumbai.

H₂₂: There is a significant difference in the expectation about portfolio return by investors from Hyderabad and Mumbai.

H₂₃: There is a significant difference in the investment personality of investors from Hyderabad and Mumbai.

3.12 Description of Variables

Marikas, et al. (2003) indicated that investors made their decisions based on fluctuation in the stock price index, recent price movements in firms' stocks, and current economic indicators. Tapia & Yermo (2007) investors believe that they can outperform markets; there is evidence which also suggests that "overconfidence results in the excess trade with trading costs denting profits". To capture the perceptions of individual investor's eleven macroeconomic variables are included in the questionnaire using a Likert scale for measuring their perceptions.

Due to their impersonal nature, structured closed-ended questionnaire are mostly preferred in social sciences. This also reduces the influence of researcher on respondents. A questionnaire method of data collection is also a method of collecting information from appropriate respondents without being identified. They are presented as subscale item with the request to respondents to indicate their perception towards each of these variables for receiving better success from equity investing.

3.4.5 Developing Questionnaire

The data was collected by use of a self-administered questionnaire which was finalised after the following stages:

- Development of the first draft after identifying variables
- Pilot Survey
- Finalising the questionnaire

Definition of Variables for Objective 2(b) has been included in chapter four.

Choice of Investment Instrument: Q No. 8

From the perspective of individual investor, there are multiple investment options available for investment depending upon, risk, time, the incidence of tax and objective. The decision of investor for selection of an investment option, therefore, is derived from their requirements. To understand the relation between the demographic variables (Income, Education and location) of investor and selection of investment option few investment instruments has been included in the present study depending upon the literature. Eleven such investment options which were found to be popular among individual investors based on previous studies have been included. Preference of investment option is measured according a five point Likert scale.

Description of Investment Instruments

For an individual to meet the future requirements such as child education, marriage, old age financial support or any such requirement a planned investment strategy may help in meeting goals. There are various means of investment among which a few select and popular instruments are discussed below.

Savings Bank Deposits: “Basically banks act as intermediaries to resource funds from individuals and corporates. Bank deposits account is an account opened in the name of individual or corporate to deposit and withdraw funds according to their requirements, along with this there are many other services which can be utilised by using a bank account.”

There are two basic types of bank accounts a current account and savings account. Savings bank accounts are most popular among individual investors. “Reserve Bank of India w.e.f. 25th October 2011 has deregulated payment of fixed rate of interest on savings bank

deposits and banks are free to decide the interest rate under certain conditions imposed by Reserve Bank of India. Most of the public banks pay 4% interest per annum, while some private banks pay a higher rate of interest”.

Post Office Savings Schemes (POSS): “Post office has been one of the oldest systems of investment in India which serves both urban and rural India. These financial services are offered by Ministry of Finance as an agency serves through Post offices. There are about 1,55,000 post offices across India offering various services. India Post offers a range of financial services which includes various saving schemes which have been popular among investors.”

Public Provident Fund (PPF): It is one of the most important investments in India since a long-time and is completely tax-free, only resident Indian individuals avail it. It is a 15 years scheme with a minimum deposit of Rs.500 and maximum of Rs.1,50,000 per annum and is extendable beyond 15 years by blocks of 5 years each time. The interest rate was fixed on a yearly basis until April 1, 2016, but since then it is fixed on a quarterly basis. There is provision for withdrawal and loan on PPF subjected to regulation.

Chit Funds: It is both investment and borrowing option, an investor pays an amount at specific time frame usually every month for a fixed period. The amount collected in this manner from a group of investors forms a fund and is given to a person on the basis of auction or lucky draw. In the case of auction, the difference between auction and the full amount is distributed to all the members equally. The promoter charges a nominal commission for his services. “Organised chit fund companies are required to register with government according to Chit Funds act 1982.”

Above mentioned are a few popular investment options popular among individual investors in India. Equity investment is one such investment option which gives competitive returns although there is not much awareness about it in India. When investing in equity it requires little awareness about procedures and information on market movements. Investment decisions are backed by the traditional economic theory which says that markets are efficient and that people make rational decisions to maximise profits.

Procedure adopted for Determining Investment Personality of Investors

The economic development of India is marked by various macroeconomic indicators, such as GDP, IIP, and Per Capita Income etc. These parameters are assessments made at a more superior level and if you dwell into the single unit of assessment, there is a requirement to assess individuals of the nation from an investor's standpoint. Investor's behaviour is also affected by various factors which are demographic factors and the environment around them to a large extent.

As understood from literature, demographics include factors related to an individual's personality, such as age, gender, marital status, race, education, income, and occupation. Investment personality of an individual investor depends upon various factors and is dynamic. Therefore, investment profile is determined based on specific information provided by investors which helps in determining the right portfolio mix for investment. It changes from time to time as per the requirements of the investors.

For measuring the above-mentioned aspects questions have been developed based on surveys popularly used by financial advisory firms to assess the investment objective of investors. In India, such trend is not popular so far, which is designed as per the investor requirement.

Investment profile of individual investors depends upon various factors and is dynamic. Assessment of investment profile of individual investors has a use for both individual as well as the advisory firms (if any) to determine specific portfolio mix that suits the individuals' requirement.

Investment Objective

It helps determine investor's goal from investment, in a specific time frame. From the Investment Personality Questionnaire developed and used extensively by most of the financial advisory companies few questions have been redrafted and included in the questionnaire for the present study. Feedback for each question has been coded before proceeding with the analysis.

The following variables help to determine Investment Objective

- Primary Financial Goal (Q.Number 11)
- Investing and Stability of Returns (Q.Number13)
- Usage of Income generated from Return on Investment (Q.Number14)

After coding the feedback from the responses for Q. Number (13, 14 and 15 from questionnaire) investors have been categorised as follows:

Type 1: Investors with a primary goal of income generation with stable returns and no further contributions.

Type 2: Investors with the primary goal to generate income for future with fluctuation, potential growth and plans of making both contribution and withdrawals.

Type 3: Investors who want to fund large future expense, with long-term growth in returns likely to make regular contribution.

Risk Tolerance

Risk tolerance helps to determine the investor's investment rational with respect to changes in basic investment and tolerance of ups and downs in the returns in long and short- run period. It also helps determine perception of investor about his knowledge of financial markets. Risk tolerance level also helps to understand how risk averse an investor is in case of fluctuations in basic investment level. The following variables have been used to determine Risk Tolerance of individual investors by using questions related to following aspects:

- Knowledge on Investment (Q.No.15)
- Portfolio Holding Period in case of loss (Q.No.16)
- Comfort level in case of drop in portfolio value (Q.No.17)
- Investment rational (Q.No.19)

Based on the above-mentioned variables investors can be categorised under following types:

Type 1: Investor not prepared for any change in basic investment with chance of any long term returns

Type 2: Investors who are ready for least fluctuation in the portfolio with safe returns and minimum loss.

Type 3: Investor ready to accept some fluctuation in portfolio value with high overall long run returns.

Type 4: Investor targeting high long run returns and prepared for large and frequent decline with chance of high long term returns.

Choice of Portfolio

It includes characteristics majorly inclined towards the investor goal of achieving target returns and the amount of chance they are prepared to take. This type of portfolio mix shows that an investor is comfortable in order to achieve their goals and further depending on these aspects they are categorised under three levels.

- Acceptable Portfolio Mix (Q.No.20)
- Risk taking Capacity (Q.No.21)

Investors Investment Profile

With the above-mentioned variables information Investment personality of each investor has been determined, depending upon the total scores after coding for the type of investor for each determinant. Four types of investor personality have been categorised based on literature.

Conservative: The most important goal is income generation within short time frame.

They are interested in regular income and concerned about volatility with very low risk.

Moderate: They are interested in more income than growth of their investment with a time frame of about less than 3 years. They are prepared for low volatility and low risk.

Balanced: They are interested in long term balance between growth and income with low volatility.

Advanced: They are concerned about growth of their investment with capital appreciation for a long term. They are little concerned about short- term fluctuation and are only interested in returns after a long time frame.

3.13 Primary Data Sources

Individual Investor

According to Ministry of Corporate Affairs Categories of Investors for Initial Public Offering subscription are defined as follows: “Retail individual investor’ means an investor who applies or bids for securities of or for a value of not more than Rs. 2,00,000”.

Non Institutional Investors are “All applicants, other than qualified institutional buyer (QIB) or individuals applying for less than Rs. 2,00,000 are considered as Non Institutional Investors (NII). Typically, this category includes High Net worth Individuals (HNIs) and corporate bodies.”

Qualified Institutional Buyers (QIB's) “are those institutional investors who are perceived to possess expertise and the financial strength to evaluate and invest in the capital markets.” SEBI’s definition for retail investor in capital markets has been changing with time. Until August, 2003 it was defined as an investor applying for allotment of 10 or less marketable lots in a fixed issue or up to 1000 units in a book built issue. After which it was amended to include all investors applying for securities worth Rs.50,000 or less, this value was revised to Rs.1,00,000 in year 2005 and Rs.2,00,000 in year 2010 as per the latest changes.

Operational definition for Individual Equity Investor: (Sample chosen for study)

- An individual holding a Demat a/c of a beneficiary Account type with any of the two depositories (i.e.) CDSL and NSDL.
- An investor with an active Demat account which has been operated at least two years at the time of survey and holding an investment in equity.

- Investors located in Hyderabad and Mumbai, as these two cities are the geographic location for data collection.
- Investors visiting the Depository Participants (DP), (Ex. Banks, Brokerage Houses etc.) or participating Investor Awareness Programs.

In India, a DP is described as “an agent of the depository. They are the intermediaries between the depository and the investors. The relationship between the DPs and the depository is governed by an agreement made between the two under the Depositories Act.”

Feedback for questionnaire were obtained from individual investors located in Hyderabad and Mumbai using questionnaire compiled based on literature review (Francis, 2013; Gupta, L.C., 2012; Hillman & Keim, 2001; Bhatt, 2013) and sample questionnaire of brokerage firms used for determining investor personality type. Discussion with officials from CDSL Hyd., SEBI Regional Manager, CDSL Mumbai and subject experts from academics and capital markets.

Sampling Technique and Data Collection

- Non-Probability sampling technique of purposive sampling has been found most appropriate for the present study.
- Equity investors who visited the DP for any work (KYC, other queries) located in Hyderabad and Mumbai regions were approached for receiving feedback.
- Equity investors attending Investor Awareness Programs (IAP) organised by Depository participants at various locations in Hyderabad and Mumbai

Data Collection Procedure

A personally administered questionnaire was used for data collection from the investors within two geographic locations. To make the sample more representative feedback of investors holding demat account for at least two years at the time of data collection were included in the final analysis. Two years' time was considered appropriate assuming investor gain sufficient knowledge by this time.

Description of the Survey Instrument: Questionnaire

The purpose of the survey conducted on individual investors was to understand their perception and awareness level across two different cities (i.e.) Hyderabad and Mumbai in English. The questionnaire developed was same for both the cities. The factors included in the questionnaire were based on literature review and discussions with academic/corporate personnel working in the similar area. The initial parts of the questionnaire consisting of questions one to seven related to demographics and were close-ended question. The first question in the questionnaire helped in segregation of equity investors from non-investors. There was another question on the duration of holding Demat a/c which helped in filtering the target sample from all the respondents. There were sub-scale questions on the following variables:

- 1) Perception towards the preference of investment instrument
- 2) Awareness on importance of macroeconomic variables
- 3) Perception on the importance of corporate announcements/actions.
- 4) Assessment of investors investment profile through eleven questions based on investment objective, risk taking ability and portfolio selection.

Description of Sample and Pilot Study

A pilot study was conducted by collecting feedback from approximately 50 individual investors located in Hyderabad city. The respondents were identified through snowball sampling method as convenient sampling. For the purpose of content validity, the survey instrument was revised and altered based on the comments from academicians and personnel working in association with brokerage firms.

The present study includes a survey of individual equity investors from Hyderabad and Mumbai. Final feedback from the sample has been collected during June 2014 to October 2015 simultaneously from both the places.

For data collection process two methods were adopted the first one was through approaching Dematerialisation sections of financial institutions. This was possible after seeking permission from the branch manager. Using this method, it was found that only 60-80% of questionnaire feedback could be received. The reason for not receiving sufficient filled in questionnaires was either misplacement of document or poor investor response. All the questionnaires were coded with numbers before distribution.

In some cases where the bank representatives of the demat section were not ready to receive the questionnaire for data collection, it was personally administered by the researcher. In this process it was found that few respondents were not prepared to fill the questionnaire due to various reasons such as time constraint or lack of interest.

The other method adopted for data collection was through Investor Awareness Programs. During these programs, questionnaire was distributed to all the visiting investors as they entered the venue for investor awareness program and the same was collected at the end of the program. However, it was not possible to collect the hardcopy

from all, as few of them left before completion of the program, and few others who were coming late to the program could not find time to fill the questionnaire during the program. A total of 861 feedbacks were collected from both the cities out of 1250. The final sample consists of 662 responses which include 353 from Mumbai and 309 from Hyderabad from 662 responses.

Sample Size Justification

As the data related to retail investor categorisation for equity investments and the number of equity investors are not available for each city in India. One method of deriving sample size for unknown population size was proposed by study conducted by Godden (2004). The following formula for sample size calculation

Where, the sample size is more than 50,000 and infinite.

$\text{Sample size } (n) = \frac{Z^2 \times (p) \times (1-p)}{M} \dots\dots\dots(8)$
--

Source: (<http://williamgodden.com/samplesizeformula.pdf>)

$$\text{In the present case } (n) = \frac{(1.645)^2 \times (0.05) \times (1-0.05)}{(0.05)} = 257$$

Where:

- n = Sample Size for infinite population
- Z = Z value (e.g. 1.645 for 90% confidence level)
- P = Population proportion (expressed as decimal) (assumed to be 0.05 (5%))
- M = Margin of Error at 5% (0.05)

Using the above formula for a margin of error of 5% a sample size more than 257 is adequate for each city. (2) Linda, Suskie (1994) in her book ‘Questionnaire Survey Research What Works’, provides a guide to determine how many people need to be surveyed based on sampling error alone, when non-standardized instruments are used. “A sampling error of 5% would mean that you can be 95% sure that you have the correct

statistics. For a sampling error of 7% for 196 random sample sizes, for 6% for 264 sample sizes, for 5% for 364 sample sizes were suggested to be appropriate.”

(3) Gay, L.R., (1996) suggested guidelines for selecting a sample size for small population “if ($N < 100$), there is little point in sampling survey for the entire population. If the population size is around 500, 50% of the population should be sampled. If the population size is 1,500, 20% should be sampled. Beyond a certain point (at approximately $N = 5,000$), the population size is almost irrelevant, and a sample size of 400 will be adequate. Thus, larger the population the smaller the percentage, one need to get a representative sample.”

Literature also indicates that most of the previous study on individual investors has been prepared with a sample of at least 100. Varghese (1999) study on individual investor’s in Kerala to understand the problems and perceptions in capital market investments. Pandian & Thangadurai (2013) conducted a study on individual investors from Dehradun district of Uttarakhand, India to recognize their preference of Investment Instrument with a sample of 120 investors. Bhatt & Bhatt (2012) conducted a study with 200 investor respondents from Jamnagar city to study the effect of occupation and education on choices of Investment Instrument.

Wen, Lin (2011) study published with “World Academy of Science, Engineering, and Technology” study on “Influence of Demographics and Psychological Traits on Investment Biases” with a sample of 554 valid convenient sample from Taiwan stock market. The present study included 662 respondents which comprised of 309 investors from Hyderabad and 353 investors from Mumbai after filtering raw data.

Table 3.2 to 3.6 which are presented below are used to describe the distribution of investors from both the cities based on the age, education level, income and investing experience.

Table 3.2

Sample Size Distribution According to City

Location	Sample distributed	Valid Sample	Response Rate
Hyderabad	600	309	51.50%
Mumbai	650	353	54.30%
Total	1250	662	52.96%

Source: Compiled from primary data using MS-Excel

Table 3.3 presents the frequency analysis for investors from both cities depending on age.

Table 3.3

Summary of Demographic Profile (Age Group) of Respondents from Both Cities

Variable Categorisation	Frequency and Percentage	
	Hyderabad	Mumbai
	(% within City)	(% within City)
Between (18- 25) years	24(7.8%)	15(4.2%)
Between (26-35) years	78(25.2%)	114(32.3%)
Between (36-45) years	83(26.9%)	85(24.1%)
Between (46-55) years	60(19.4%)	78(22.1%)
Above 55 years	64(20.7%)	61(17.3%)
Total	309(100)	353(100)

Source: Compiled from primary data using MS-Excel

From the frequency analysis of age of investors across two cities it can be found that most investors from Hyderabad belong to age group of 36 to 45 years (26.9%). In case of Mumbai (32.3%) of investors are in the age group of 26 to 35 years. Overall, it is found that 29% of investors are in the age bracket of 26 to 35 years, there are very few young investors who are in age group of (18 to 25) years. One noticeable aspect is that approximately 19% of investors are above the age of 55 years, it is implied from data that a

considerable proportion of the sample belongs to individuals who are old and yet interested in equity investing.

Table 3.4 presents the frequency analysis for investors from both cities depending on their income level.

Table 3.4

Summary of Demographic Profile (Income Level) of Respondents from Both Cities

Level	City	HYDERABAD		MUMBAI		TOTAL	
	Income Level of Investor	Frequency	(%)	Frequency	(%)	Frequency	(%)
1	Below Rs. 15,000 per month	38	12.3	39	11	77	11.6
2	Between Rs. 15,001 to Rs.30,000 per month	87	28.2	118	33	205	31
3	Between Rs. 30,001 to Rs.50,000 per month	95	30.7	144	41	239	36.1
4	Between Rs. 50,001 to Rs.1,00,000 per month	76	24.6	45	12	121	18.3
5	Between Rs. 1,00,001 to Rs.2,00,000 per month	12	4.2	7	2	20	3
	Total	309	100	353	100	662	100

Table 3.4 presents frequency analysis of the income level of investors in two cities across five levels of segmentation. It is found that for Hyderabad majority of investors are from level two and three, for Mumbai also a similar trend is observed. It can also be noticed that investors from income level five are very few in percentage from both the cities.

Table 3.5 presents the frequency analysis for investors from both cities depending on their education level.

Table 3.5

Summary of Demographic Profile (Education Level) of Respondents from Both Cities

City	Hyderabad	Mumbai		Hyderabad	Mumbai
Education Level	Frequency	Frequency	Total	Percentage	Percentage
Primary (up to class 5)	12	6	18	1.8%	0.9%
Class 10	18	8	26	2.7%	1.2%
Intermediate (plus 2)	48	36	84	7.3%	5.4%
Graduation	127	175	302	19.2%	26.4%
Post-Graduation	75	101	176	11.3%	15.3%
Technical/Professional	18	21	39	2.7%	3.2%
Others	11	6	17	1.7%	0.9%
Total	309	353	662	100%	

**Source: Compiled from primary data using MS-Excel*

From the table 3.6 which presents the frequency analysis of education level of investors from two cities and across eight levels it can be found that, overall most of investors are from level 5 (i.e.) have graduation level of education. For Hyderabad and Mumbai also similar trend is observed. There are very few investors who belong to either category 1 or 7 (i.e.) with no formal education and also those who do not belong to any of the mentioned categories. From the data it can be noticed that most of the investors are well qualified, at least have education level from intermediate to post-graduation.

Table 3.6 presents the frequency analysis for investors from both cities depending on their investment experience.

Table 3.6

Frequency Analysis of Equity Investing Experience of Investors

Category	City	HYDERABAD		MUMBAI		TOTAL	
	Investing Experience	Frequency	(%)	Frequency	(%)	Frequency	(%)
1	Between (2-3) years	113	37	108	31	221	33
2	3 to 7 years	132	43	151	43	283	43
3	8 to 10 years	40	12	40	11	80	12
4	Above 10 yrs.	24	8	54	15	78	12
	Total	309	100	353	100	662	100

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Table 3.6 shows the frequency and number of years of equity investing experience of investors across two cities. Investing experience of investors is based on the feedback received for the feedback for numbers of years of holding demat account, which was an open end question. Depending upon the feedback received investing experience is categorised into four levels as mentioned in table 3.7. It is found that majority of investors across two cities (i.e.) around 43% have been investing for minimum of 3 years and maximum of 7 years. It can also be noticed that number of investors having above 10 years of experience are of higher proportion in Mumbai (15%) when compared to Hyderabad (8%). It can be understood that investing in equity has been practiced since long duration by Mumbai investors.

Statistical Technique

“ χ^2 statistic is a function used to identify the relation between two categorical variables. This statistic can be adjusted in various ways, in order to produce a measure of association. It is used to check for the relationship between two categorical variables. Pearson’s Chi square test Fisher (1922) & Pearson (1900) is an extremely elegant statistic based on the simple idea of comparing the frequencies that are observed in certain categories to the frequencies you might expect to get in those categories by chance”.

$$\text{Deviation} = \sum (Observed - model)^2 \dots \dots \dots (9)$$

Using Chi-square test of association to discover the relationship between two categorical variables requires fulfillment of two assumptions “(1) Two variables should be measured at an ordinal or nominal level (i.e., categorical data) and (2) Two variables should consist of two or more categorical, independent groups”. For the present study chi-square was found appropriate due to satisfaction of both the assumptions. Other tools such as graphs and frequency tables are also used to narrate relation between variables.

3.14 Conclusion

Through the present chapter, the methodologies followed for the fulfillment of the objectives of the study are described. It has been divided into three sections based on objectives and relevant hypotheses.

The first section discusses about the definitions of six macroeconomic variables and Nifty index. It also illustrated the econometric test utilised for the study and its assumptions and data selection, and cleaning procedure.

The second section of the study explained the methodology, sample, and data cleaning process, criteria for sample selection for objective 2(a) and its sources are discussed in

detail, used for the achievement of objective 2(b). The definitions for variables and sample selected for the immediate have been presented.

The third section included discussions on primary data, survey instrument, sampling technique and data collection procedure, and sample size justification for objective 1(b), 2(b), three, four and five. The methodology adopted for the fulfillment of these hypothesis framed under above-mentioned objectives are also illustrated. Overall the present chapter represents the methodology adopted for the analysis of variables depending upon the objectives of the study.

CHAPTER – IV

**STUDY ON IMPACT OF MACROECONOMIC
VARIABLES ON STOCK PRICES AND
INVESTORS AWARENESS**

CHAPTER – IV

STUDY ON IMPACT OF MACROECONOMIC VARIABLES ON STOCK PRICES AND INVESTORS AWARENESS

4.1 Introduction

The present chapter illustrates the effect of macroeconomic factors on stock returns. The study on macroeconomic factors has been conducted from two dimensions which are framed as two sub-objectives 1(a) and 1(b). The analysis and results are presented in two sections (i.e.) I, and II. These sections contain the discussion on the description of the statistical analysis, and outcomes.

SECTION – I

4.2 Studies on Macroeconomic Variables

Srivastava, A (2010) study explains that emerging economies like India are largely influenced by changing domestic macroeconomic factors than global ones. Industrial production, interest rate and WPI are the most important variables causing changes in the stock price movements in times to come. Naka, Mukherjee & Tufte (1998) found through their study that a long term equilibrium relationship exists among stock prices and macroeconomic variables. Domestic inflation is the most severe deterrent for the Indian stock market performance and domestic output growth is its predominant driving force. This behaviour coincidentally is the result of the misunderstanding of macroeconomic variables among stockholders, specifically, most individual investors. SEBI has been successful in improving the functioning of Indian stock markets to some extent through the enactment of various reforms and regulations; however, there is a long way to go.

The present objective of the study is directed to find the relationship between Nifty stock prices movement and macroeconomic variables using time series panel data. The data collected for the study is for a period of nine years i.e. from April 2006 to December 2015. As the economic changes are dynamic in nature, there is a need to study them from time to time to capture new trends.

4.2 Objectives and Hypotheses

1(a) To examine the association between macroeconomic variables and stock market prices.

H₁: There is a causal relationship between monthly stock prices of Nifty 50 stocks and crude oil prices.

H₂: There is a causal relationship between monthly stock prices of Nifty 50 stocks and gold prices.

H₃: There is a causal relationship between monthly stock prices of Nifty 50 stocks and index of industrial production.

H₄: There is a causal relationship between monthly stock prices of Nifty 50 stocks and Wholesale Price Index.

H₅: There is a causal relationship between monthly stock prices of Nifty 50 stocks and US dollar exchange rate.

H₆: There is a causal relationship between monthly stock prices of Nifty 50 stocks and Euro Exchange Rate.

Statistical Tool Applied: For finding the relation between price movement of Nifty 50 Index and macroeconomic variables Correlation Method and Granger Causality Tests have been applied.

Correlation Method

“Correlation is computed using the correlation coefficient that ranges between -1 to +1. A correlation coefficient of +1 is read as perfect positive correlation and implies that the variables move up or down in the same direction. Alternatively, a correlation coefficient of -1 is read as perfect negative correlation and implies that the variables move up or down in opposite direction. If the coefficient is ‘0’ the variables are having no relation, their movement is completely random.”

The formula for correlation is as follows:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}} \quad (9)$$

Granger causality tests seek to answer questions such as “Do changes in y_1 variable cause changes in y_2 ? If y_1 causes y_2 , lags of y_1 should be significant in the equation for y_2 . It is a test which is sensitive to the number of lags used in the model. The assumption of stationarity of data is followed.” Gujarati (2009) in economics, the dependence of a variable Y (the dependent variable) on another variable(s) X (the explanatory variable) is seldom instantaneous. Very often, Y responds to X with a gap of time. Such a lapse of time is called a lag. The test involves estimating the following pair of regressions:

$$X_1(t) = \sum_{j=1}^p A_{11,j} X_1(t-j) + \sum_{j=1}^p A_{12,j} X_2(t-j) + E_1(t) \quad (10)$$

$$X_2(t) = \sum_{j=1}^p A_{21,j} X_1(t-j) + \sum_{j=1}^p A_{22,j} X_2(t-j) + E_2(t) \quad (11)$$

Where, it is assumed that the disturbances $E_1(t)$ and $E_2(t)$ are uncorrelated. In passing, note that, since there are two variables, study is dealing with bilateral causality.

“There could be four cases of causality as mentioned below:

1. *“Unidirectional causality from X_1 to X_2* is indicated if the estimated coefficients on the lagged X_1 in (1) are statistically different from zero as a group (i.e., $\sum a_i \neq 0$) and the set of estimated coefficients on the lagged X_2 in (2) is not statistically different from zero (i.e., $\sum \delta_j = 0$).
2. Conversely, *unidirectional causality from X_2 to X_1* exists if the set of lagged X_1 coefficients in (1) is not statistically different from zero (i.e. $\sum a_i = 0$) and the set of the lagged X_2 coefficients in (2) is statistically different from zero (i.e. $\sum \delta_j \neq 0$).
3. *Feedback, or bilateral causality,* is suggested when the sets of X_1 and X_2 coefficients are statistically significant and different from zero in both regressions.
4. Finally, *independence* is suggested when the sets of X_1 and X_2 coefficients are not statistically significant in both the regressions” Gujarati (2004).

The Hypothesis can be tested using F-test framework since each set of restrictions contains only parameters drawn from one equation.

$F = \frac{(([RSS]_{r-} - [RSS]_{ur}) / m)}{([RSS]_{ur} / [(n-m)])} \dots\dots\dots(12)$
--

To examine the presence of causal relationships between macroeconomic variables and the price movement of Nifty Index (which is used as the market proxy), similar methodology has been adopted for study in Indian perspective by (Naik & Padhi, 2012; Ray & Kothari, 1991). To understand the causal effect between two variables most of the research has been carried on using Granger Causality test for time series data. However, there are prerequisites for conducting this test.

Stationarity of a data series implies that the variances are constant over a given period of time and the co-variance between the two extreme time periods does not depend on the actual time at which it is computed but on the lag between the two extreme time periods.

4.3 Discussion on Results from Analysis for Objective 1(a)

Table 4.1 represents the summary of descriptive statistics of all variables from April 2006 to December 2015.

Table 4.1

Descriptive statistics for Macroeconomic Variables

S.No.	Variable	Range	Min.	Max.	Mean	Standard Deviation
1	Crude Oil Prices	98.32	41.68	140.00	83.15	19.80
2	Gold Prices	22942.18	8690.27	31632.44	19696.26	7541.20
3	IIP	89.26	108.84	198.10	158.63	19.56
4	WPI	71.40	114.50	185.90	153.84	23.37
5	Dollar Exc. Rate	25.63	39.35	64.99	50.43	7.48
6	EURO Exc. Rate	30.21	54.76	84.97	67.02	8.12
7	NSE Prices	6146.75	2755.10	8901.85	5404.08	1472.36
	Valid N (list wise)	117	117	117	117	117

Note. Statistics have been calculated on real values for all variables

Source: From analysis of secondary data for each variable between April 2006 to December 2015

Table 4.1 presents the sample range; minimum, maximum, mean and standard Deviation have been reported for 117 observations from each variable. Standard deviation as a measure of dispersion explains how distant or near is the data spread from its mean. Low standard deviation describes that the data is closer to the mean and a high standard deviation implies that the spread of data is far from its mean. From the above table 4.1 it

can be understood that: Crude Oil Prices had a mean of 83.15 with low standard deviation when compared to other macroeconomic variables such as Gold rates and Nifty index. The range value between minimum and maximum also indicates high fluctuation in crude oil prices.

- Dollar Exchange Rate with Indian Rupee the range was Rs. 25.63, indicating low fluctuation in the exchange rates. It is also found that the standard deviation is quite low and is close to mean of Rs. 50.43
- Euro Exchange Rate with Indian Rupee also indicated a low standard deviation and did not reflect many diversions from the mean.
- Gold prices had a very high standard deviation and indicate high fluctuation in their prices during the period of study. The range was Rs. 22,942.18 which is a very high value.
- Index of Industrial Production did not show very high standard deviation and was around the mean of 158.63 during the period of study.
- Wholesale price index also does indicate very high fluctuation in values and had a low standard deviation.
- Nifty closing prices had a very high standard deviation and indicate high fluctuation in their prices during the period of study. The observed range was Rs. 6,146.75 which seems to be quite high.

Table 4.2 presents the results from correlation analysis and descriptive statistics for all macroeconomic variables.

Table 4.2

Correlation and Descriptive Statistics of Macroeconomic variables

Descriptive Statistics				
Type of Variables	Mean	Std. Deviation	Correlations	Sig. (1-tailed)
Crude Oil Prices(IV)*	1.91	0.11	0.21	0.01
Exchange Rate For Dollar(IV)	1.82	0.05	0.54	0.00
Euro Exchange Rate(IV)	1.70	0.06	0.59	0.00
Gold Prices(IV)	4.26	0.19	0.65	0.00
Index of Industrial Production(IV)	2.20	0.06	0.75	0.00
Wholesale Price Index(IV)	2.18	0.07	0.76	0.00
NSE Nifty Closing Prices(DV)*	3.72	0.12		

**Note. IV means Independent variable and DV means dependent variables, values have been calculated after converting data to it's natural log*

Source: From analysis of secondary data for each variable between April 2006 to December 2015 using SPSS 20 and MS-Excel

From the above analysis, it can be found that the USD exchange rate have the lowest range and gold prices have the highest range indicating that there is a huge fluctuation in gold prices and it is not the same in the case of for bank interest rates. It may be concluded that for the given time frame and datasets of variables except in the case of gold all other variables moved along with prices of NSE Index.

Correlation value indicates a connection between two variables; it also signifies the degree to which two variables have a linear relationship. Correlation analysis provides a preliminary understanding about the relationship between variables hence there is a need to inspect it before proceeding with further analysis. From the above tables (4.2 and 4.3) it can be observed that IIP, WPI, and gold have a high positive correlation with NSE closing prices. However, in the case of crude oil prices, all other variables have a statistically significant correlation with p-value < 0.001.

All the correlation values are substantially less than 0.9, hence there is no multi collinearity in the data set. It can also be observed that IIP and WPI have ($r = .752, p < .001$) and ($r = .761, p < 0.001$) which is highest among all the predictors in the model so it is likely that these variables will predict NSE stock prices better.

Graphical Representation of Relation between Variables

Ghosh, Saidi, & Johnson. (1999), rationales pairs of financial time series data according to financial theory hypothesis are projected to move together. It is also estimated that short run deviations will be brought to equilibrium in the long run on account of investor tastes and preferences, market forces and government regulations. By understanding these short-term movements a better understanding the economic relationship between these variables in markets can be drawn.

Figure 4.1 to 4.6 present the graphical representation for the movement of macroeconomic variables with Nifty 50 prices during the study period.

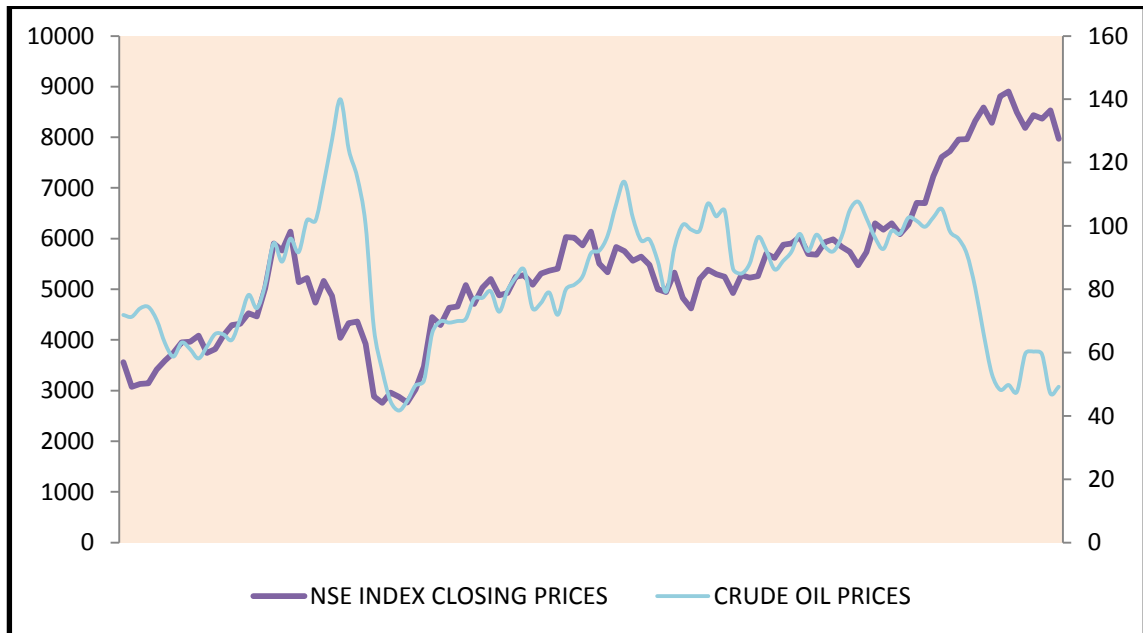


Figure 4.1 Movements of Nifty 50 Index and Crude Oil Prices*

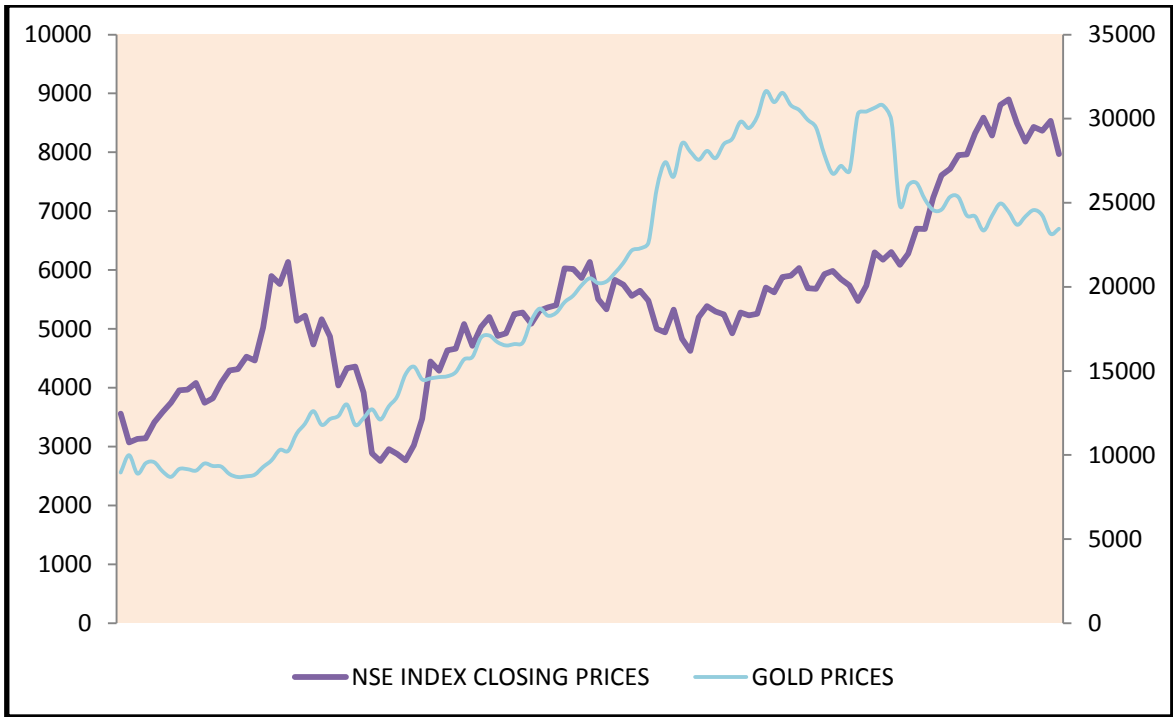


Figure 4.2 *Movements of Nifty 50 Index and Gold Monthly Closing Prices**

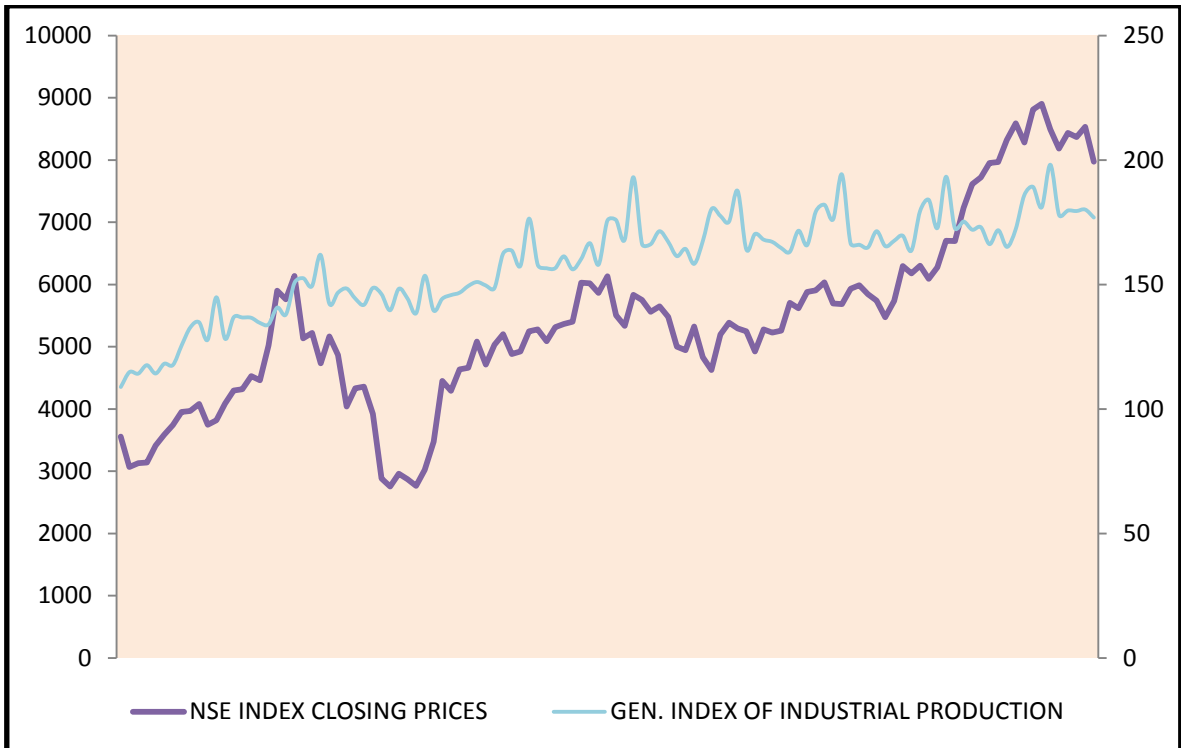


Figure 4.3 *Movements of Nifty 50 and Gen. Index of Industrial Production**



Figure 4.4 *Movements of Nifty 50 Index General Wholesale Price Index**

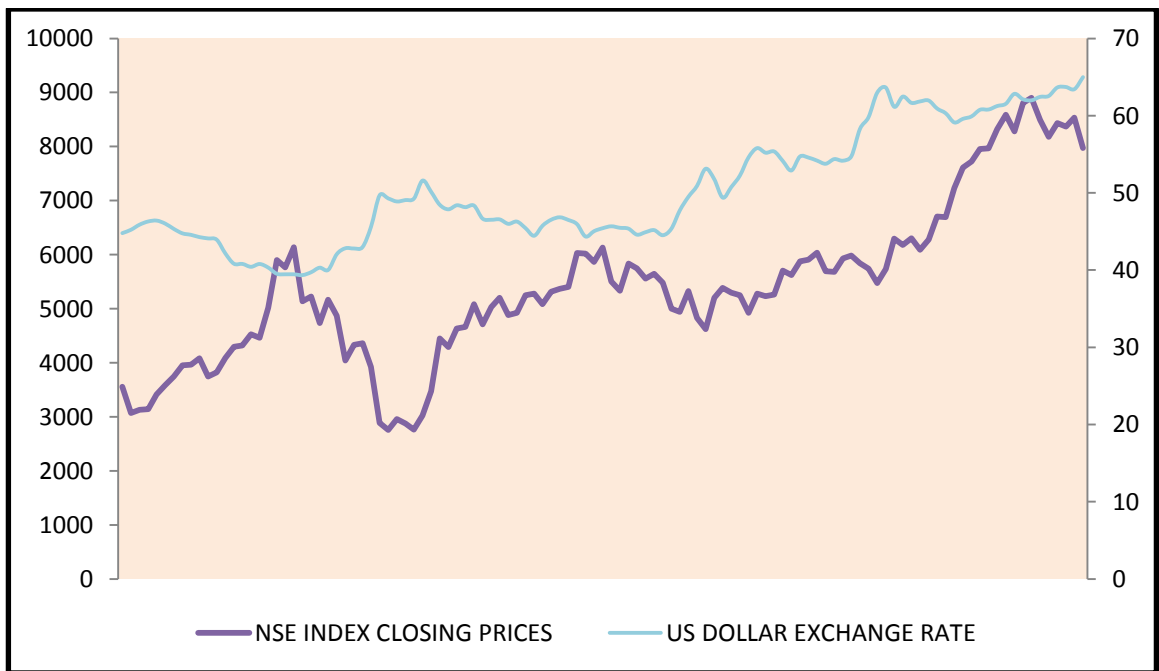


Figure 4.5 *Movements of Nifty 50 Index and US Dollar Exchange Rate**

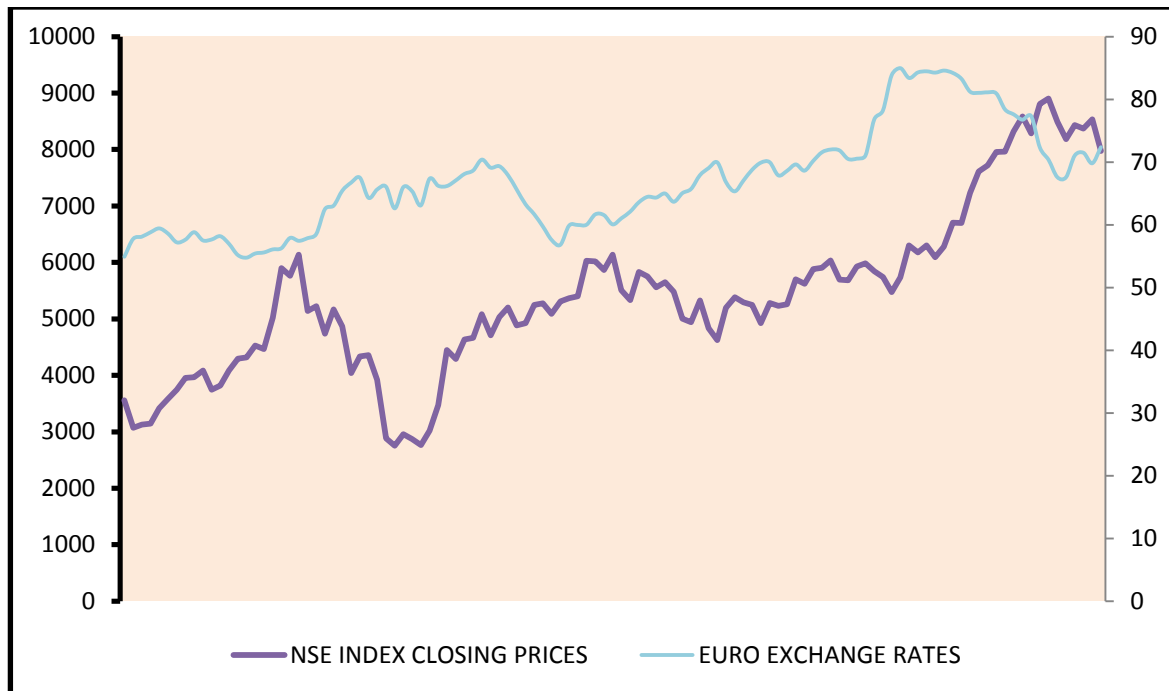


Figure 4.6 Movements of Nifty 50 Index and Euro Exchange Rate*

**Source: From analysis of secondary data for each variable between April 2006 to December 2015 using SPSS 20 and MS-Excel*

Observations from Graphical Representation of Data:

- It's noticed from graphs that the gold and Nifty prices seem to move in an opposite directions during the period of study
- It is also found that US Dollar exchange rate and Nifty closing prices also move in sync with each other.
- In the case of other variables there does not seem to be any significant trend.

From the visual inspection of the line graph of each variable, it is difficult to make any conclusions therefore next step of conducting the stationarity test using Augmented Dickey Fuller Test (ADFT) using the E-Views software which is key assumption before granger causality test for presence of stationarity is conducted. To understand the presence of any causal relationship between these macroeconomic variables, and Nifty 50 Index, this test

was found appropriate. Before using this test it is important to check for the presence of unit root.

Unit Root Test for Stationarity: The Hypothesis for testing presence of stationarity using ADF test in E-Views -8 software.

Ho: The time series has Unit Root (if sig. at 1% then presence of stationarity of data)

The summarised results of Unit Root test are presented in the table 4.3.

Table 4.3

Results of Unit Root Test – Using ADF TEST

Null Hypothesis	t statistic	p-value	Remark
Crude Oil Prices are not stationary	-15.8	0.0000	Variable is stationary
Gold Prices are not stationary	-13.48	0.0000	Variable is stationary
Index of Ind. Production are not stationary	-9.26	0.0000	Variable is stationary
Wholesale Price Index are not stationary	-17.15	0.0000	Variable is stationary
US Dollar Exchange Rate are not stationary	-10.29	0.0000	Variable is stationary
Euro Exchange Rate are not stationary	-12.93	0.0000	Variable is stationary
Nifty Prices are not stationary	-9.3	0.0000	Variable is stationary

Sources: From the analysis of secondary data using E-Views and MS-Excel

It can be concluded from the above table 4.3 that all the variables have attained stationarity in the time series. Basically, t-statistic is checked, and when its p-value is less than the values at 1%. (i.e.) 99% confidence interval with a significant p-value (less than 0.01) null hypothesis of the presence of unit root (data series is non-stationary) can be rejected. From the above table it can be concluded that all the data series are stationary and proceed with Granger causality test.

Econometric Regression Model

Sir Francis Galton was the first person to introduce the concept of regression analysis in the 19th century. “The regression equation generally uses Granger Causality Test :

$$Y_i = \beta_0 + \beta_1 X_i + u_i \dots\dots\dots(13)$$

Where,

Y_i = the dependent variable

X_i = the independent variable

β₀ = the constant or intercept

β₁ = the slope of the regression line which represents the strength of direction of relation

u_i = random error term”

Sign-F: “It is used to test whether the model is significant; (i.e.) is the R-square significantly different from zero.

A pair-wise granger causality test is used by using Eviews-8 software and the results have been presented in the following table 4.4”.

Table 4.4
Results of Granger Causality Test

Null Hypotheses	Observation	F-Statistic	Probability*	Type of Causality
H ₁ : Crude Oil Prices does not Granger cause prices of Nifty Index Prices	117	1.493	0.229	No Causality
Prices of Nifty Index does not Granger cause crude oil prices		0.140	0.869	No Causality
H ₂ : Gold Prices does not Granger cause prices of Nifty Index prices	117	0.526	0.592	No Causality
Prices of Nifty Index prices does not Granger cause Gold Prices		0.507	0.603	No Causality
H ₃ : Index of Industrial Production does not Granger cause prices of Nifty Index	117	0.774	0.463	No Causality

Prices of Nifty Index does not Granger Cause index of industrial production		3.114	0.048	No Causality
H ₄ : Wholesale Price Index does not Granger cause Prices of Nifty Index	117	1.953	0.146	No Causality
Prices of Nifty Index does not Granger cause Wholesale Price Index		1.283	0.281	No Causality
H ₅ : US Dollar Exchange Rate does not Granger cause NSE	117	5.305	0.006	Bi-Directional Causality
NSE does not Granger cause US Dollar Exchange Rate		3.791	0.025	Bi-Directional Causality
H ₆ : Euro Currency Exchange Rate does not Granger cause Prices of Nifty Index	117	1.749	0.178	No Causality
Prices of Nifty Index does not Granger cause Euro Currency Exchange Rate		0.023	0.976	No Causality

*Source: From the analysis of secondary data of macroeconomic variables using E-Views and MS-Excel at Lag 2. *Note Reject H₀ when the p-value is >0.05.*

From the table 4.4, it can be found that there exists no causal relation between Nifty 50 Index and macroeconomic variables except in the case of the exchange rate with USD showing a bi-directional causal relationship. With the given values of F-statistic the p – values are all more than 5%, therefore, accept the Null Hypothesis that there is no causal relation between the variables.

SECTION - II

4.4 Objectives and Hypotheses

1(b) To make a comparative analysis on perceptions of individual investors on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (a)}: City of residence has an association with investor perception on the importance of awareness about the macroeconomic variables for equity investment decisions.

H_{7 (b)}: Age of the investor has an association with their perception on the importance of awareness about the macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (c)}: Education level of the investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (d)}: Income level of investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

H_{7 (e)}: Investing experience of investor has an association with their perception on the importance on awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

Table 4.5 illustrates the meaning for each macroeconomic variable and the list which has been included in the questionnaire for primary data collection.

Table 4.5

Description of Macroeconomic Variables (Included for Survey)

S.No.	Macroeconomic Factors	Description
1	Stock Market Fluctuations	Changes in Stock prices, movement of Nifty and Sensex.
2	Stock Market Sentiment	General prevailing attitude of investors about upward or downward movement of stocks
3	Unemployment Rate	It's the percentage of unemployed workers divided by the total work force.
4	Inflation rate(WPI)	It is the level at which the prices of goods and services are rising/value of currency is falling
5	Corporate Earnings	It is the level of profit earned by companies for a given period of time
6	Gold/Silver/Crude Oil Prices	Changes in prices of these commodities

7	Foreign Direct Investment	Investment by foreign companies in India
8	Index for Industrial Production	It is a measure of short- term changes in the volume of output of Industrial sector in India.
9	Political Factors	Activities related to govt. policy and general administration.
10	Bank Interest Rate on Savings	Savings a/c interest rate on deposits with nationalised banks
11	Exchange Rate of Dollar/Euro etc.	Monthly average exchange rates of US Dollars/Euros in terms of Indian rupee

Source: Compiled depending on the secondary data reviewed

4.5 Discussion on Results from Analysis for Objective 1(b)

Reliability Test: “It is a measure of consistency between multiple measurements of variables and is conducted to ensure that the responses are not widely varying. Cronbach’s alpha is a measure to test the internal consistency of items in a scale. It is a measure of scale reliability, or an efficiency of reliability states in his book on “Multivariate analysis that Cronbach’s alpha is a measure of reliability that ranges from zero to one, with values of 0.60 to 0.70 deemed to be the lower limit of acceptability using SPSS software” (Hair, et al. 2011). Table 4.6 presents the details of the reliability test and the results obtained.

Table 4.6

Reliability Test for Macroeconomic Variables

Sub scale variables	Cronbach's Alpha	No. of items
Macroeconomic Variables	0.804	11

Source: From the analysis of primary data using SPSS 20 software.

The results indicate that the value of Cronbach’s alpha for 11 items as sub scale variables was within the acceptable limits. Demographic variables have been coded for further analysis according to objectives of the study. Variables such as the city of residence, the age of investor, education level of investor, the income level of investor and equity

investing experience have been taken as independent variables and perceptions on macroeconomic variables considered as dependent variable.

City of residence includes Hyderabad and Mumbai, for the purpose of analysis, Hyderabad has been coded as one and Mumbai as two, the age of investor has been divided under five categories, education level under seven categories, and income level under five categories. Number of years after holding demat account has been taken as a proxy for equity investing experience and is categorised under three levels. Above mentioned five demographic variables are analysed for association with awareness level about each Macroeconomic Variable.

Table 4.7

Mean Analysis of Perceptions on Macroeconomic Variable

Macroeconomic Variables	Hyderabad		Mumbai		Overall	
	Mean	Rank	Mean	Rank	Mean	Rank
Stock Market fluctuation	3.98	1	4.03	1	4.006	1
Stock Market Sentiment	3.87	5	4.08	1	3.983	2
Unemployment Rate	3.81	7	3.60	3	3.699	3
Inflation Rate	3.89	4	3.96	4	3.927	4
Gold and Silver Prices	3.72	9	3.92	5	3.825	5
Foreign Direct Investment	3.77	8	4.00	6	3.896	6
Index of Industrial Prod.	3.72	9	3.93	7	3.831	7
Political Conditions	3.90	3	4.07	8	3.989	8
Bank Interest Rates	3.95	2	4.08	9	4.020	9
Foreign Currency Exchange Rate	3.87	5	3.98	10	3.929	10
Term Deposit Interest Rates	3.63	11	3.61	11	3.621	11

Source: From primary data analysis using SPSS 20 software.

From the table 4.7 it can be found that stock market fluctuations were most important aspect according to investors across both cities. Whereas it can also be noticed that the variable term deposit interest rates was not considered to be very important and was least

preferred by investors as indicated by the mean of 3.63 for Hyderabad and 3.62 for Mumbai.

Analysis for City of Residence and MEV

H_{7(a)}: City of residence has an association with investor perception on the importance of awareness about the macroeconomic variables for equity investment decisions.

To test for the above hypothesis chi-square test of association was conducted between each macroeconomic variable and city of residence. Table 4.9 presents the summarised results for the same.

Table 4.8

Summary from Analysis of Chi-Square test between Variables: City and Macroeconomic Variables*

H_{7(a)}: Macroeconomic Variables * City	Mean	S.D	Chi-square value	d.f.	*Appx.sig.
Stock Market Fluctuation	4.01	0.92	8.151	4	0.086
Stock Market Sentiment	3.98	0.93	23.170	4	0.000
Unemployment Rate	3.70	0.99	25.024	4	0.000
Inflation	3.93	0.87	9.150	4	0.057
Gold/Silver/Crude Oil Prices	3.82	0.87	37.407	4	0.000
Foreign Direct Investment	3.90	0.95	25.239	3	0.000
Index for Industrial Production	3.83	0.91	46.862	4	0.000
Political Factors	3.99	0.85	14.294	3	0.003
Bank Interest Rate on Savings	4.02	0.91	56.108	4	0.000
Exchange Rate of Dollar/Euro etc.	3.93	0.79	8.552	3	0.036
Corporate Earnings	3.90	0.91	26.597	4	0.000

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software.

Chi-square test of association between each of the macroeconomic variables and city of residence of individual investors indicates that (see table 4.9) except in the case of two

variables (i.e.) stock market fluctuations and inflation rate there is a statistically significant association between for all variables. It was found that investor's preference towards the importance of awareness about the macroeconomic variables was different across both cities.

Age of Investor and Macroeconomic Variables

H_{7(b)}: Age of the investor has an association with their perception on the importance of awareness about the macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

Frequency distribution for age category of investor is presented in table 3.4 (page.82)

Table 4.9 shows the results for analysis of chi-square test of association between investor's age and perception about macroeconomic variables across two cities.

Table 4.9

Summary from Analysis of Chi-Square Test Between Variables: Investor Age and Macroeconomic Variables*

H_{7(b)}: Macroeconomic Variables *Investor Age	HYDERABAD			MUMBAI		
VARIABLES	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Stock Market Fluctuation	37.468	12	0.000	83.634	12	0.000
Stock Market Sentiment	85.733	12	0.000	46.686	9	0.000
Unemployment Rate	26.203	12	0.010	40.25	9	0.000
Inflation	38.343	12	0.000	36.377	9	0.000
Gold/Silver/Crude Oil Prices	50.106	12	0.000	39.724	9	0.000
Foreign Direct Investment	39.523	9	0.000	40.743	9	0.000
Index for Industrial Production	81.129	12	0.000	35.24	12	0.000
Political Factors	110.93	9	0.000	44.628	9	0.000
Bank Interest Rate on Savings	92.38	12	0.000	71.787	12	0.000
Exchange Rate of Dollar/Euro etc.	76.656	9	0.000	93.947	9	0.000
Corporate Earnings	80.781	12	0.000	128.6	12	0.000

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software and MS- Excel

It is found from the summarised results that there is a statistically significant association between investor age and awareness about macroeconomic variables in both cities as the p-values are less than 0.05 for all the variables. It can, therefore, be concluded that investor age has an impact on the investor awareness level in case of all macroeconomic variables.

Investor Education Level and Macro Economic Variables

H_{7(c)}: Education level of the investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

Table 4.10 presents the frequency analysis for investor's education level based on seven categories from both cities.

Table 4.10

Frequency Analysis of Education Level of Investors

City	HYDERABAD		MUMBAI		TOTAL	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Primary (up to class 5)	12	3.9	1	0.3	13	2.0
Class 10	18	5.8	2	0.6	20	3.0
Intermediate (plus 2)	48	15.5	36	10.2	84	12.7
Graduation	125	40.5	181	51.3	306	46.2
Post-Graduation	74	23.9	105	29.6	179	27.0
Technical/Professional	20	6.5	25	7.1	45	6.8
Others	12	3.9	3	0.9	15	2.3
Total	309	100	353	100	662	100

Source: From primary data analysis using SPSS 20 software and MS- Excel

From the table 4.10 which presents the frequency analysis of education level of investors from two cities categorised under seven levels, it can be found that most of the investors are from level five (i.e.) with graduation level of education. A similar trend is observed in both cities. From the data, it can be noticed that most of the investors are well qualified, at

least have education level from intermediate to post-graduation. From Hyderabad about 79.9% of investors and for Mumbai, 80.9% of investors belong to either of two levels mentioned earlier.

Table 4.11 presents a summary of results obtained for chi-square test conducted for testing association between the education level of investor and awareness on macroeconomic variables for each of two cities.

Table 4.11
Summary from Analysis of Chi-Square Test Between Variables:
Education Level of Investor and Macroeconomic Variables

H_{7(c)}: Investors Education Level and Macroeconomic variables	HYDERABAD			MUMBAI		
	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Stock Market Fluctuation	50.477	24	0.006	112.27	28	0.000
Stock Market Sentiment	72.219	24	0.000	37.003	21	0.017
Unemployment Rate	68.053	24	0.000	38.537	21	0.011
Inflation	56.111	24	0.001	32.152	21	0.057
Gold/Silver/Crude Oil Prices	46.641	24	0.015	34.271	21	0.034
Foreign Direct Investment	37.813	18	0.014	32.112	21	0.057
Index for Industrial Production	34.907	24	0.173	31.38	28	0.300
Political Factors	39.244	18	0.009	35.633	21	0.024
Bank Interest Rate on Savings	46.101	24	0.017	78.13	28	0.000
Exchange Rate of Dollar/Euro etc.	47.772	18	0.001	28.399	21	0.129
Corporate Earnings	80.745	28	0.000	49.073	28	0.008

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software and MS- Excel

The summarised results indicate that there is a statistically significant association between all variables except IIP in the case of Hyderabad city. In the case of investors from Mumbai city, it is found that for variables such as inflation, foreign direct investment,

index of industrial production and currency exchange rates there is no association between variables as the significance values are greater than 0.05.

It can, therefore, be concluded that education level of investors from Hyderabad has a better association with macroeconomic variables when compared to those from Mumbai or it can be supposed that irrespective of education level Mumbai investors have similar perceptions about importance of majority of macroeconomic variables in the present study.

Investors Income Level and Macroeconomic Variables

H_(d): Income level of investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

Table 4.12 presents the frequency analysis for investor's income level based on five levels of segmentation from both cities.

Table 4.12

Frequency Analysis of Income Level of Investors

Level	City Income Level of Investor	HYDERABAD		MUMBAI		TOTAL	
		Frequency	(%)	Frequency	(%)	Frequency	(%)
1	Below Rs.15,000 per month	38	12.3	39	11	77	11.6
2	Between Rs.15,001 - Rs.30,000 per month	87	28.2	118	33	205	31.0
3	Between Rs.30,001 to Rs.50,000 per month	95	30.7	144	41	239	36.1
4	Between Rs.50,001 to Rs.1,00,000 per month	76	24.6	45	13	121	18.3
5	Between Rs.1,00,001 to Rs.2,00,000 per month	13	4.2	7	2	20	3.0
	Total	309	100	353	100	662	100

Source: From primary data analysis using SPSS 20 software and MS- Excel

It is found that majority of investors belonged to level two and three of income level from Hyderabad and Mumbai. It can also be noticed that investors from income level five are very few in with an overall percentage (3%) from both the cities.

Table 4.13 presents the results from chi-square test conducted for testing the association between income level of investor and their perception on importance of awareness about macroeconomic variables.

Table 4.13

**Summary from Analysis of Chi-Square test between Variables:
Income Level of Investor and Macroeconomic Variables**

H_{7(d)}: Income Level*Macroeconomic Variables	HYDERABAD			MUMBAI		
	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Stock Market Fluctuation	62.277	16	0.000	14.082	16	0.593
Stock Market Sentiment	52.739	16	0.000	28.953	12	0.004
Unemployment Rate	97.49	16	0.000	21.342	12	0.046
Inflation	99.501	16	0.000	23.53	12	0.024
Gold/Silver/Crude Oil Prices	83.493	16	0.000	21.331	12	0.046
Foreign Direct Investment	81.877	12	0.000	29.243	12	0.004
IIP	107.31	16	0.000	24.09	16	0.088
Political Factors	50.782	12	0.000	37.049	12	0.000
Bank Interest Rate on Savings	95.154	16	0.000	20.338	16	0.205
Exchange Rate of Dollar/Euro	101.49	12	0.000	23.536	12	0.024
Corporate Earnings	95.252	16	0.000	32.267	16	0.009

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software and MS- Excel

It is found from the table 4.13 that for investors from Hyderabad income level has a statistically significant effect, as the significance values were less than 0.05 in the case of all macroeconomic variables. In case of investors from Mumbai, it is found that for four

variables out of eleven (i.e.) stock market fluctuation, political factors, bank interest rate on savings and exchange rate of currency there was no association with the income level of investors. Thereby, it can be concluded that investor perception from different income groups is not same in Hyderabad and Mumbai.

Investing Experience and Macroeconomic Variables

H_{7(e)}: Investing experience of investor has an association with their perception on the importance on awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.

Table 4.14 presents the summary of results obtained after analysing for chi-square test between each macroeconomic variables and investing experience of investors across two cities.

Table 4.14

Summary from Analysis of Chi-Square test between Variables: Investing Experience and Macroeconomic Variables

H_{7(e)}: Investing Experience*MEV	HYDERABAD			MUMBAI		
VARIABLES	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Stock Market Fluctuation	16.07	12	0.188	32.517	12	0.001
Stock Market Sentiment	12.554	12	0.402	27.519	9	0.001
Unemployment Rate	11.642	12	0.475	22.643	9	0.007
Inflation	18.032	12	0.115	27.384	9	0.001
Gold/Silver/Crude Oil Prices	10.764	12	0.549	21.376	9	0.011
Foreign Direct Investment	7.607	9	0.574	20.076	9	0.017
IIP	19.049	12	0.087	21.652	12	0.042
Political Factors	11.584	9	0.238	23.852	9	0.005
Bank Interest Rate on Savings	12.776	12	0.386	23.955	12	0.021
Exchange Rate of Dollar/Euro	16.824	9	0.052	5.596	9	0.780
Corporate Earnings	16.824	9	0.052	5.596	9	0.780

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software and MS- Excel

Table 4.14 indicates that investing experience has no association with the perception on importance of awareness level of macroeconomic variables for investors from Hyderabad. In case of Mumbai investors there is an association between all variables with investing experience except in the case of currency exchange rate and corporate earnings. For these two variables the significance p-values are higher than 0.05. Therefore it may be concluded that investing experience of investors effect not have an association with the awareness level of macroeconomic variables in case of Hyderabad investors and for Mumbai investors, there is a statistically significant association in case of nine out of eleven variables.

4.6 Conclusion

Chapter four presented brief literature on the association between investor's perception about the importance of macroeconomic variables on equity returns which are related to objective 1(a) and 1(b) respectively from the investor perspective.

Objective 1(a) comprised of six sub-hypotheses and has been tested using granger causality test. The results indicate the presence of bi-directional causality between exchange rate of USD to Rupee and Nifty stock movement.

Objective 1(b) consisted of five hypotheses to test for the presence of association between demographic variables and perception on importance of awareness on macroeconomic variables. The analysis was conducted using descriptive statistics and chi-square test of association. The results indicate that for Hyderabad investors, geographic location, age, education level and income level had a significant association.

For Mumbai investors, it was also noticed that location and age had association with perception of investors on macroeconomic variables, whereas for education level and income level there was no such association for few variables.

Investing experience was also not found to be associated with awareness level in Hyderabad and while in case of Mumbai it was significant for few variables. Overall, from the analysis, it was found that macroeconomic variables and their importance varied across various demographic attributes of investors.

CHAPTER V

CORPORATE ACTION'S AND THEIR IMPACT ON STOCK RETURNS AND INVESTOR PERCEPTIONS

CHAPTER – V

CORPORATE ACTION'S AND THEIR IMPACT ON STOCK

RETURNS AND INVESTOR AWARENESS

5.1 Introduction

Present chapter explains the effect of corporate actions on stock prices and investor perceptions. The study has been conducted from two dimensions which are framed as two sub-objectives 2(a) and 2(b) under objective two. The analysis and results for the same have been presented in two sections separately which are I and II. They contain discussion about the methodology adopted for analysis, description of the sample selected for the study, type of data collection process and results from analysis.

SECTION – I

5.2 Stock Prices, Markets, Semi-Strong Market Efficiency

Graham & Dodd (1951) in the book on “Security Analysis” indicate towards the existence of relation between stock return and dividends. Lintner, J. (1964), firms increase dividends under the belief that this increase in surplus is permanent. Fama, E. (1995), proposed the efficient market hypothesis and suggested the presence of three forms of market efficiency: (1) Strong Form, (2) Semi-Strong Form and (3) Weak Form of Market Efficiency. The strong form of market efficiency is where the prices reflect both publicly available and insider information; it is the strongest form of market. It also implies that the market information cannot be used for prediction of future prices, the technical analysis, fundamental analysis as well as the insider information are of no use in predicting future prices.

Elton, E & Gruber, M. (1970), is one of the oldest study on the investors' interest in the dividend, have illustrated that the preference towards dividends and capital gains from investments in a security is on account of taxation. According to their theory investors are interested in after-tax returns from stocks.

Black, F (1976) & Easterbrook (1984) have indicated that increase in dividends by management has positive impact on the shareholders, as dividends are paid out of excess funds and this balance is derived only after funding of all other expenses. Therefore increase in dividends would result in positive changes in stock prices and vice versa. Bhattacharya, S (1979), there is an existence of asymmetric information between the shareholders and management of the firms, therefore any change in dividends conveys information which is sensitive. Muhammad & Baig (2010), event study methodology has been most popularly used to investigate the presence of a semi-strong form of market efficiency. Information disclosures related to dividends and earnings announcements, macroeconomic variables, stock repurchase announcements, and mergers and acquisitions, etc., have been investigated in different studies to test the semi-strong form market efficiency. The relation between stock price of corporates and dividends has been researched upon abundantly and there is sufficient literature which supports and opposes this relation.

Nelson (1965) study on rights issue was conducted in United States during the period between 1946-1957 with the data of 380 rights offerings. The results indicated that investor returns were not affected on account of rights issue for around six months period before and after the announcement. Ball, Brown, & Finn (1977) conducted study on 193 listed firms from Melbourne/Perth Stock Exchanges over the period of 12 years during the

year 1958 to 1970. Monthly data was used and event study methodology was applied for analysis. The results indicated positive abnormal returns. Thus, concluding that Australian markets were efficient with respect to right issue announcement information.

White & Lusztig (1980) used pooled cross-sectional time series model on data from daily security returns to examine 90 rights issues over the period of 10 years from 1962 to 1972 in the U.S. markets. Their analysis indicated adverse response from markets for rights issue announcement of the stock prices. Kalay, A. (1982), argue that marginal tax rates are not the only factor that influences the ex-day phenomenon. He suggests that there are forces, caused by short term trades that reduce any tax induced effects. In this type of short term trades or transaction cost model arbitrage traders attempt to eliminate any difference between the price change and the dividend amount that is caused by tax clienteles. According to this model transactions costs are the final restriction that keeps the price drop from adjusting the same amount of dividend. Loderer & Zimmermann (1988) investigation in Switzerland Market on 122 rights issue announcement during 1973-1983 also indicated that there were insignificant average abnormal returns. Thus, indicating no effect of announcement.

The semi-strong form of market efficiency is where stock prices reflect public information which implies that changes in stock prices is on account of public information. Weak form of market efficiency is where changes in stock prices are random and investors cannot make more than average returns with any kind of investment strategy. Osei (1998) market efficiency is not only on account of information which is free and available on time, but also on account of those who trade and analyse market information. The

analytical and interpretational skill of traders influences the information which flows in the market followed by investor decisions.

Muhammad, A & Baig, H. (2010), public announcement of dividend should not result in abnormal returns for investors as this accounts for the existence of semi-strong form of market efficiency, which postulates that stock prices incorporate all expected future dividends. Therefore there should not be any abnormality in stock returns before and after the ex-dividend date.

There are opposing beliefs on the importance of tax as a motivation for equity investment. Chung, et al. (2005) study in Taiwan Stock Markets reveals that there is a positive association between the amount of stock bonus and firms operating performance. Fernando & Guneratne (2009) experimented on stock price performance on and around bonus issue announcements in Colombo stock exchange over period 1991 to 2007 using alternative return generating models; market-adjusted model, mean-adjusted model and risk-adjusted model. All four were used with the intention of providing a methodological triangulation the context of event study.

Peterson (1971) after a bonus issue announcement it is was observed that there was an increase in stock price. This increase may be accounted for due to the informational content of the bonus issue announcement. Mishra(2005) examined the stock price reaction to information content of bonus issue. The results indicated significant positive abnormal returns for a five day period prior to the bonus announcement. The results indicated towards the presence of semi-strong form of market efficiency of the Indian stock market. Madhuri, Thenmozhi, and Kumar (2007) in their study on Indian markets indicated towards negative reaction to the bonus issue announcement. Their conclusions

directed that there was an under reaction from the market. Suresh & Naidu (2016) found no evidence of wealth effect on Nifty stocks and existence of significant average abnormal returns on event day. The study was conducted on Nifty Stocks.

Description of Variables

Groves (2008) corporate action is an event initiated by company which affects it's shares. Another definition mentioned is "A corporate action occurs when changes are made to the capital structure or financial position of an issuer of a security that affects any security it had issued. For each company the corporate action will be set out by the articles of association."

A conservative estimate of number of corporate actions would be around 70, among which Bonus issues, Consolidation, Conversion, Dividends, Interest Payments, Redemption, Return of Capital, Rights issue, Scrip dividends, Share Buybacks, Takeover Bid, Voting and Warrant are perceived to be popularly important. Through the present study the focus is on four basic corporate actions that are dividend, bonus, rights issue and stock splits.

Dividend Announcement: Dividend on stocks is a proportion of the profits that are distributed by the company to it's shareholders. It is declared as a dividend per share depending upon the management board's decision. The Annual General Meeting of the company would decide on the payment and payout ratio of dividend to shareholders. Dividends are paid out of the retained earnings of the company, therefore when a cash dividend is announced it directly reduces the retained earnings of the firm to that extent. When a company pays dividend, the company's values reduces to the extent of the total payout, therefore it is believed that the stock prices may also reduce to the same extent.

But in practice this may not be true always, as stock prices are affected by several other factors too, and are dependent on the future forecast of firm's profits to a large extent. These dividends may be paid as cash dividends or as bonus shares.

Bonus Announcement: Bonus issue are extra free share's distributed to the existing shareholders of the company without any additional cost, number of bonus shares to be received depends upon the number of shares already owned by the investor. Thus, the issue of bonus shares increases the number of shares owned by the company, without any change in the ratio of shares held by each shareholder. This leads to the increase in the volume of stock. There is also an increase in the share capital of firm but decrease in reserves, as bonus shares are issued by converting the reserves of the company into share capital.

From the investors perspective the investment in the firm does not change immediately, but post announcement the share price per share may reduce to the extent of bonus issued. The earnings per share will also change post issue as the earnings have to be divided by the new increased number of shares. Bonus issue is perceived to be a symbol of company's good health and may bring in capital gains in long run with increase in stock prices.

Stock Split: "It is an announcement detailing the issue of new shares to existing shareholders in a pre-determined ratio, which is approved in the board meeting. The company announces the split ratio and the record date. All the shareholders as on this date are eligible to receive additional shares. The existing share is split and hence the number of shares held increases but the face value of each share may decrease." (Pandey, 2015), the reason for stock split of normal shares by a company is as follows:

- To make trading in shares attractive

- To signal the possibility of profits in the future.
- To give higher dividend per share to the shareholders

Rights Issue: A rights issue (offering) is made by company to existing shareholders; this offer entitles the shareholders to buy additional shares of the company within a certain time-frame. These shares can be bought at a certain ratio usually dependent upon the number of shares held by each shareholder and the shares are offered at a discounted price. Rights are often transferable in open market.

Rights are offered by company when they need to raise additional capital. This usually occurs during times of economic slowdown when capital cannot be raised from other financial institutions. From the corporate perspective this is an easy source of financing without raising the burden of debt for firms and for shareholders also it's a benefit to buy shares at a discounted price. Hence it becomes a win-win situation for both shareholders and corporates.

There are also some negative perspectives which flow in market along with rights issue. As rights issue are observed to be indicative of a weak financial position of the company unless it comes along with some other corporate action or explanation.

5.3 Objectives and Hypotheses

2(a) To Study the effect of corporate actions on stock returns of companies in Indian markets. (Proxy is the set of companies listed under Nifty 50 Index)

H_8 : There is an effect of ex-dividend date on stock returns of Nifty firms

$H_{8(a)}$: There is an effect of ex-dividend date on stock returns of Nifty firms for 61days event window.

$H_{8(b)}$: There is an effect of ex-dividend date on stock returns of Nifty firms for 31 days event window.

$H_{8(c)}$: There is an effect of ex-dividend date on stock returns of Nifty firms for 11 days event window.

H_9 : There is an effect of ex-bonus date on stock returns of Nifty firms.

$H_{9(a)}$: There is an effect of ex-bonus date on stock returns of Nifty for 61 days event window.

$H_{9(b)}$: There is an effect of ex-bonus date on stock returns of Nifty for 31 days event window.

$H_{9(c)}$: There is an effect of ex-bonus date on stock returns of Nifty firms for 11 days event window.

H_{10} : There is an effect of ex-rights date on stock returns of Nifty firms.

$H_{10(a)}$: There is an effect of ex-rights date on stock returns of Nifty firms for 61 days event window.

$H_{10(b)}$: There is an effect of ex-rights date on stock returns of Nifty firms for 31 days event window.

$H_{10(c)}$: There is an effect of ex-rights date on stock returns of Nifty firms for 11 days event window.

H_{11} : There is an effect of ex-splits date on stock returns of Nifty firms.

$H_{11(a)}$: There is an effect of ex-splits date on stock returns of Nifty firms for 61 days event window.

$H_{11(b)}$: There is an effect of ex-splits date on stock returns of Nifty firms for 31 days event window.

H_{11(c)}: There is an effect of ex-splits date on stock returns of Nifty firms for 11 days event window.

Description of Sample

Overall there were 224 announcements before screening from 50 companies listed in Annexure-1 which was selected after checking for any overlap with other announcements. Ex-event date for each corporate action has been considered to be the event date, as on/after this date shares do not carry the effect of corporate action (discussed in chapter three in detail).

The final sample contained 104 events for ex-dividend dates; there were 14 ex-bonus events; 2 ex-rights date events and 11 ex-split date events. The data included is for the period January 1st, 2011 to December 31st, 2015. All such ex-event dates which were overlapping were screened before selection of final sample.

Statistical Techniques for Analysis

Brown & Warner (1985), “*One of the most popularly used methods is event study analysis is to capture effect of an event on stock prices.*” Data collection procedure, criteria for sample selection and procedure adopted for analysis has been illustrated in detail in section –II of chapter three.

Inferential Statistics and Results from Analysis

Abnormal returns are estimated from the market model. Paired t-test and Wilcoxon Signed Rank Test are used to test the significance of abnormal returns before and after the event. Abnormal Returns are classified into three event windows to understand the reaction of stock returns during 61 days i.e. 30 days during pre-announcement and 30 days post-announcement of each event 31 days windows, where 15 days pre-announcement and 15

days post-announcement, and lastly short term period of 11 days event window that is 5 days pre-announcement and 5 days post announcement have been involved in the study. The reason for selecting three event windows is to capture reaction of stock prices for different timelines.

Event Window: (1) -30 to +30 (61 days)

(2) -15 to +15 (31 days)

(3) -5 to +5 (11 days)

5.4 Discussion on Results from Analysis for Objective 2(a)

Results from Analysis and Results for Dividend Announcement (Ex-dividend date)

H_8 : There is an effect of ex-dividend date on stock returns of Nifty firms

$H_{8(a)}$: There is an effect of ex-dividend date on stock returns of Nifty firms for 61 days event window.

$H_{8(b)}$: There is an effect of ex-dividend date on stock returns of Nifty firms for 31 days event window.

$H_{8(c)}$: There is an effect of ex-dividend date on stock returns of Nifty firms for 11 days event window.

Table 5.1 presents the summarised results from paired t-test, which is a parametric test and Wilcoxon Rank Test which is a non-parametric test for average abnormal returns (AAR) for ex-dividend date for three event windows separately.

Table 5.1

Analysis of Average Abnormal Returns for Ex-Dividend Date

Hypotheses	Event Window	Correlation	Paired Sample t-test			Wilcoxon Signed Rank Test
			t	d.f.	*Sig.	
H _{8(a)}	Dividend 61 Days	0.271	1.968	29	0.059	0.058
H _{8(b)}	Dividend 31 Days	-.050	1.414	14	0.179	0.256
H _{8(c)}	Dividend 11 Days	-.220	0.32	4	0.765	0.686

**Note:* tested at 5% level of significance

Source: From primary data analysis using SPSS 20 software and MS-Excel

The reason for using both the parametric and non-parametric tests is to cross verify the results as the data involved is stock prices and may not be normal for all events. From the table 5.1 it is found that the p-values for t-statistic are higher than 0.05 for all three event windows for both tests. As the p-values are higher than 0.05, it can therefore be concluded that there is no statistically significant difference in the mean and median of average abnormal returns during pre-event and post-event period and hence it is concluded that the dividend announcement's depending upon ex-dividend dates have not created statistically significant impact on stock returns for all three event windows.

Figure 5.1 presents the movement of CAAR for all ex-dividend dates for the event window of 61 days.

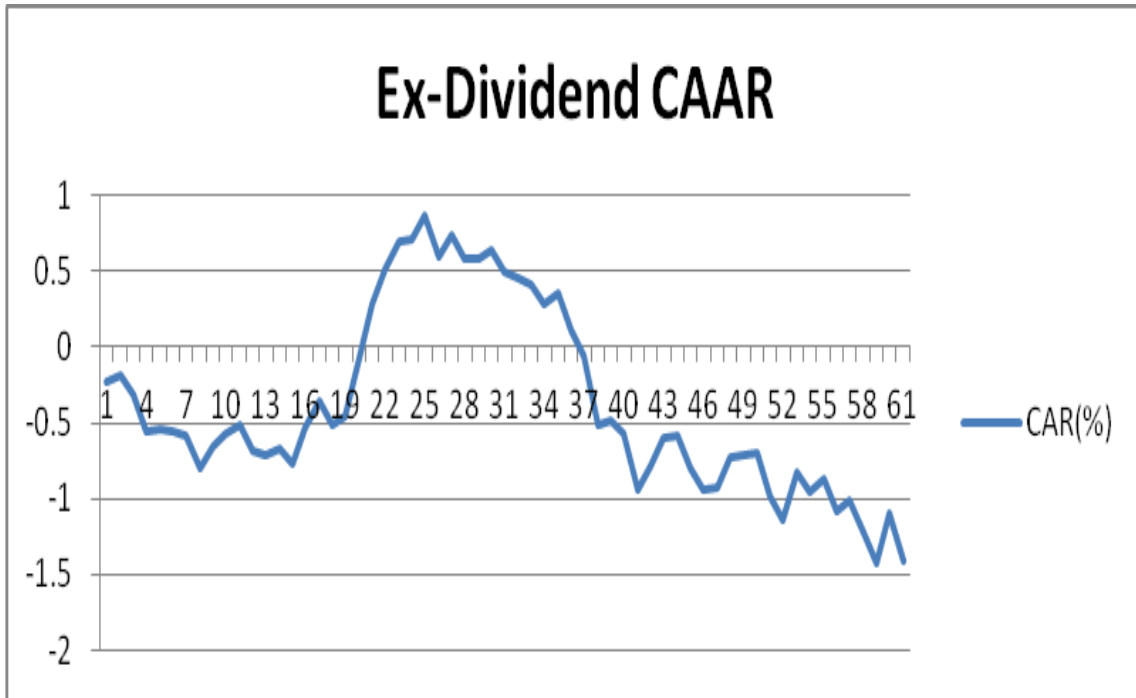


Figure 5.1 CAAR Movement: The Pre and Post Ex-Dividend Dates

Source: Analysis of secondary data using MS-Excel

It is found from above figure that CAAR are positive mostly during day +19 to day -26 of event window. A positive CAAR is an indication to the investors in the market that the stocks are doing better than the estimated returns. Investors can get higher returns if they invest in stocks during the time when CAAR is negative and withdraw when CAAR becomes positive. From figure 5.1, it is found that the CAAR are negative during day 14, so this could perhaps be the right time to sell/buy decision, as the prices abnormal prices are low and then hold until day 25 and 26, where it is found that the CAAR are at the peak so this is the right time to sell the stocks to take advantage of corporate action.

Results from Analysis for Bonus Announcement: Ex-Bonus Date

H₉: There is an effect of an ex-bonus date on stock returns of Nifty firms.

H_{9(a)}: There is an effect of ex-bonus date on stock returns of Nifty for 61 days event window.

H_{9(b)}: There is an effect of ex-bonus date on stock returns of Nifty for 31 days event window.

H_{9(c)}: There is an effect of ex-bonus date on stock returns of Nifty firms for 11 days event window.

Table 5.2 represents the results from paired t-test, which is a parametric test and Wilcoxon Rank Test which is a non-parametric test applied on calculated AAR for an ex-bonus announcement.

Table 5.2

Summary of Analysis for Average Abnormal Returns for Ex-Bonus Date

Hypotheses	Event Window	Correlation	Paired Sample t-test			Wilcoxon Signed Rank Test
			t	d.f.	*Sig.	*Sig.level 5%
H _{9(a)}	Bonus 61 Days	.070	2.176	29	.038	0.026
H _{9(b)}	Bonus 31 Days	.134	3.746	14	.002	0.005
H _{9(c)}	Bonus 11 Days	-.267	2.001	4	.116	0.046

Note: tested at 5% level of significance

Source: From primary data analysis using SPSS 20 software and MS-Excel

It can be concluded that there is statistically significant difference in the mean and median of average abnormal returns for two event windows and partially for 11 days as well, it is

suggestive that the ex-bonus dates have created statistically significant impact on stock returns.

Figure 5.2 illustrates the movement of CAAR for all the ex-bonus dates during 61 days event window.

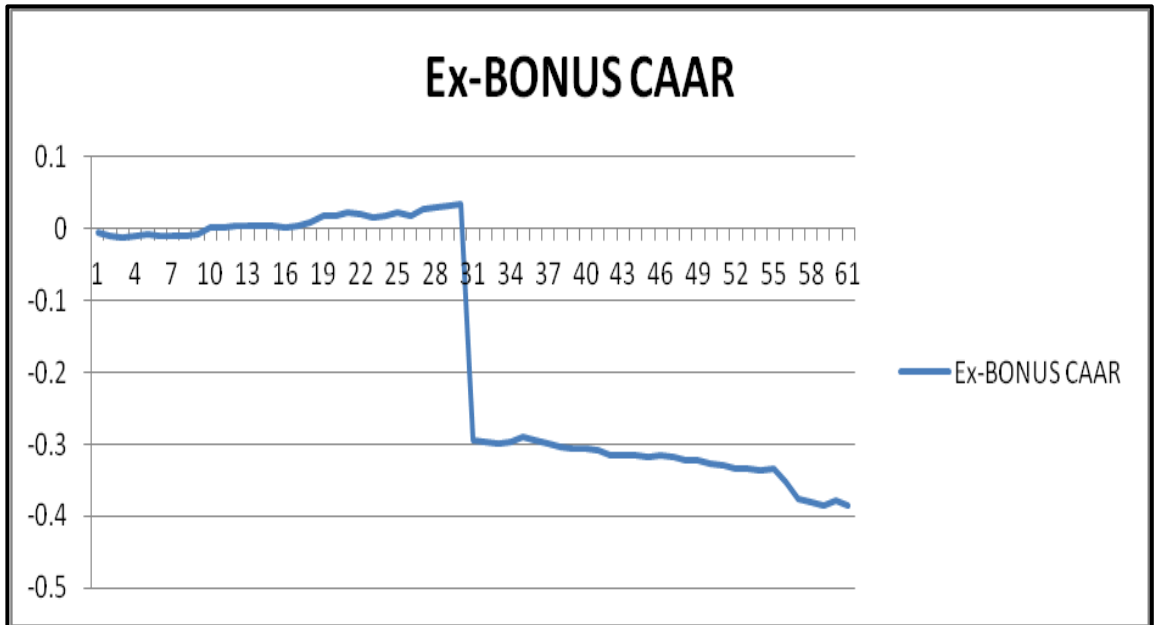


Figure 5.2 CAAR Movements for Pre and Post Ex-Bonus Dates

Source: Analysis of secondary data using MS-Excel

It can be observed visually that CAAR are on a rise from day 17 onwards until day 30, after which CAAR are negative. This trend explains that the actual returns are higher than expected returns therefore stock returns are higher during the pre-announcement period and immediately after it the stock returns have suddenly become negative. This could be on account of the ex-bonus date effect. Once the shares have become ex-bonus then the returns on them started to fall.

Results from Analysis for Stock Split Announcement: Ex-Split Date

H₁₀: There is an effect of ex-rights date on stock returns of Nifty firms.

H_{10(a)}: There is an effect of ex-rights date on stock returns of Nifty firms for 61 days event window.

H_{10(b)}: There is an effect of ex-rights date on stock returns of Nifty firms for 31 days event window.

H_{10(c)}: There is an effect of ex-rights date on stock returns of Nifty firms for 11 days event window.

Table 5.3 presents the summarised results from paired t-test, which is a parametric test and Wilcoxon rank test where in non-parametric test applied on calculated AAR for ex-splits announcement.

Table 5.3

Summary for Analysis of Average Abnormal Returns for Ex-Split Date

Hypotheses	Event Window	Correlation	Paired Sample t-test			Wilcoxon Signed Rank Test
			t	d.f.	*Sig.	
H _{11(a)}	Ex-Splits 61 Days	0.190	3.561	29.000	0.001	0.000
H _{11(b)}	Ex-Splits 31 Days	0.415	3.377	14.000	0.005	0.009
H _{11(c)}	Ex-Splits 11 Days	0.938	3.947	4.000	0.017	0.043

Note: tested at 5% level of significance

Source: From primary data analysis using SPSS 20 software and MS-Excel

From the table 5.3 it is found that the p-values for t-statistic are less than 0.05 for all three event windows for Wilcoxon signed rank test as well as for paired t-test. It can therefore

be concluded that there is statistically significant difference in the mean and median of average abnormal returns and the stock split announcement has created statistically significant impact on stock returns.

Figure 5.3 illustrates the movement of CAAR for all Ex-Split's dates during 61 days event window.

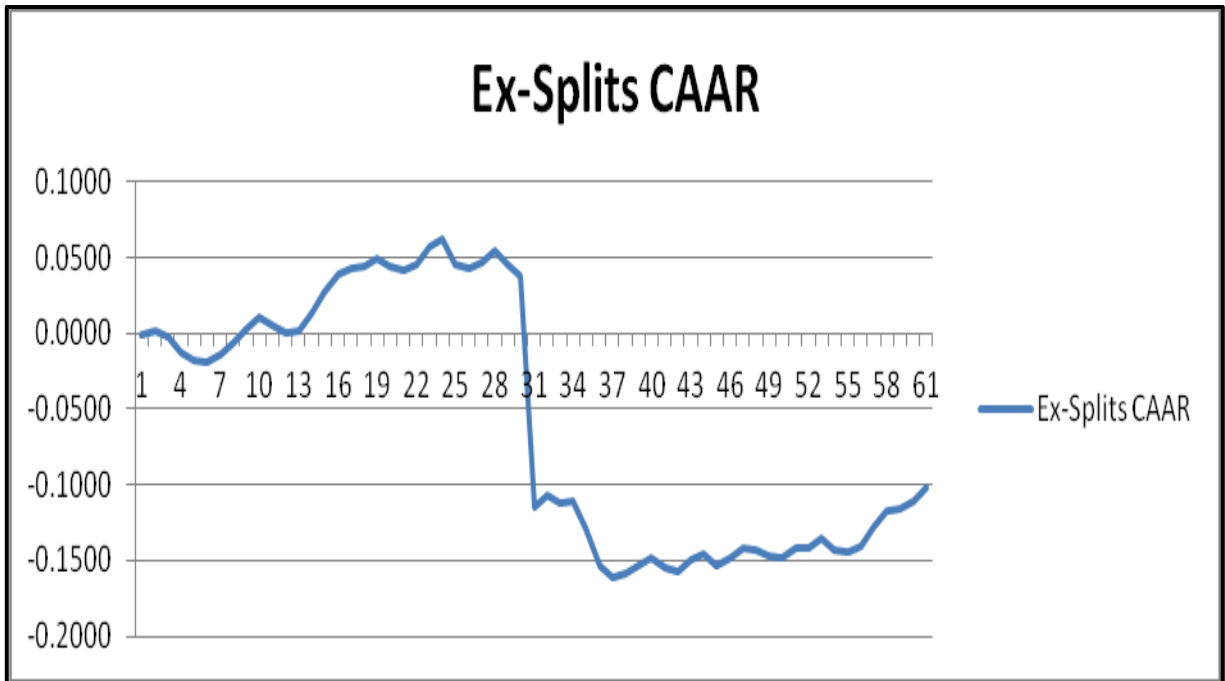


Figure 5.3 CAAR Movements for Pre and Post Ex-Splits Date

Source: From primary data analysis using SPSS 20 software and MS-Excel

It can be observed from graph that that CAAR are on a rise from day 13 onwards until day 30, after which CAAR are negative. This trend explains that actual returns are higher than expected returns therefore stock returns are higher during the pre-announcement period and immediately after it the CAAR started diminishing gradually until day 55 after that again start rising. Once the shares have become ex-split the returns on them have started to

fall, which could be on account of fall in the value of shares. It is also observed that the CAAR slowly started increasing from day 55 onwards, which is a positive sign.

Analysis for Rights Announcement: Ex-Rights Date

H₁₁: There is an effect of ex-rights date on stock returns of Nifty firms.

H_{11(a)}: There is an effect of ex-rights date on stock returns of Nifty firms for 61 days event window.

H_{11(b)}: There is an effect of ex-rights date on stock returns of Nifty firms for 31 days event window.

H_{11(c)}: There is an effect of ex-rights date on stock returns of Nifty firms for 11 days event window.

Table 5.4 represents the results from paired t-test and Wilcoxon rank test applied on calculated AAR for ex-rights announcement.

Table 5.4

Summary for Analysis of Average Abnormal Returns for Ex-Rights Date

Hypotheses	Event Window	Paired Sample t-test			Wilcoxon Signed Rank Test
		t	d.f.	*Sig.	*Sig.level 5%
H _{11(a)}	Ex-rights 61 Days	-1.294	29	0.206	0.254
H _{11(b)}	Ex-rights 31 Days	-2.048	14	0.06	0.047
H _{11(c)}	Ex-rights 11 Days	-1.097	4	0.334	0.225

Note: tested at 5% level of significance

Source: From primary data analysis using SPSS 20 software and MS-Excel

Table 5.4 present the results of the parametric and non-parametric tests. Two methods have been used to cross verify the results as the data involved is stock returns and hence for each of the estimation period the data may not be normal. From the above results it is

found that the p-values for t-statistic are greater than 0.05 for all three event windows for Wilcoxon signed rank test as well as for paired t-test. It can therefore be concluded that there is no statistically significant difference in the mean and median of average abnormal returns, and the ex-rights dates have not created any statistically significant impact on stock returns.

Figure 5.4 presents the movement of all the CAAR for ex-rights date during 61 days event window

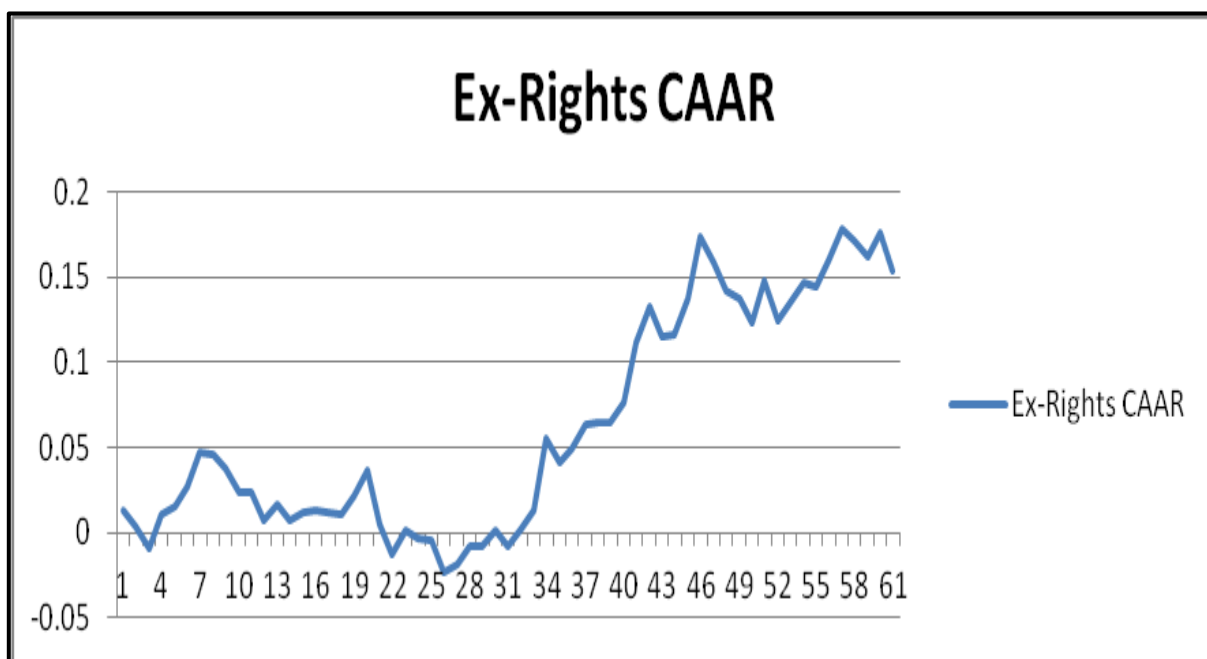


Figure 5.4 CAAR Movements for Pre and Post Ex-Rights Date

Source: Analysis of secondary data

It can be observed from the above figure 5.4 that cumulative average abnormal returns are on a rising trend after the ex-date. From the study of corporate actions using event study methodology it can be concluded that except in the case of ex-dividend and rights issue other two announcements had a significant effect on stock prices for almost all the event

windows, thus indicating existence of semi-strong form of market efficiency. It was also found during the process of analysis that these events had a statistically significant difference in abnormal returns for pre and post event period when tested for individual events.

SECTION – II

5.5 Investor Perceptions and Corporate Actions

The decision making process of investors has been understood through new paradigms and theories of behavioural finance. The concepts of economics, finance and cognitive psychology are combined and attempted to be understood from the perception of human behaviour in financial markets. (Shanmugasundaram & Balakrishnan, 2009), an investor who has control over his emotions would be able to use his finances for hedging against inflation by identifying sources of right analytical presentations and by sparing sufficient time for investment decision for directly partaking in the stock market operation including futures and options, else he may choose the mutual fund route or through a portfolio manager and operate through systematic plan.

Lovric & Spronk(2008) suggested a financial model that can be used to build stylised representation of individual investors and further studied using the paradigm of agent based artificial financial markets. Mittal & Vyas. (2008) study presented the relationship between demographic characteristics and the investment personality exhibited by investors. In this study Indian investors have been classified as four dominant personalities namely casual, technical, informed and cautious.

Harsha & Kerav (2012) study endeavour's to understand the factors which influence the decision of investors to purchase equity shares. It was found that firms image, personal financial position, advocate recommendations, track record, relevance to the community, neutral information, economic factors, and individual dynamics were the most influential factors. Pawar (2013) conducted study on investor behaviour towards market information in Indian markets. The conclusions of the study indicate that investors prefer to wait and watch before making their investment decision. They also try and analyse such information which they think could alter the risk profile of companies.

Jain & Mandot. (2012) conducted study on individual investors in Rajasthan to understand the relation between demographic factors and investment decision. It was found that demographic factors like age, marital status, gender, city, income level, market knowledge, occupations and qualifications have major impact. (Sharma & Gupta, 2011) concluded through their study, that investment decision is mainly influenced by risk, return, peer influence, recommendations of financial advisors and market trends.

5.6 Objectives and Hypotheses

2(b) To make a comparative analysis on perceptions of individual investors on the importance of awareness on corporate actions for equity investment decisions from Hyderabad and Mumbai

H_{12(a to d)}: City of residence of investor has an association with their perception on the importance of awareness about corporate actions for equity investment decisions from Hyderabad and Mumbai.

H_{13(a to d)}: Age of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{14(a to d)}: Education level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{15(a to d)}: Income level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{16(a to d)}: Investing experience of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

Description of Survey data and pilot study (it has been presented in chapter four under sub-sections 4.6 and 4.7 on page number 105)

5.7 Discussion on Results from Analysis for Objective 2(b)

Results of Reliability Test - Corporate Actions

It is a measure for consistency between multiple measurements of variables and is conducted to ensure that the responses are not widely varying. Cronbach's alpha is a measure to test the internal consistency of items in a scale. It is a measure of scale reliability, or an efficiency of reliability. Hair, et al. (2011) states in his book on "Multivariate analysis" that "Cronbach's alpha is a measure of reliability that ranges from 0 to 1, with values of 0.60 to 0.70 deemed to be the lower limit of acceptability using SPSS software."

Table 5.5

Results of Reliability Test (Q. No. 20)

Sub-scale Variables	Cronbach's Alpha	Number of items
Corporate Actions	0.756	4

Source: From analysis of primary data using SPSS 20 and MS-Excel software

The alpha coefficient for individual sub scale and overall items, suggests that the items have relatively high internal consistency. (Note that a reliability coefficient of .60 or higher is considered "acceptable" in most social science research situations). In the present study the reliability level of subscale variables and overall variables the alpha values has been found to be satisfactory. The perception of investors has been taken using survey method for four corporate actions mentioned below. Five point Likert scale has been used to collect feedback.

Table 5.6

Corporate Actions Included for the Study

S.No.	Corporate Actions
1	Dividend Announcement
2	Bonus Announcement
3	Rights Issue Announcement
4	Stock Split Announcement

These four events have been selected based on their popularity, availability of information and their importance. Feedback from investors are taken based on five point likert scale where “1” represented “strongly disagree” and “5” meant “strongly agree.

Figure 5.5 presents the graphical representation of the investor feedback on the importance of dividend issue announcement made by corporates.

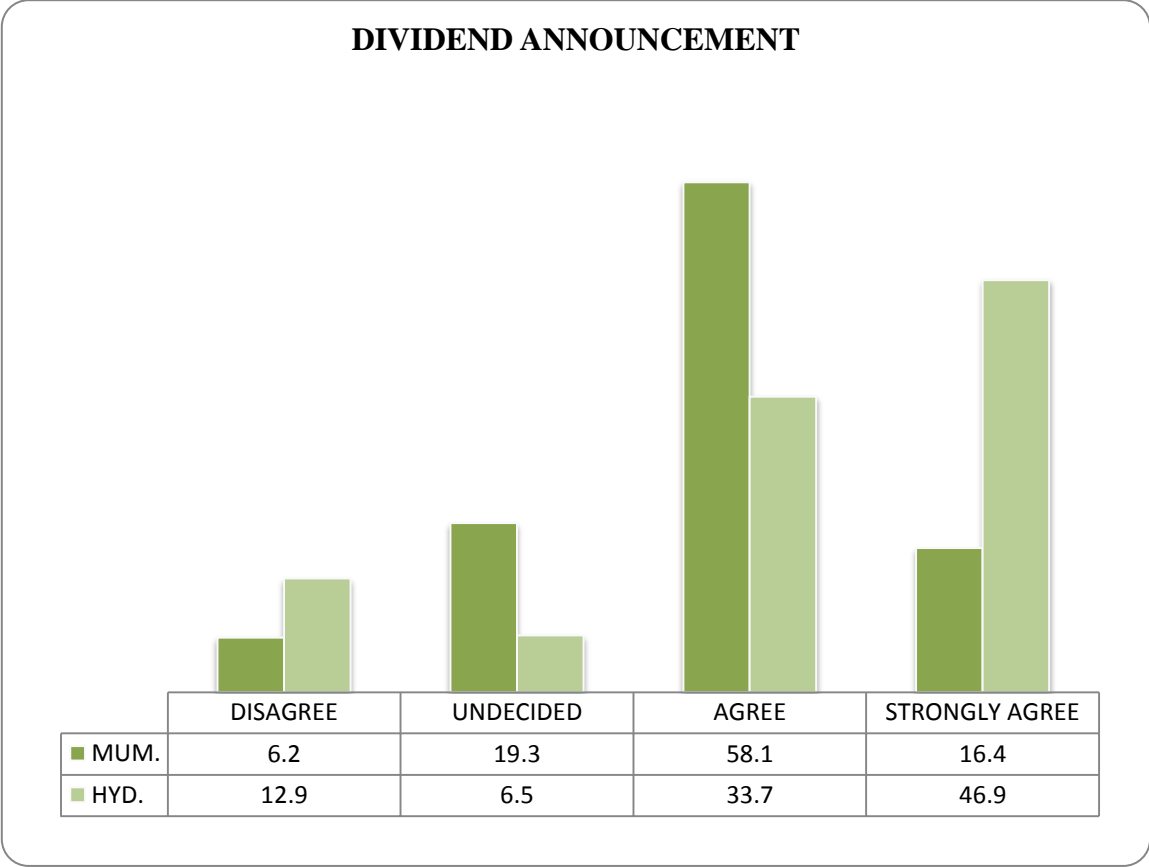


Figure 5.5 Investor Perceptions - Dividend

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Investor perception about the importance of awareness about dividend announcement was found to be positive from both the cities. As observed 75% of investors from Mumbai and 80% investors from Hyderabad either agreed or strongly agreed to the statement that “dividend announcements are important information for equity investing decision.”

Figure 5.6 presents the graphical representation of the investor feedback on the importance of bonus issue announcement made by corporates.

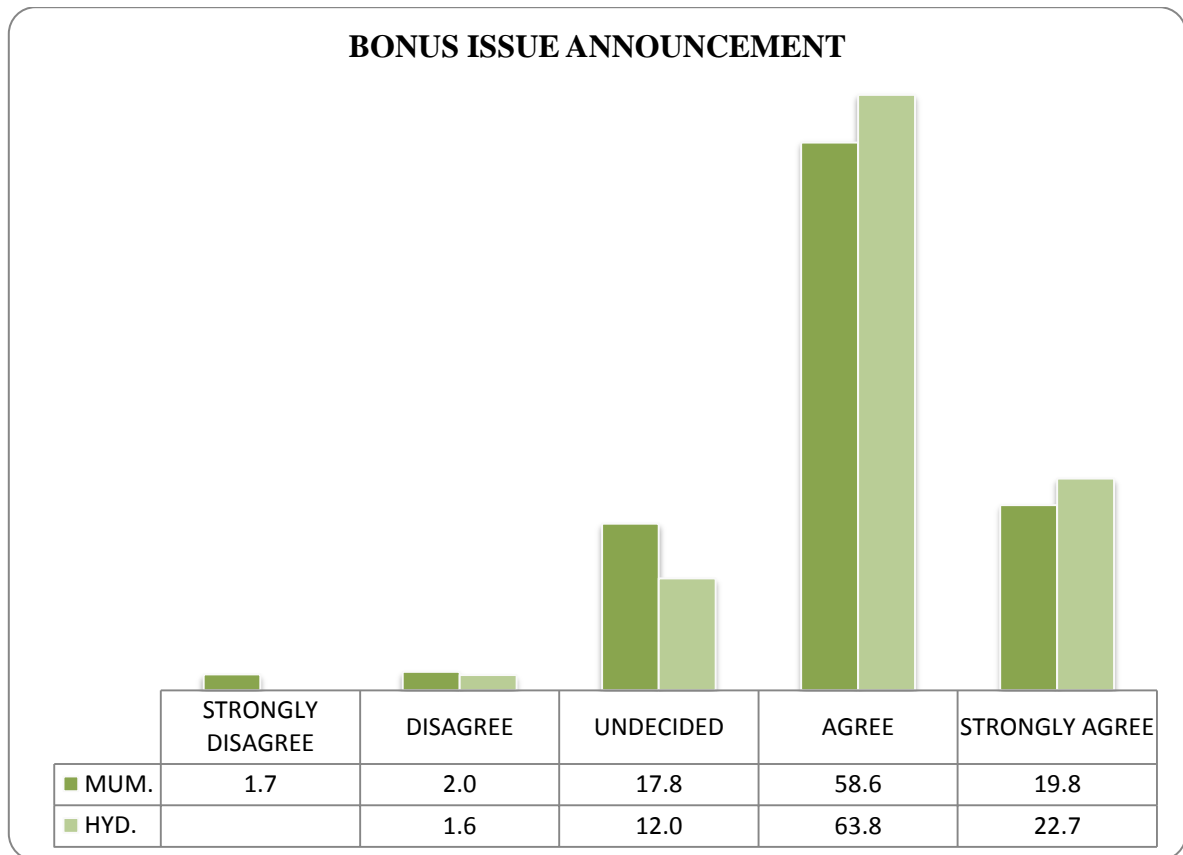


Figure 5.6 Investor Perceptions - Bonus Issue

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Figure 5.6 illustrates that majority of individual investors, that is, 78.4% of individual investors from Mumbai and 86.5% from Hyderabad either agree or strongly agree to the statement that information on bonus announcements has an impact on equity returns from the analysis of secondary data. At the same time it can also be observed that a section of investors are still not sure about the importance of bonus announcement. It can also be observed that higher numbers of investors from Mumbai have stated they are undecided on the importance of bonus issue when compared to those from Hyderabad.

Figure 5.7 presents the graphical representation of the investor feedback on the importance on stock-splits announcement made by corporates.

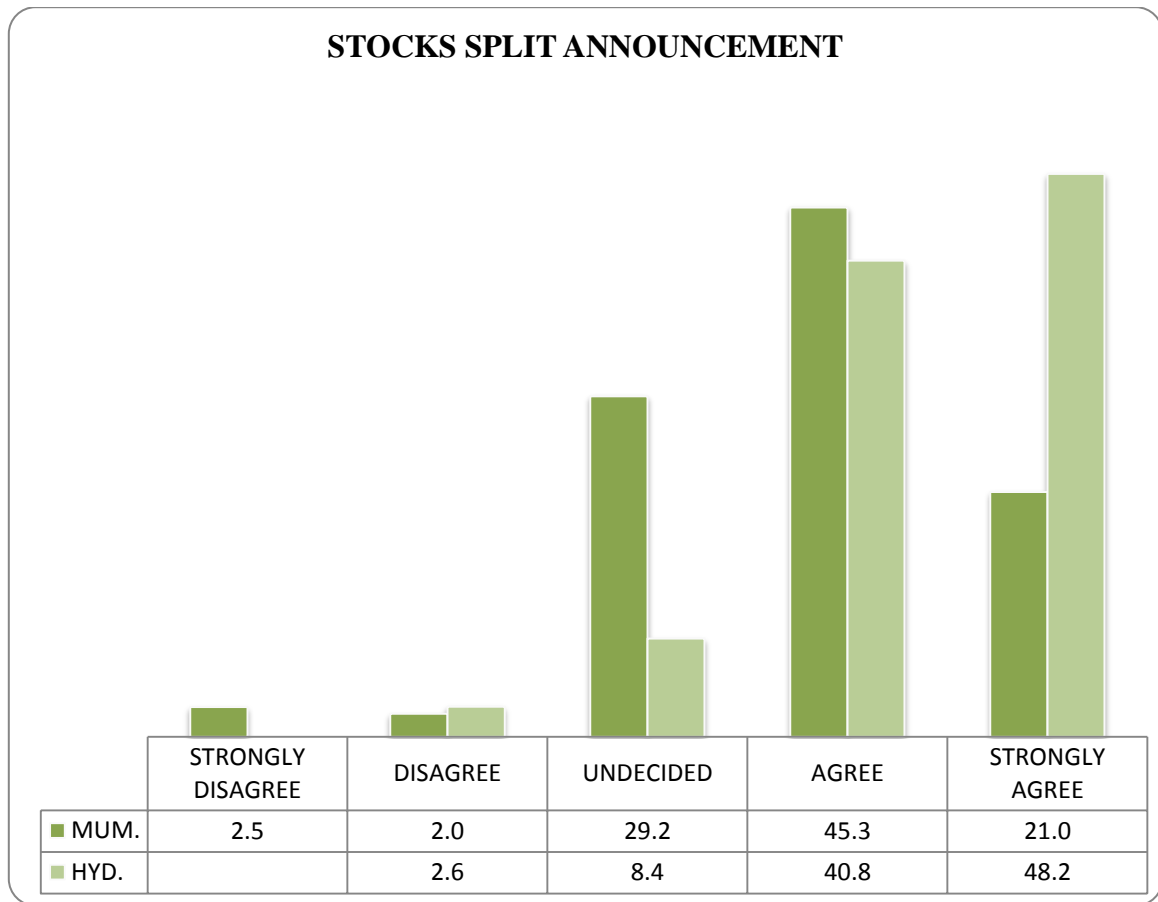


Figure 5.7 Investor Perceptions - Stock Split

Source: From analysis of primary data using SPSS 20 and MS-Excel software

For stock split announcements it can be noticed that a section of investors from Mumbai indicate they are not sure about impact of this announcement, and it is 29.2%. It's also found that approximately 66% of investors understand the importance of stock split information from Mumbai and approximately 89% from Hyderabad agree or strongly agree that this announcement is very important.

Figure 5.8 presents the graphical representation of the investor feedback on the importance of rights issue announcement made by corporates.

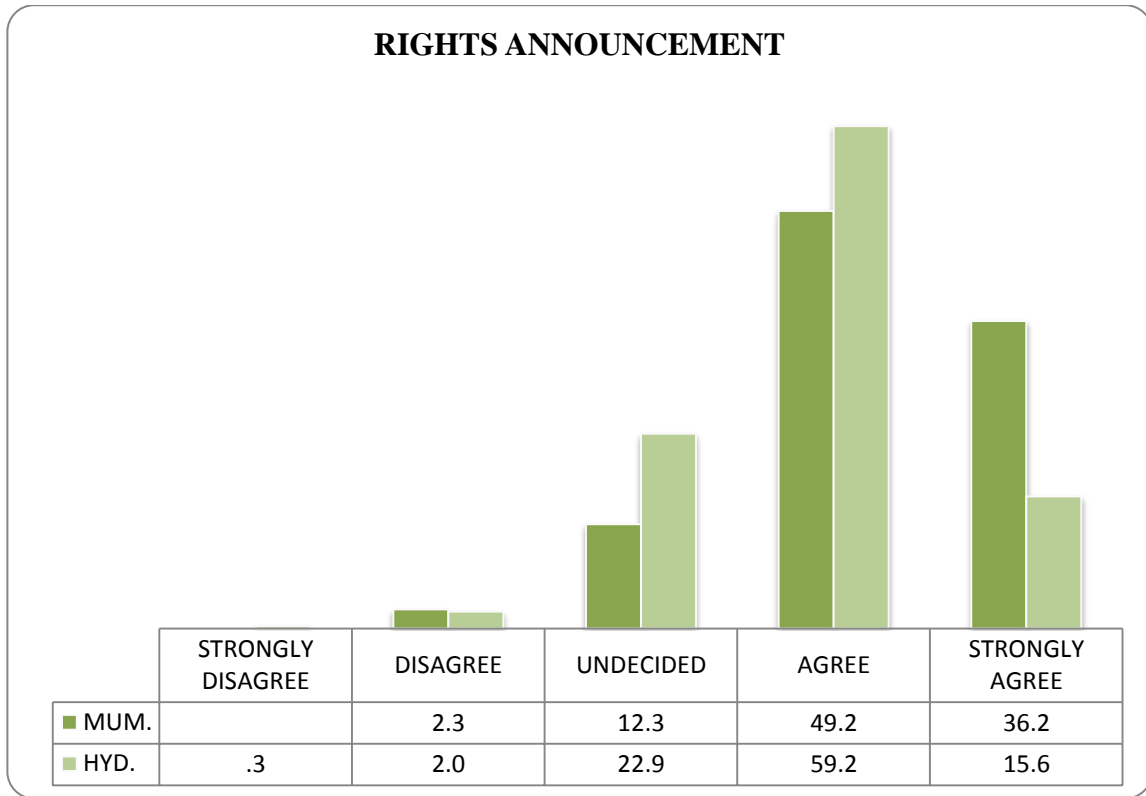


Figure 5.8 Investor Perceptions - Rights Issue

Source: From analysis of primary data using SPSS 20 and MS-Excel software

It can be found that except for a small section of investors in the sample all other agree that rights announcement of companies affects their equity investment decisions. A small section of investors from both cities 2.3% from Mumbai and 2% from Hyderabad disagree or strongly disagree towards the importance of rights issue announcements. From the above four graphic presentations it can be concluded that the respondents from the sample agree and understand that corporate actions have an influence on their decisions.

Association between City of Residence and Investor Perception on Corporate Actions

H₁₂: City of residence of investor has an association with their perception on the importance of awareness about corporate actions for equity investment decisions from Hyderabad and Mumbai.

H_{12(a)}: There is an association between perceptions of investors on dividend announcement and city of residence.

H_{12(b)}: There is an association between perceptions of investors on bonus issue announcement and city of residence.

H_{12(c)}: There is an association between perceptions of investors on stock split announcement and city of residence.

H_{12(d)}: There is an association between perceptions of investors on rights issue announcement and city of residence.

Table 5.7

Summary from Analysis of Chi-Square test between Variables: City of Residence and Corporate Actions

Hyp.	Variables (City and Perception on corporate Announcements)	Chi-square value	d.f.	*Asymp. Sig. (2-sided)
H_{12(a)}	Dividend Announcement	99.220	4	.000
H_{12(b)}	Bonus Announcement	10.463	4	.033
H_{12(c)}	Rights Issue Announcement	42.255	4	.000
H_{12(d)}	Stock Split Announcement	81.731	4	.000

Note * at 5% level of significance

Source: From analysis of primary data using SPSS 20 and MS-Excel software

A chi-square test of association was calculated for comparing perceptions of investors on corporate action between two cities (Hyderabad & Mumbai). Table 5.7 presents the

summarised results. It was found that there was a significant interaction between corporate announcements and city of residence, indicating that city of residence was vital and affected the perceptions of individual investors.

Association between Age of Investor and Investor Perception on Corporate Actions

H₁₃: Age of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{13(a)}: There is an association between perceptions of investors on dividend announcement and age across two cities.

H_{13(b)}: There is an association between perceptions of investors on bonus issue announcement and age across two cities.

H_{13(c)}: There is an association between perceptions of investors on stock split announcement and age across two cities.

H_{13(d)}: There is an association between perceptions of investors on rights issue announcement and age across two cities.

The table 5.8 presents the summarised results of chi-square test conducted to test for association between four corporate actions and city of residence of investors.

Table 5.8

Summary from Analysis of Chi-Square Test Between Variables: Age of Investor and Corporate Actions

Hyp.	CITY	HYDERABAD			MUMBAI		
	Corporate Action	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
H_{13(a)}	Dividend Announcement	21.026	9	0.012	55.619	9	0.000
H_{13(b)}	Bonus Issue Announcement	60.215	9	0.000	100.41	12	0.000
H_{13(c)}	Stock Split Announcement	33.116	9	0.000	123.24	12	0.000
H_{13(d)}	Rights Issue Announcement	34.688	9	0.000	64.123	12	0.000

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

It is believed that age of investor has an impact on the perceptions of investors regarding the importance of corporate actions for making equity investment decisions. The summarised results from table 5.8 indicate that the p-values are less than 0.05 thus indicating that age of investor has an impact on investor perceptions.

Association between Education Level of Investor and Perception on Corporate Actions

H₁₄: Education level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{14(a)}: There is an association between perceptions of investors on dividend announcement and education level across two cities.

H_{14(b)}: There is an association between perceptions of investors on bonus issue announcement and education level across two cities.

H_{14(c)}: There is an association between perceptions of investors on stock split announcement and education level across two cities.

H_{14(d)}: There is an association between perceptions of investors on rights issue announcement and education level across two cities.

Table 5.9 presents the summarised results of chi-square test conducted to test for association between four corporate actions and education level of residence of investors from both the cities.

Table 5.9

Summary from Analysis of Chi-Square Test Between Variables: Education Level of Investor and Corporate Actions

Hyp.	CITY	HYDERABAD			MUMBAI		
		Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
H _{14(a)}	Dividend Announcement	24.173	18	0.149	71.823	18	0.000
H _{14(b)}	Bonus Issue Announcement	38.602	18	0.003	22.658	24	0.540
H _{14(c)}	Stock Split Announcement	22.895	18	0.195	31.678	24	0.135
H _{14(d)}	Rights Issue Announcement	27.153	18	0.076	17.446	24	0.829

Note * at 5% level of significance

Source: From analysis of primary data using SPSS 20 and MS-Excel software

It is found that education level of investors does not have much association with the perceptions of investors regarding the importance of corporate actions for making equity investment decisions. The results from table 5.9 indicate that the p-values are less than 0.05 in case of dividends (Mumbai) and Bonus issue (Hyderabad) thus indicating that education level does not have much impact on investor perceptions.

It can also be observed that stock split and rights issue announcement are not having statistically significant values and hence it may be concluded that these two announcements are not perceived to be important by investors from both the cities.

Association between Income Level of Investor and Perception on Corporate Actions

H₁₅: Income level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{15(a)}: There is an association between perceptions of investors on dividend announcement and income level across two cities.

H_{15(b)}: There is an association between perceptions of investors on bonus issue announcement and income level across two cities.

H_{15(c)}: There is an association between perceptions of investors on stock split announcement and income level across two cities.

H_{15(d)}: There is an association between perceptions of investors on rights issue announcement and income level across two cities.

The table 5.10 presents the summarised results of chi-square test conducted to test for association between four corporate actions and income level of investors.

Table 5.10

Summary from Analysis of Chi-Square Test Between Variables: Income Level of Investor and Corporate Actions

Hyp.	CITY	HYDERABAD			MUMBAI		
	CORPORATE ACTION	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
H _{15(a)}	Dividend Announcement	120.89	12	0.000	19.910	12	0.069
H _{15(b)}	Bonus Issue Announcement	48.691	12	0.000	45.100	16	0.000
H _{15(c)}	Stock Split Announcement	66.363	12	0.000	32.093	16	0.010
H _{15(d)}	Rights Issue Announcement	39.157	12	0.000	26.103	16	0.053

Note * at 5% level of significance

Source: From analysis of primary data using SPSS 20 and MS-Excel software

It is believed that income level of investors has an association with the perceptions of investors regarding the importance of corporate actions for making equity investment decisions. The results indicate that the p-values are less than 0.05 thus indicating that income level has an impact on investor perceptions in case of Hyderabad. In case of Mumbai investor no such association is found to exist in case of dividend and rights issue. This trend could be on account of majority of investor (74%) belonging to income level between Rs.15,000 to Rs.50,000. As the concentration of sample is more around these income levels and the remaining levels share a marginal proportion, there is no statistically significant difference in perceptions of investors across income level in Mumbai city. It may be concluded that the perceptions of investors about the importance of awareness on the dividend and rights issue announcement is same among investors from Mumbai across all income groups.

Association between Investing Experience and Investor Perception on Corporate Actions Across two cities.

H₁₆: Investing experience of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.

H_{16(a)}: There is an association between perceptions of investors on dividend announcement and investing experience across two cities.

H_{16(b)}: There is an association between perceptions of investors on bonus issue announcement and investing experience across two cities.

H_{16(c)}: There is an association between perceptions of investors on stock split announcement and investing experience across two cities.

H_{16(d)}: There is an association between perceptions of investors on rights issue announcement and investing experience across two cities.

Table 5.11 presents the summary for results obtained using chi-square test between each corporate action and investing experience of investors across two cities.

Table 5.11

Summary from Analysis of Chi-Square Test between Variables: Investing Experience of Investor and Corporate Actions

Hyp.	CITY	HYDERABAD			MUMBAI		
	CORPORATE ACTION	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
H _{16(a)}	Dividend Announcement	12.362	9	0.194	26.444	9	0.002
H _{16(b)}	Bonus Issue Announcement	10.257	9	0.330	47.547	12	0.000
H _{16(c)}	Stock Split Announcement	21.465	9	0.011	35.184	12	0.000
H _{16(d)}	Rights Issue Announcement	15.654	9	0.074	28.951	12	0.004

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

It is found that for investors from Hyderabad investing experience has no association with perception on importance of awareness level on all corporate actions except stock split. In case of investors from Mumbai there is an association for all corporate actions. Most of the investors from Hyderabad (80%) belong to category 1 and 2 and a marginal of them are in remaining two segments, this could be the reason no statistically significant association is found between the perceptions and investing experience.

5.8 Conclusion

Chapter five is related to objective two of the study which had two sub-objectives. Based on the sub-objectives it had been divided into two sections. The first section - I is linked to the objective 2(a) to study the effect of corporate actions on Nifty 50 Index listed company which contains four hypotheses (i.e.) 8,9,10 and 11 with three sub-objectives under each. Event study methodology has been applied to understand the impact/effect of corporate action during the period 2011 to 2015.

The results indicated towards bonus and stock splits announcement having statistically significant impact on stock returns of the Nifty 50 companies, in the case of 61 days, 31 days and 11 days event window. Whereas dividend announcement does not have such effect and in the case of ex-rights day significant affect is found only for 31 days event window.

Section- II of the chapter was related to the study on the perceptions of investors about the importance of four corporate events and their association with demographic variables (i.e.,) city of residence, age, education, income and investing experience. There was a significant association between corporate actions and three demographic characteristics in case of Hyderabad. The demographic variables were age, income and city of residence. Investing experience was an exception and did not have an association with the perception of investors on importance of corporate actions. In case of investors from Mumbai income level did not seem to be having any impact on the investor perception regarding dividend and rights announcement. Education level was also not found to have association with the investor perception on corporate actions from both the cities.

CHAPTER VI

INVESTORS PREFERENCE OF INVESTMENT INSTRUMENT AND THEIR DEMOGRAPHIC CHARACTERISTICS

CHAPTER – VI

INVESTORS PREFERENCE OF INVESTMENT INSTRUMENT AND THEIR DEMOGRAPHIC CHARACTERISTICS

6.1 Introduction

Peterson (1971) after a bonus issue announcement it is usually observed that there is an increase in stock price. The idea of rational investor is dependent upon self-control from investor perspective and their decision making ability, which is becoming inadequate.

With the transformation in social and family structure in present times the behaviour of investors is also found to be changing. The objective of present chapter is to analyse investor related demographic variables that are age, income level, education level, investing experience, and their impact on the preference of investment instrument across Hyderabad and Mumbai. A comparison of the preferences of investor's choice of Investment Instrument is depending on the demographic attributes may help in order to gain further information.

Barberis, Shleifer, & Vishny (1998), to maximise their returns investors need to take rational decisions which are based on available information and need to be free from emotions. The model proposed was based on a variety of psychological evidences. According to the idea proposed by Griffin and Tversky (1992) "in making forecasts, people pay too much attention to the strength of the evidence they are presented with and too little attention to it's statistical weight." The study supposed that corporate announcements such as those of earnings announcements represent information that is of low strength but significant statistical weight. This assumption has yielded the prediction

that stock prices underreact to earnings announcements and similar events. It has also been assumed that consistent patterns of news, such as series of good earnings announcements, represent information that is of high strength and low weight. This assumption has yielded a prediction that stock prices overreact to consistent patterns of good or bad news.”

Iyer & Bhasker (2002) only such investors who are able to free themselves from such psychological influences are largely successful. Lovric & Spronk (2008) individual investor’s investment decisions are influenced by many factors. They constructed a conceptual model that could be used for stylised representations of individual investors. Mittal & Vyas (2008) conducted study on individual investors and segregated them into four personality types. They also concluded through their study that demographic variables have an influence on investment personality type. Barua & Srinivasan (1986), investment returns in respect to individual investors are subjective to their risk taking ability. Rajarajan (1997) through the study on investor’s lifestyle clusters found that it influenced their investment related traits.

Korniotis & Kumar (2009) through their study indicate that cognitive abilities of individual decline when they become old and also find that their investment performance too decline with age. Lewellen, Lease, & Schlarbaum (1977) in their study found investor’s demographic characteristics influenced their investment inclinations, especially with reference to age, sex, income and education. Shanmugasundaram & Balakrishnan (2009) an investor who is free from emotions can use their finances for hedging against inflation by identifying sources of right analytical presentations and by making time for investment decisions.

6.2 Objective and Hypotheses

Objective 3: To examine association between investor's preference of investment instrument and their demographic characteristics.

H_{17(a)}: There is an association between investor's preference of the investment instrument and their city of residence.

H_{17(b)}: There is an association between investor's preference of the investment instrument and their age.

H_{17(c)}: There is an association between investor's preference of the investment instrument and their education level.

H_{17(d)}: There is an association between investor's preference of the investment instrument and their income level.

H_{17(e)}: There is an association between investor's preference of the investment instrument and their investing experience.

The methodology adopted to test the above hypotheses is the chi-square test of association. It is a non-parametric statistical analysis tool which may be used to find out the association between two variables. It has been used along with other statistical tools such as mean analysis to fulfill the objective of the study. Five demographic characteristics which are City of residence of investor (Hyderabad and Mumbai), Age, Education, Income and Investing experience have been used in the present study.

Table 6.1 presents a brief description of the investment instruments which have been selected to be included in the present study on account of their popularity and access.

Description of Variables Included in the Study

Table 6.1

Description of Investment Option Selected for Study

Investment Option	Description
Saving Bank Deposit	It is an interest bearing deposit account which may be held at a bank or financial institution.
Bank Fixed Deposit	It a special deposit instrument which is provided by banks, with a higher rate of interest as compared to savings account until the date of maturity. Sometimes a separate account may be created for this purpose.
Post Office Deposits	It is a recurring deposit such like a bank recurring deposit account, where a fixed amount can be deposited every month. The postal RDA has a fixed tenure of five years. These deposits accumulate money at an annual fixed rate of interest.
PPF(Public Provident Fund)	It is a 15 years scheme with a minimum deposit of Rs.500 and maximum of Rs.1, 50,000 per annum and is extendable beyond 15 years by blocks of 5 years each time. The interest rate was fixed on yearly basis until April 1, 2016 but since then it is fixed on quarterly basis.
Company Fixed Deposits	These are fixed deposits held by investors with companies for a fixed term. It is very similar to bank fixed deposit and with a high rate of interest and risk. A company's rating is one factor that is looked into before making company fixed deposit.
Bonds and Debentures	These are financial instruments used by corporates to raise long term finances at a fixed rate of interest. Bonds are generally secured by collateral.
Mutual Funds	These are professionally managed investment options which are funded by shareholders. They are further invested in diversified investment avenues.
Insurance Policies	These are risk management tools where for a monetary compensation called premium the insurer transfers the financial risk of potential financial loss to the insurance company.
Money Market Funds	It is type of mutual fund where the funds are invested only in money markets such as commercial papers, treasury bills, certificates of deposit and others as specified by Reserve Bank of India. They have a minimum lock-in period of 15 days.

Equity Investment	It refers to buying and holding of shares of firms in anticipation of income in the form of dividends or capital gains.
Chit Funds	Chit funds act (1982) It is a saving scheme whereby a specified number of individuals enter into an agreement, where each one would subscribe a particular sum of money for specific period that each such subscriber shall, in his turn, as determined by lot or by auction or by tender or in such other manner as may be specified in the chit agreement, be entitled to the price amount.

Table 6.2 presents the mean analysis for preference of investment options by the investors from Hyderabad and Mumbai.

Table 6.2

Mean Analysis of Investor Preference of Investment Instrument from Two Cities

Investment Option	HYDERABAD		MUMBAI	
	Mean	Rank	Mean	Rank
Saving Bank Deposit	3.793	4	3.045	10
Bank fixed deposit	3.757	6	3.935	3
Money Market Funds	3.770	5	3.813	4
Post Office Deposits	3.544	9	3.714	5
PPF(Public Provident Fund)	3.660	8	3.952	2
Company fixed deposits	3.528	10	3.674	7
Bonds and debentures	3.731	7	3.652	8
Mutual funds	4.032	2	3.708	6
Insurance policies	3.929	3	3.572	9
Equity shares	4.417	1	4.062	1
Chit Funds	2.660	11	2.612	11

Source: From analysis of primary data using SPSS 20 and MS-Excel software

The feedback was collected on a five point Likert scale. It can be noticed that for investors from Hyderabad and Mumbai equity investing seems to be the best investment option among those included in the survey. The second most preferred investment instrument is

mutual funds for the investors from Hyderabad and public provident funds by investors from Mumbai. The investors from Hyderabad are also interested in insurance policies and savings bank deposits to a large extent, in case of Mumbai it is found that bank fixed deposits, money market funds and post office deposits are the favourite investment destinations among investors. Chit fund investment is the least preferred among all the investment instruments included in the survey from both the cities.

6.3 Results from Analysis

H_{17(a)}: There is an association between investor’s preference of the investment instrument their city of residence.

Figure 6.1 presents the graphic representation for distribution of investors based on their age of investors from both the cities.

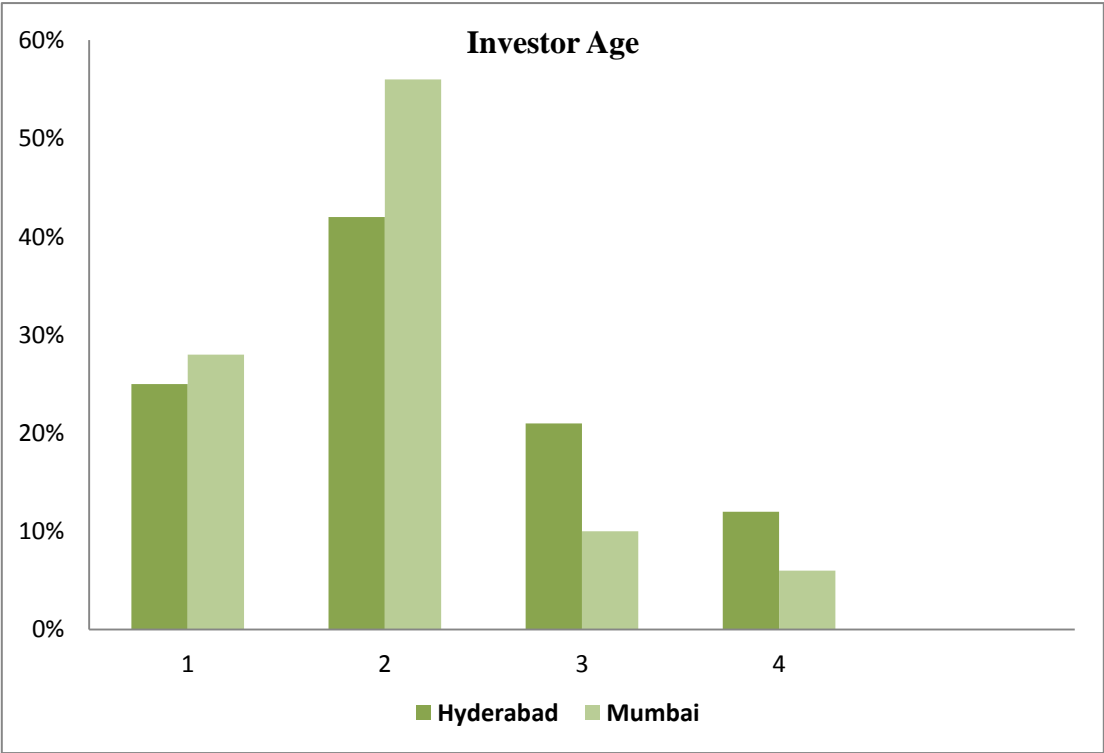


Figure 6.1 Distribution of Investors Based on Age

Table 6.1 presents frequency analysis of investors across two cities and five categories. It is noticed that most investors from Hyderabad belong to age group of 36 to 45 years, and those from Mumbai mostly belong to age group of 26 to 35 years age group. One more noticeable aspect is that approximately 19% of investors are above the age of 55 years, by this means a considerable proportion of sample belongs to individuals who are old and yet interested in equity investing.

Chi-square test of association was conducted to study the association between the city of residence and preference for investment instrument among investors and the results are shown in table 6.3.

Table 6.3

Summary from Analysis of Chi-Square Test between Variables: Investment Instrument and City of Residence

City*Investment Instrument [H_{17(a)}]	Chi-square value	d.f.	*Appx.sig.
Saving Bank Deposit	74.261	4	0.000
Bank Fixed Deposit	15.315	4	0.004
Money Market Funds	12.393	4	0.015
Post Office Deposits	21.466	4	0.000
PPF (Public Provident Fund)	41.627	4	0.000
Company Fixed Deposits	27.989	4	0.000
Bonds and Debentures	15.400	4	0.004
Mutual Funds	16.915	4	0.002
Insurance Policies	60.502	4	0.000
Equity Shares	64.484	4	0.000
Chit Funds	48.239	4	0.000

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Table 6.3 shows that a significant interaction was found between city of residence and preference for investment instrument. It can therefore be concluded that location was associated with the choice of investment and the preferences of investors differed across cities.

$H_{17(b)}$: *There is an association between investor's preference of the investment instrument and their age.*

Chi-square test of association was conducted to study the association between the age of investors and preference for investment instrument from Hyderabad and Mumbai the summarised results are presented in table 6.4.

Table 6.4

Summary from Analysis of Chi-Square test between Variables: Age of Investor and Preference of Investment Instrument

Variables	Hyderabad		d.f.	*Sig.	Mumbai		d.f.	Sig.*
	N	Chi-Square Value			N	Chi-Square Value		
Savings Account Deposit	309	57.87	16	0.00	353	29.82	16	0.02
Bank Fixed Deposits	309	103.04	16	0.00	353	25.02	16	0.07
Post Office Deposits	309	103.04	16	0.00	353	25.05	16	0.07
Public Provident Funds	309	129.78	16	0.00	353	45.37	16	0.00
Corporate Deposits	309	189.99	16	0.00	353	32.45	16	0.01
Bonds	309	120.01	16	0.00	353	24.49	16	0.08
Mutual Funds	309	69.47	16	0.00	353	27.58	16	0.04
Insurance	309	93.55	16	0.00	353	40.26	16	0.00
Equity Shares	309	48.86	16	0.00	353	18.44	16	0.03
Chit funds	309	81.18	16	0.00	353	28.00	16	0.03

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

It was observed that except for three investment options in Mumbai (i.e.) for bonds, bank deposits and post office deposits, age of investors was found to be associated with the preference of investors for investment instrument.

For investors from Hyderabad there was a significant association between age of investor and choice of investment instrument for all the investment options surveyed for

the present study. It may be concluded that age level of investor influences their choice of investment instrument irrespective of the geographic location.

H_{17(c)} : There is an association between investor’s preference of the investment instrument and their education level.

Figure 6.2 presents the graphic representation for distribution of investors based on their education level from both the cities.

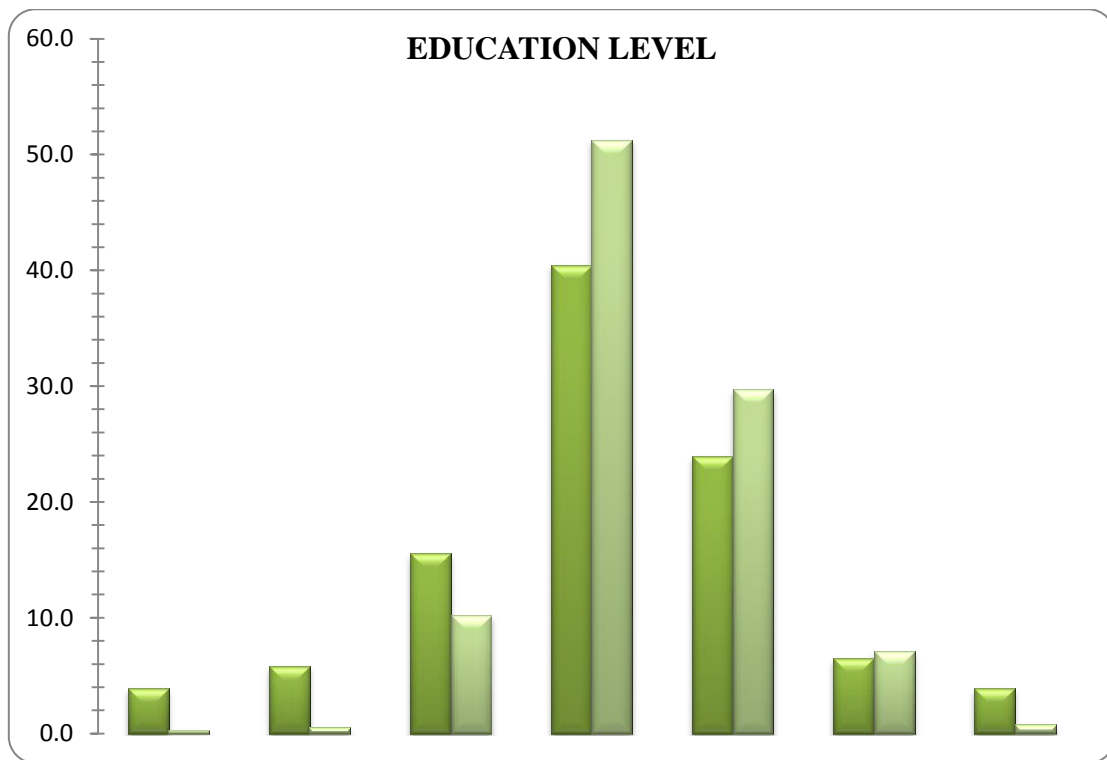


Figure 6.2 *Distribution of Investors Based on Level of Education*

Source: From primary data analysis using SPSS 20 software and MS-Excel

Figure 6.2 indicates that the investors from both cities were grouped based on the feedback received for level of education. It was observed that majority of investors from both the cities were either graduates or post graduates or post graduates about 64.4% from Hyderabad and 81% from Mumbai. While a segment of investors were found to be marginally educated (others) hence were merged with group one.

Figure 6.3 presents the graphic representation for distribution of investors based on their preference for investment instruments for those investors with education level up to class five from both the cities.

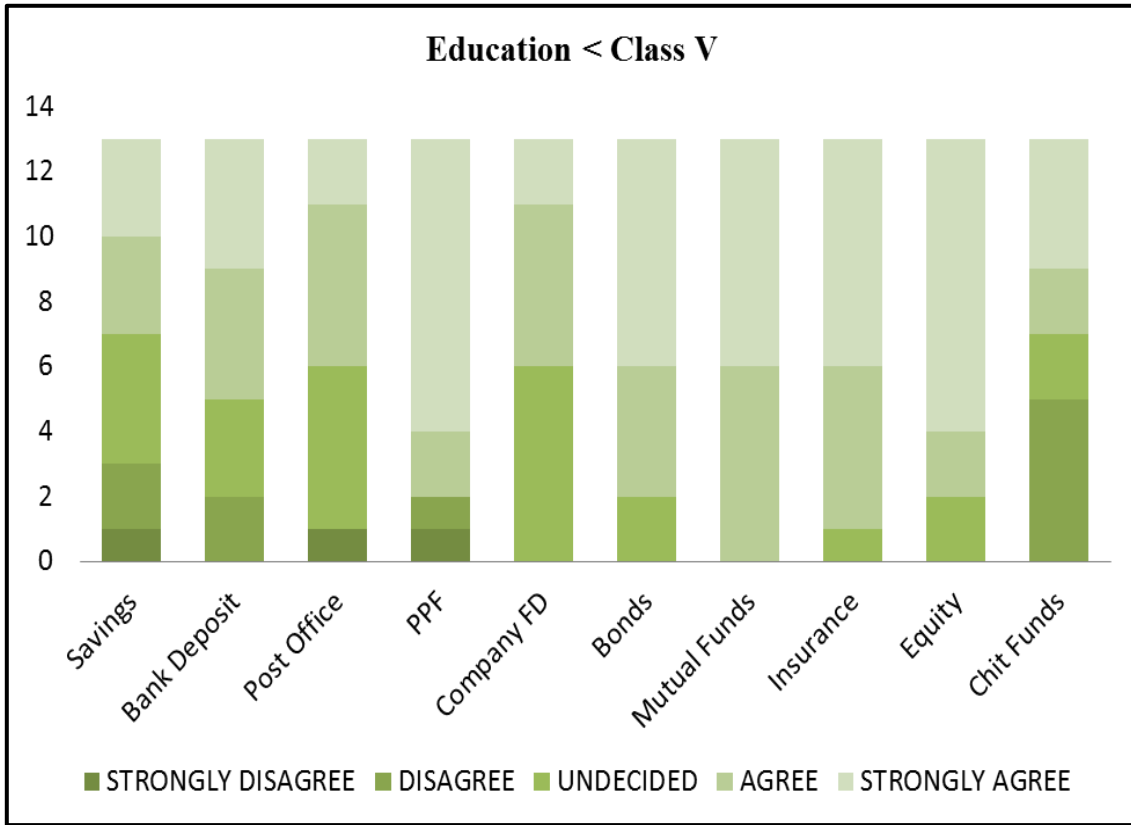


Figure 6.3 Representations of Investors from Education Category I - Preference for Investment Instrument

Source: From primary data analysis using SPSS 20 software and MS-Excel

It may be observed from figure 6.2 that investors with low education level are found to prefer public provident fund and equity as investment option. Very low preference was found for chit funds. It was also found from the investor feedback that they were unable to understand few investment instruments and were undecided.

Figure 6.4 presents the graphic representation for distribution of investors based on their preference for investment instruments for those investors with education level up to class ten from both the cities.

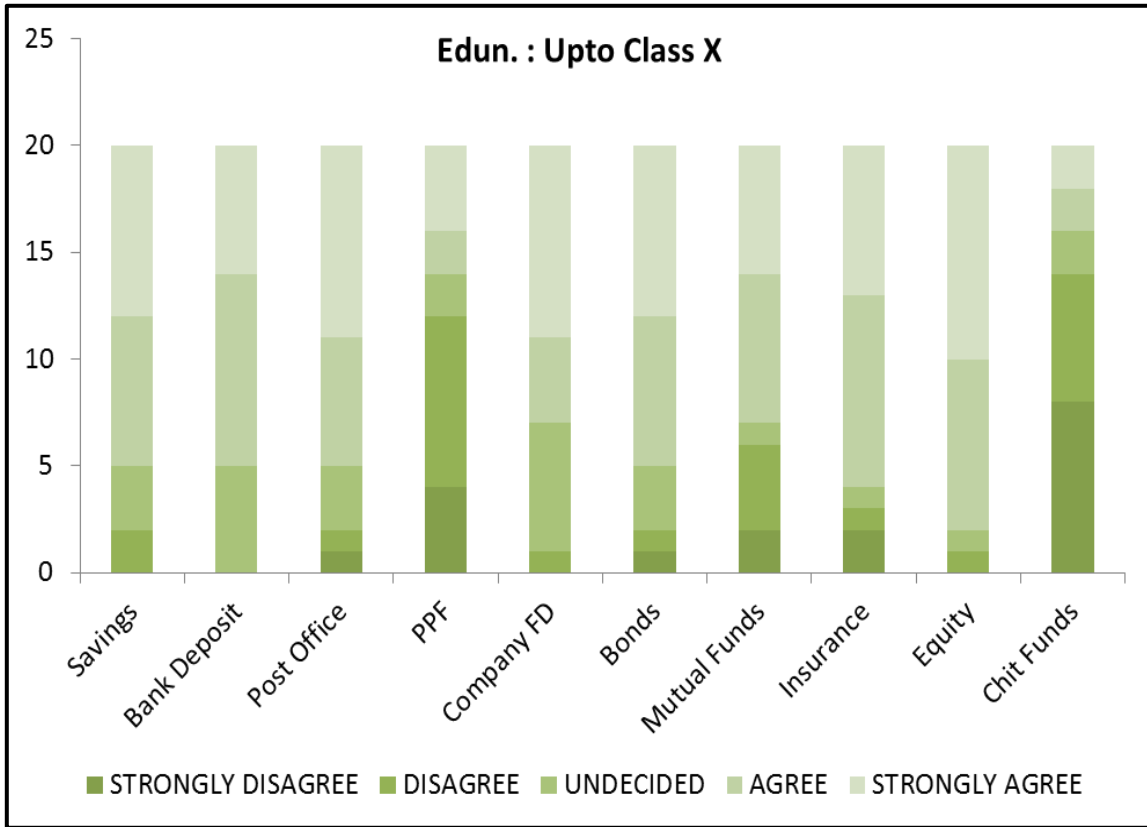


Figure 6.4 Representations of Investors from Education Category II - Preference for Investment Instrument

Source: From primary data analysis using SPSS 20 software and MS-Excel

Investors with minimum education up to class ten were found to be attracted towards equity and company fixed deposits and do not prefer chit fund investments. They also were found to show interest in post office deposits.

Figure 6.5 presents the graphic representation for distribution of investors based on their preference for investment instruments for those investors with education level up to class twelve from both the cities.

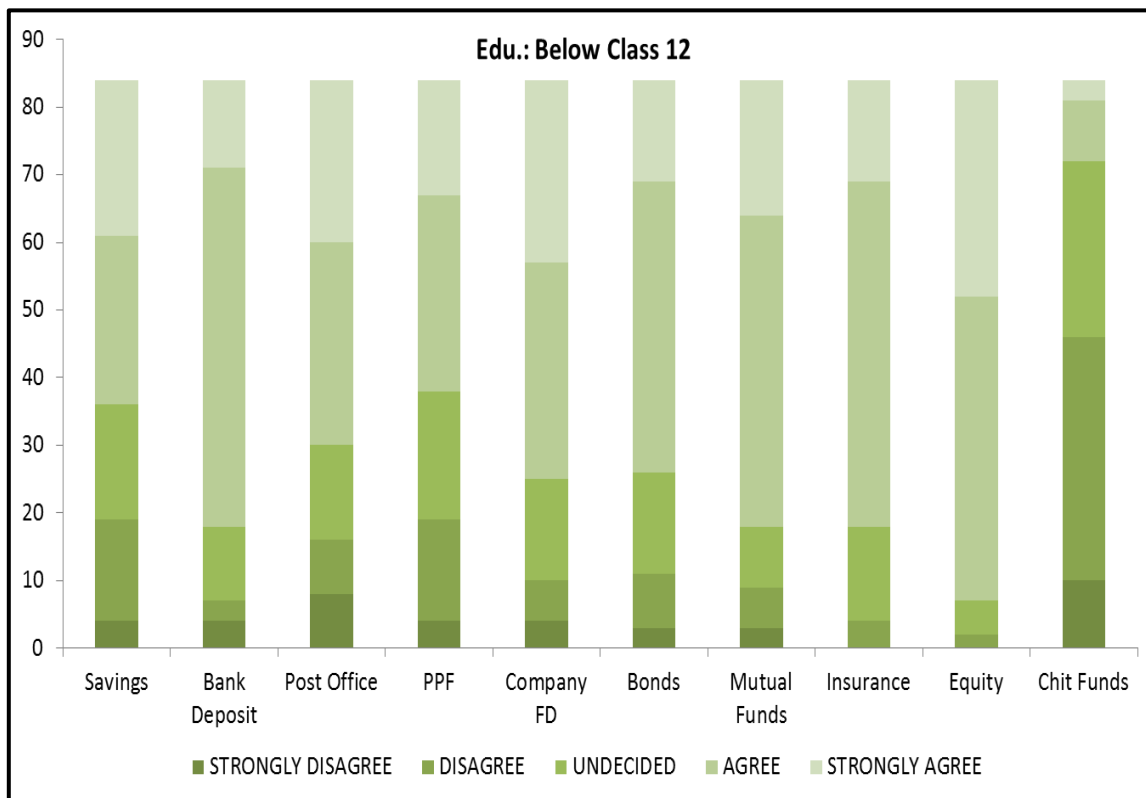


Figure 6.5 Representations of Investors for Education Category III : Preference for Investment Instrument

Source: From primary data analysis using SPSS 20 software and MS-Excel

Investors with Class 12 as education level were found to be keen about preference of bank deposits and insurance. They were also unsure about most of the investment options such as chit funds and public provident funds. They also seem to be aware of most of the investment instruments on account of their education level.

Figure 6.6 presents the graphic representation for distribution of investors based on their preference for investment instruments for those investors with education level graduation from both the cities.

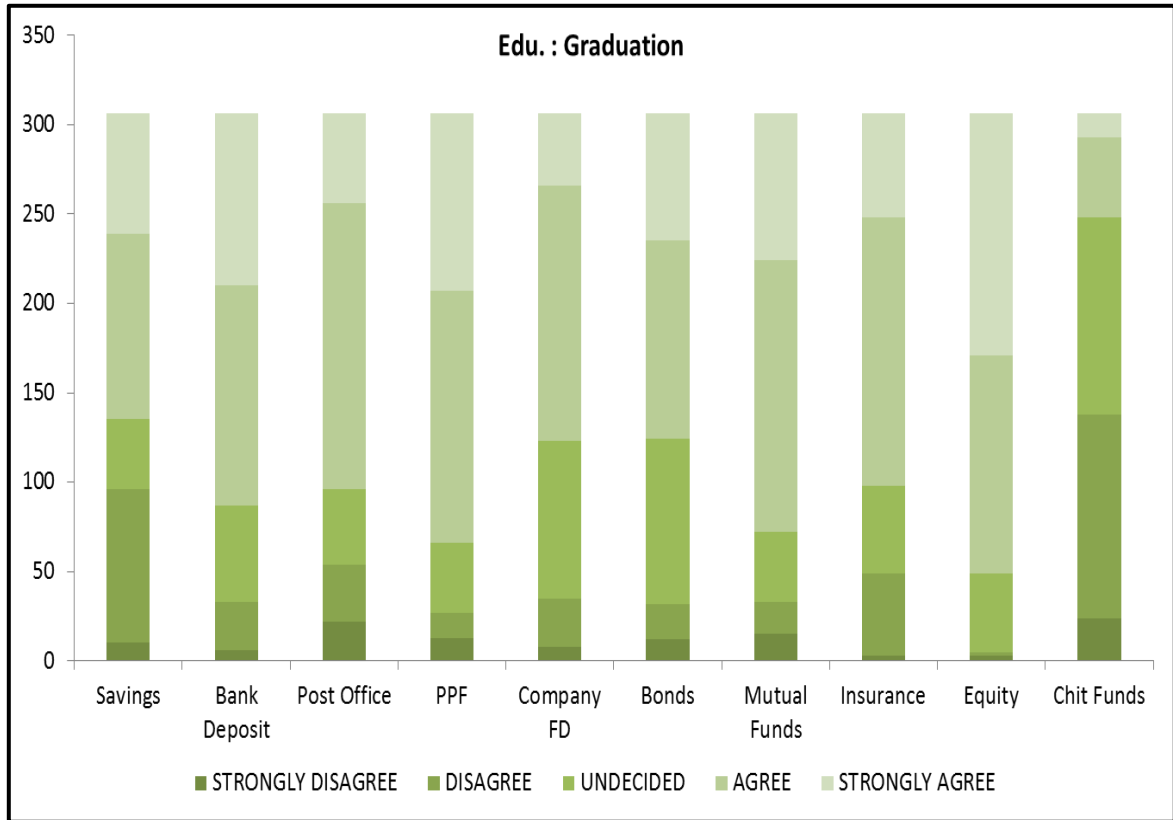


Figure 6.6 Representations of Investors from Education Category IV : Preference of Investment Instrument

Source: From primary data analysis using SPSS 20 software and MS-Excel

Investors with graduation degree as education level are found to be keen to invest with post office and mutual funds followed by Insurance; they were not found to be interested in chit funds and savings bank deposit. It was also found that company fixed deposits and bonds were two investment instruments about which investors were mostly unsure.

Figure 6.7 presents the graphic representation for distribution of investors based on their preference for investment instruments for those investors with education level of post-graduation from both the cities.

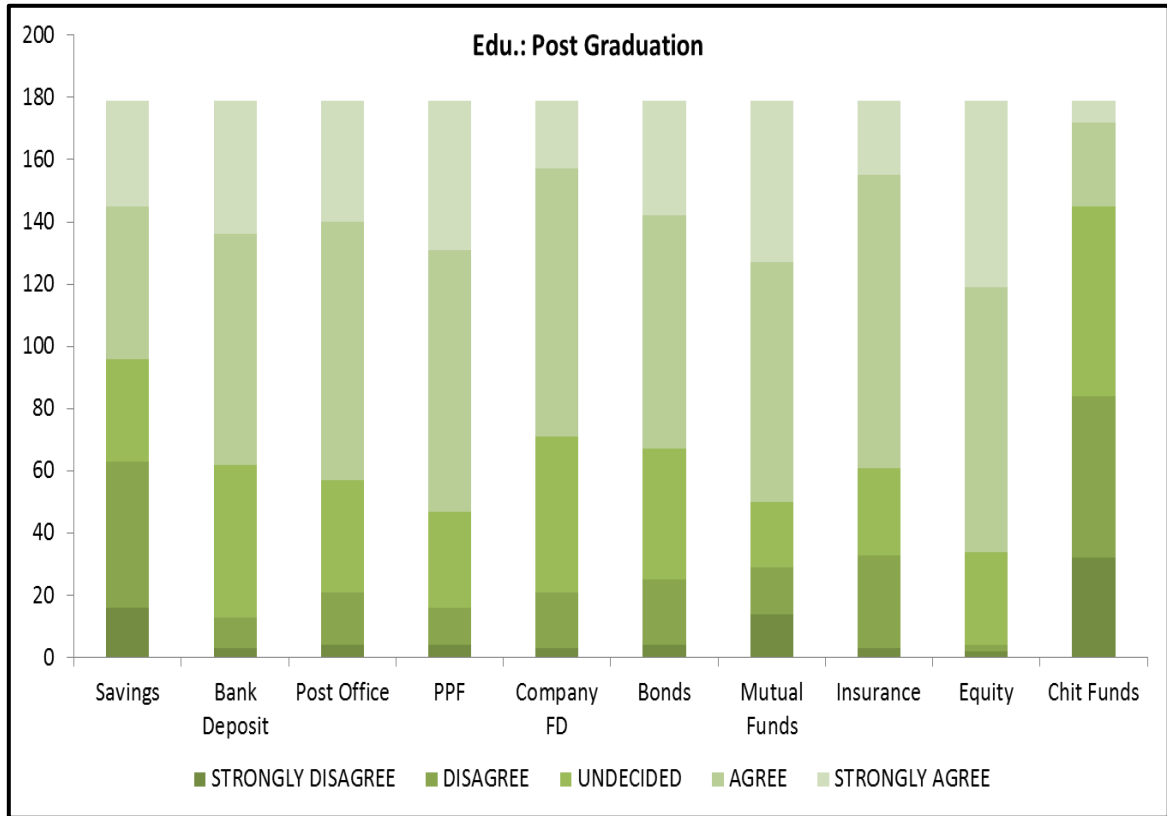


Figure 6.7 Representation of Investors of Education Category V: Preference for Investment Instrument

Source: From primary data analysis using SPSS 20 software and MS-Excel

Investors who are well qualified post graduates prefer mostly Insurance and Equity investment. They also expressed doubts about chit funds, company fixed deposits and bank deposits to be regarded as investment instruments with higher returns. Chit funds and insurance were the least preferred investment options. Investors from this category prefer equity the most and chit funds the least.

Table 6.5 presents the summarised results of chi-square test conducted to test for association between education level of investors and their preference for investment instrument.

Table 6.5

Summary from Analysis of Chi-Square Test between Variables: Education Level of Investor and Preference for Investment Instrument

Investment Instrument	HYDERABAD			MUMBAI		
	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Saving Bank Deposit	34.83	24	0.175	85.721	24	0.000
Bank fixed deposit	42.861	24	0.036	236.05	24	0.000
Money Market Funds	63.547	24	0.000	45.199	24	0.021
Post Office Deposits	68.94	24	0.000	49.428	24	0.007
PPF(Public Provident Fund)	112.19	24	0.000	73.331	24	0.000
Company fixed deposits	84.576	24	0.000	34.675	24	0.180
Bonds and debentures	60.025	24	0.000	27.274	24	0.503
Mutual funds	27.459	24	0.493	33.078	24	0.233
Insurance policies	57.093	24	0.001	26.959	24	0.520
Equity shares	39.695	24	0.070	25.811	24	0.583
Chit Funds	55.274	24	0.002	103.1	24	0.000

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Table 6.5 shows the results for analysis of chi-square test of association between preference of investment option and education level of investors. It is found from the results that in case of Hyderabad investors there is a statistically significant association between education level of investor and preference of investment instrument as the p-values are less than 0.05 for all the variables except three investment instruments. These three investment instruments (i.e.) savings bank deposits, equity investment and mutual

fund investment do not have any statistically significant association with education level of investors. It can therefore be concluded that investor education level does not have much impact on the investor preference for these three investment instruments. Irrespective of their education level investors prefer to invest in these three investment avenues.

In case of Mumbai it is noticed that out of eleven investment options, education level does not have statistically significant association with five investment instruments. Therefore it can be concluded that education level in the present study has not shown significant impact on investment decision for individual investors from Mumbai for most of the investment instruments.

H_{17(d)} : There is an association between investor’s preference of investment instrument and their income level.

Figure 6.8 presents the graphic representation for distribution of investors based on their income level from both the cities.

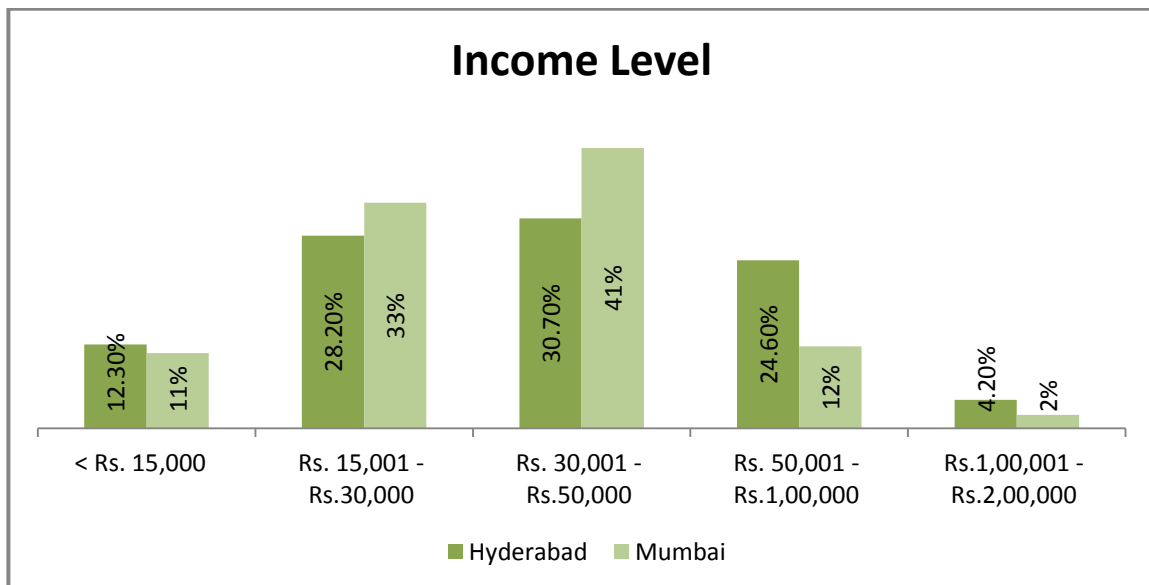


Figure 6.8 *Distribution of Investors Based on Income per month*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Figure 6.9 shows summarised results that the investors from both the cities were grouped into six categories based on their feedback on income received per month. It can be observed that 41% of investors from Mumbai are clustered around income group three category, whereas in Hyderabad approximately 31% of investors belong to category three. On account of which it can be understood that most of equity investors belong to income level ranging between Rs.5,000 to Rs.50,000 per month, Just a small minority of investors belong to income group six with an income of above Rs.2,00,000 per month.

Figure 6.9 presents the graphic representation for preference for investment instruments by investors with income below Rs.15,000 per month.

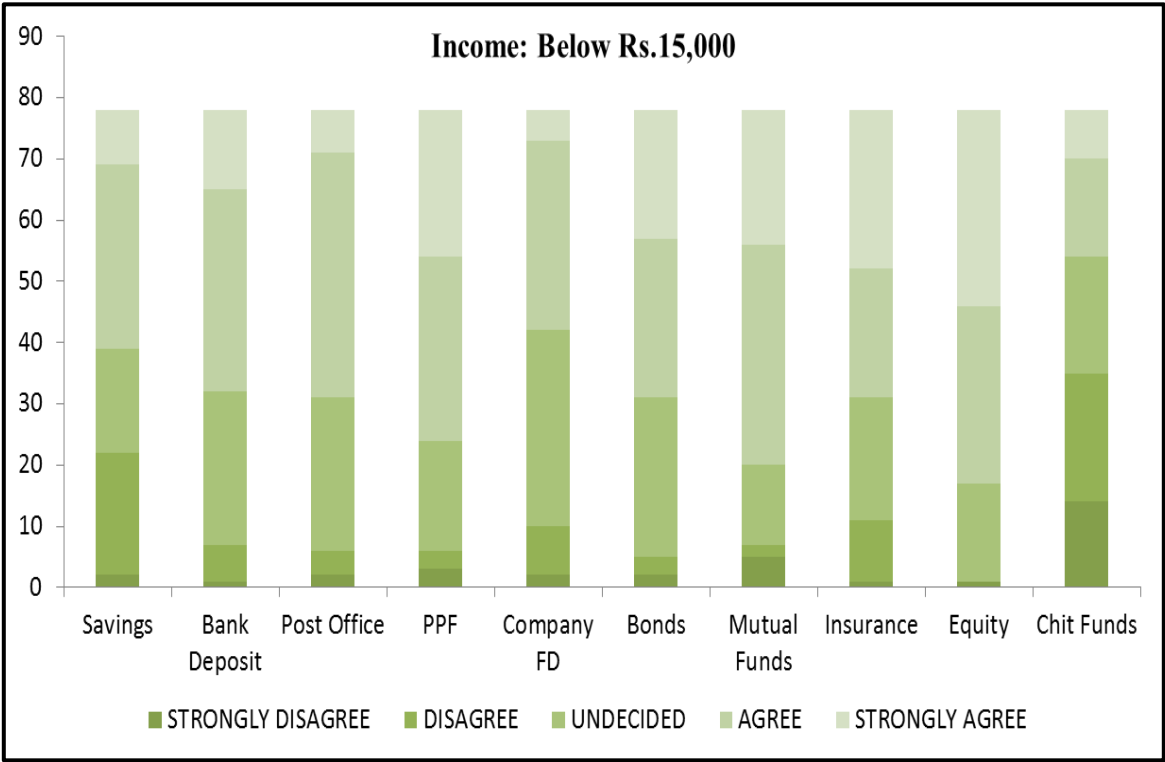


Figure 6.9 Representations of Investor from Income Group I : Preference for Investment Instrument

Source: From analysis of primary data using SPSS 20 and MS-Excel software

From the figure 6.9 data it can be observed that investors with income level less than Rs.15,000 per month were more inclined towards Post Office Deposits followed by Mutual Funds and Bank Deposit. Most of the investors indicated strong disagreement towards chit funds as a favourable instrument for investment. It was also noticed that a segment of investors are not sure about investments in the company's fixed deposits as well as bonds. Figure 6.10 presents the graphic representation for preference for investment instruments by investors with income level between (Rs.15,000 to 30,000) per month.

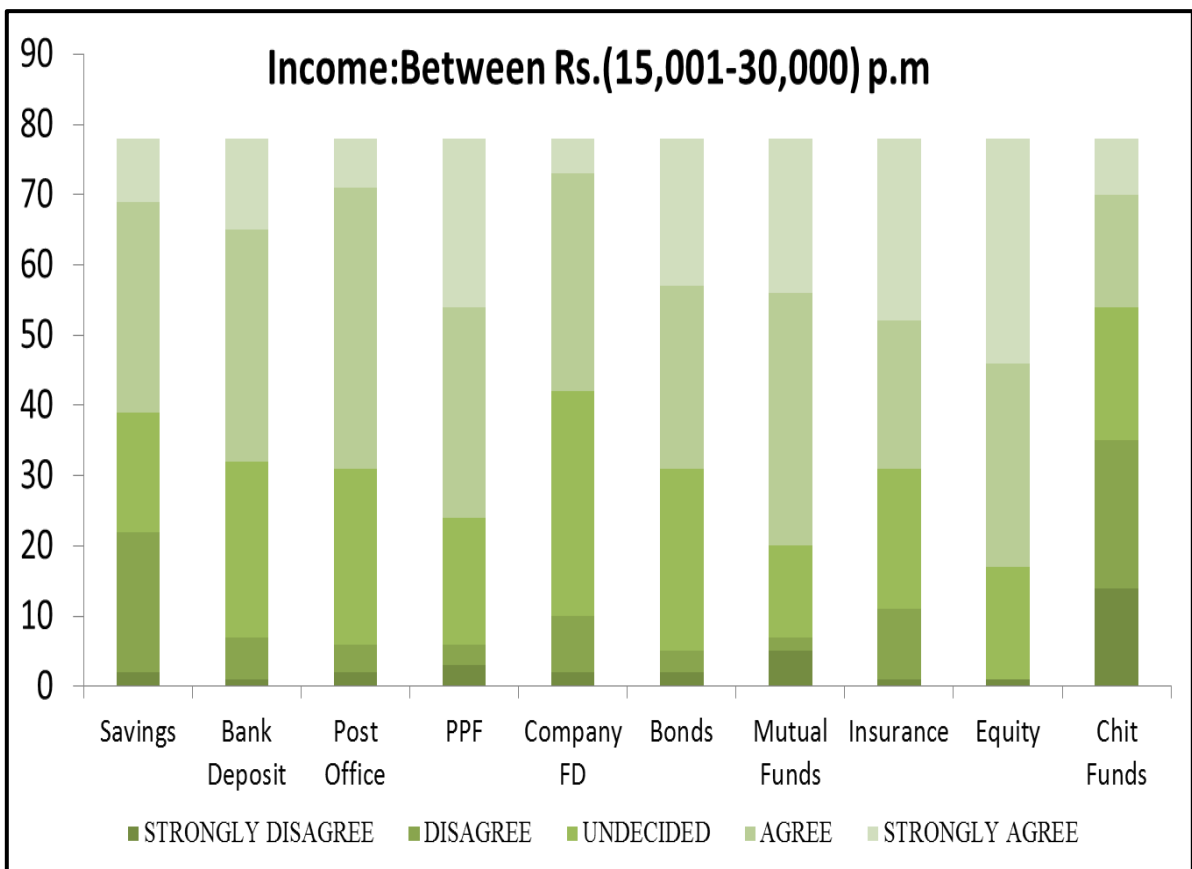


Figure 6.10 Representations of Investor from Income Group II for Preference for Investment Instrument

Source: From primary data analysis using SPSS 20 and MS-Excel software

Investors prefer to invest in post office deposit followed by mutual funds and equity investments. Most of the investors expressed that they were unsure about investing in

company fixed deposits and bonds. It was also found that chit funds were found to be least preferred investment option.

Figure 6.11 presents the graphic representation for preference for investment instruments by investors with income level between (Rs.30,000- Rs.50,000) per month.

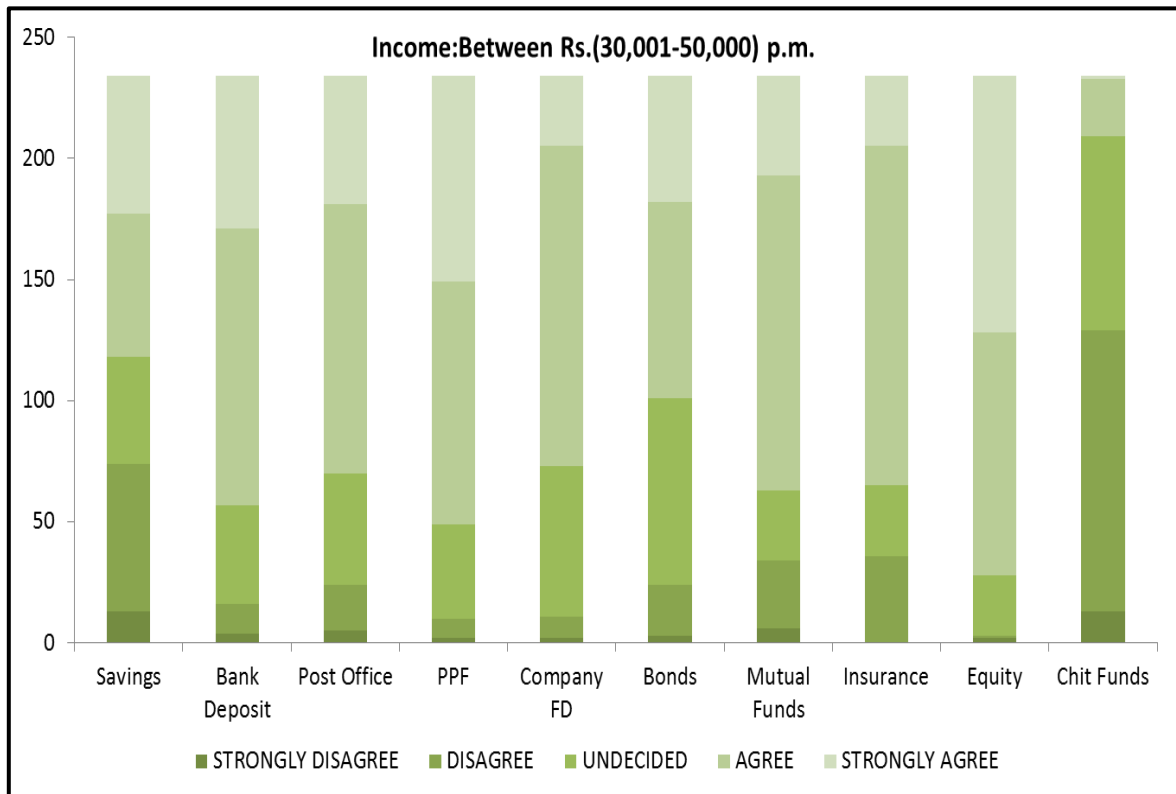


Figure 6.11 Representations of Investor from Income Group III : Preference for Investment Instrument

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Investors from this income group earning between Rs.30,000 to Rs. 50,000 per month mostly prefer to invest in insurance, company fixed deposits and mutual funds. A segment of investors in this group were found to be unsure about investing in bonds and company fixed deposits. It is also found that chit funds were least preferred investment option for them.

Figure 6.12 presents the graphic representation for preference for investment instruments by investors with income level between (Rs.50,000 to 1,00,000) per month.

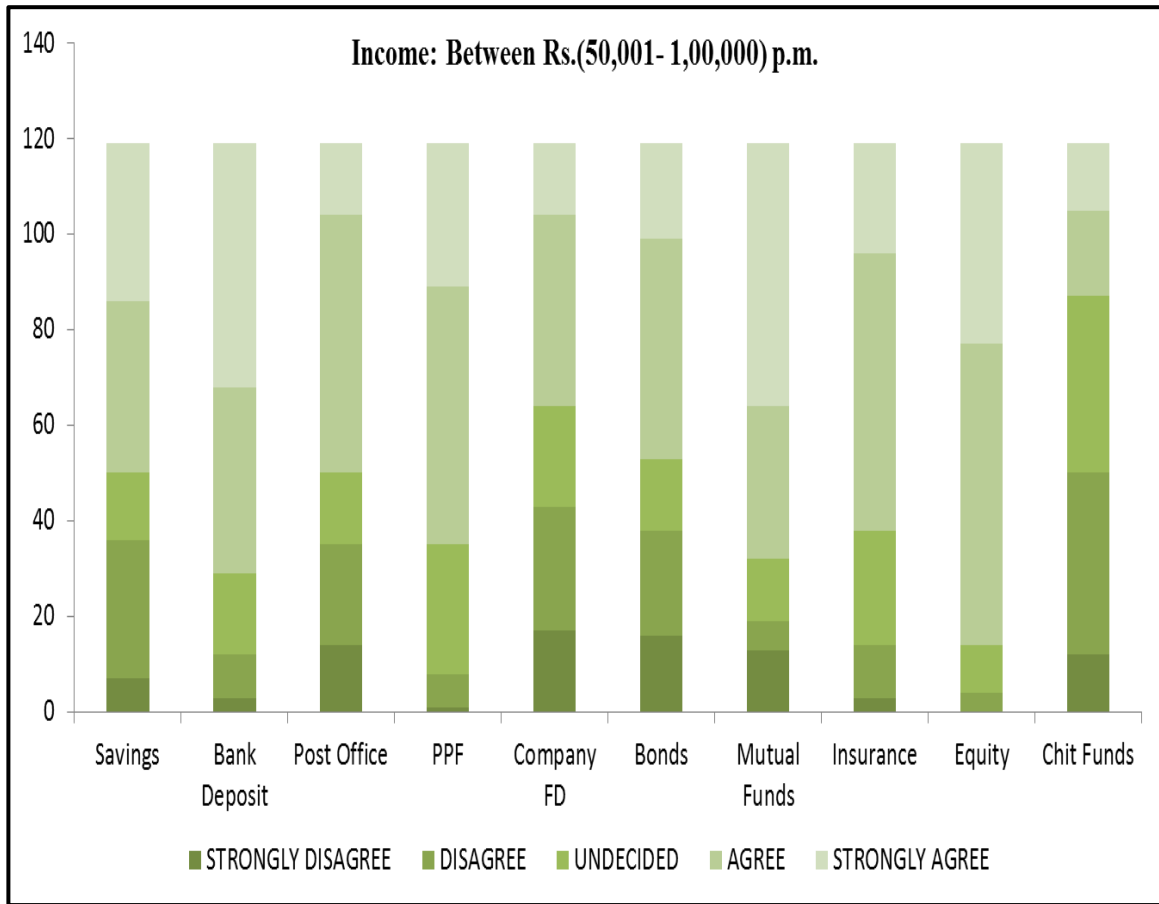


Figure 6.12 *Representation of investor from Income Group IV for preference for Investment Instrument*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Figure 6.13 shows that investors from this income group earning between Rs.50, 000 to Rs.1,00,000 were found to be attracted towards Equity and Insurance the most. It was also observed that they were unsure about investing in chit funds and public provident funds.

Figure 6.13 presents the graphic representation for preference for investment instruments by investors with income between (Rs.1,00,000 to 2,00,000) per month.

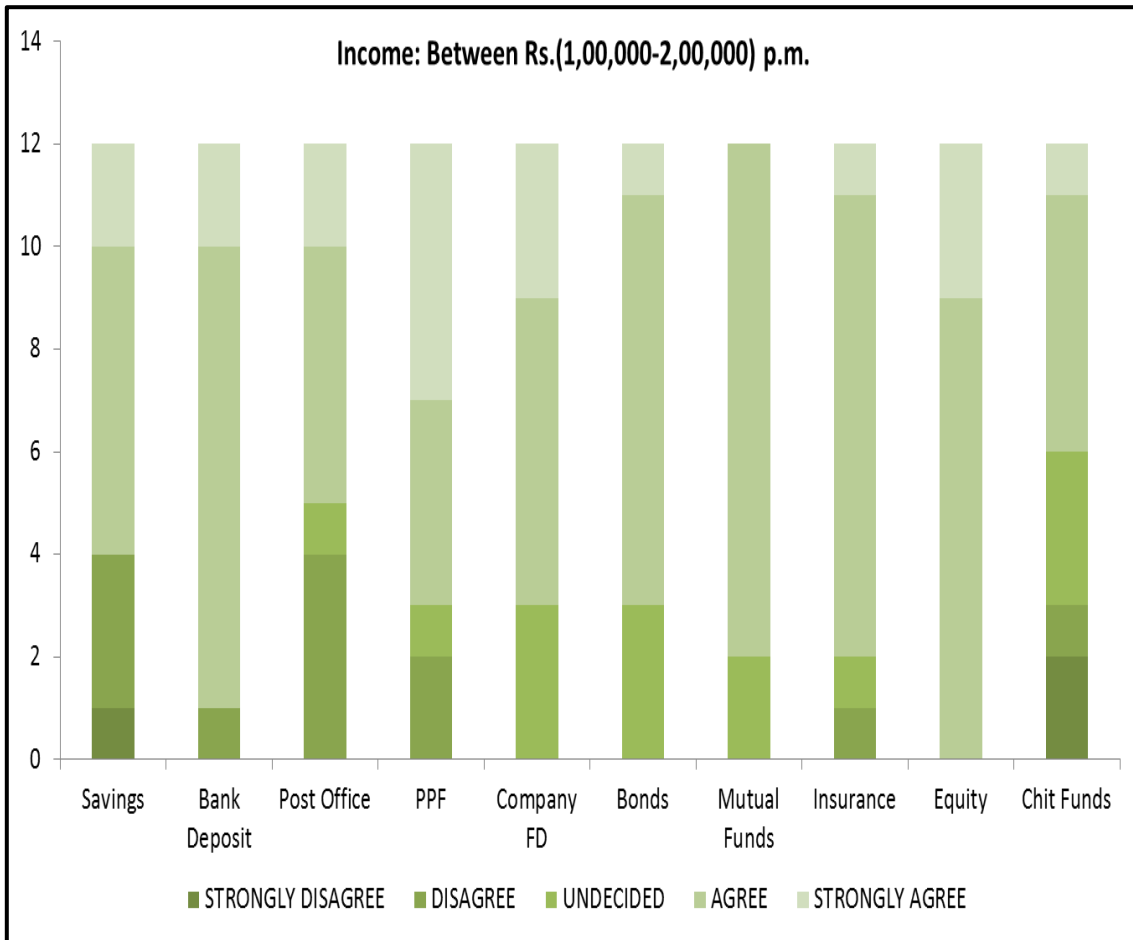


Figure 6.13 Representation of Investor from Income Group V : Preference for Investment Instrument

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Investors from this category (i.e.) are keen to invest in Mutual funds followed by Insurance and Bank deposits.

Observations from graphical representation of data:

- Post office deposits, Insurance and Bank deposits are found to be more attractive investment options among all income groups.

- Equity is preferred mostly by investors from income groups Rs.15,000-Rs.30,000 as well as by Rs.50,000 to Rs.1,00,000. Chit funds are not found to be preferred by most of the investors from almost all income groups.

Table 6.6 presents the summarised results of chi-square test conducted to test for association between income level of investors and their preference for investment instrument.

Table 6.6

Summary from Analysis of Chi-Square test between Variables: Income Level of Investor and Investment Instrument

Investment Instrument	HYDERABAD			MUMBAI		
	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Saving Bank Deposit	21.971	16	0.144	41.613	16	0.000
Bank fixed deposit	45.701	16	0.000	24.988	16	0.070
Money Market Funds	63.676	16	0.000	35.104	16	0.004
Post Office Deposits	101.88	16	0.000	26.352	16	0.049
PPF(Public Provident Fund)	141.48	16	0.000	49.142	16	0.000
Company fixed deposits	197.35	16	0.000	30.605	16	0.015
Bonds and debentures	123.55	16	0.000	27.100	16	0.040
Mutual funds	58.968	16	0.000	28.157	16	0.030
Insurance policies	95.132	16	0.000	42.426	16	0.000
Equity shares	59.721	16	0.000	18.286	16	0.307
Chit Funds	76.318	16	0.000	32.134	16	0.010

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Table 6.6 shows the summarised results for analysis of chi-square test of association between preference of investment instrument and income level of investors. It is found from the results that in case of Hyderabad investors there is an association between income

level and perception on investment preference except in case of savings bank deposits. In case of Mumbai investors there is an association between income level and preference of investment instrument except in case of Bank fixed deposits and Equity investment. Therefore it may be concluded that income level has an association with investment decision of investors.

H_{17(e)} : There is an association between investor's preference of the investment instrument and their investing experience.

Figure 6.14 presents the graphic representation for distribution of investors based on their income level from both the cities.

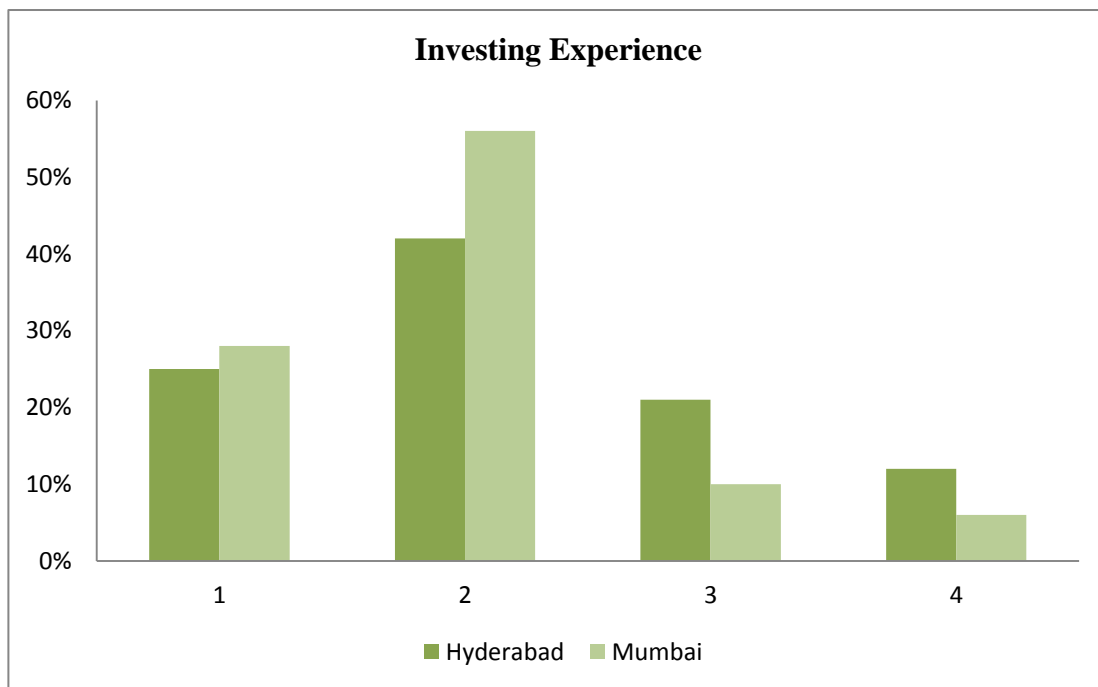


Figure 6.14 Investing Experience of Investors from Hyderabad and Mumbai

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Figure 6.14 shows the percentage of investors for number of years of equity investing experience of across two cities. Investing experience of investors is represented based on

the feedback received for numbers of years of holding demat account, which was an open end question. Depending upon the feedback received investing experience is categorised into four levels as mentioned in figure 6.14. It can be noticed that number of investors having above 10 years of experience are of higher proportion in Mumbai when compared to Hyderabad while most of the investors belong to group two with (3-7) years of experience.

Table 6.7 presents the summarised results of chi-square test conducted to test for association between variable investing experience of investors and their preference for investment instrument.

Table 6.7

**Summary from Analysis of Chi-Square test between Variables:
Investing Experience and Investment Instrument**

Investment Option	HYDERABAD			MUMBAI		
	Chi-square value	d.f.	*Appx.sig.	Chi-square value	d.f.	*Appx.sig.
Saving Bank Deposit	15.389	12	0.221	56.753	12	0.000
Bank fixed deposit	10.403	12	0.581	35.701	12	0.000
Money Market Funds	12.973	12	0.371	73.646	12	0.000
Post Office Deposits	11.066	12	0.523	19.336	12	0.081
PPF(Public Provident Fund)	15.354	12	0.223	38.103	12	0.000
Company fixed deposits	11.468	12	0.489	33.093	12	0.001
Bonds and debentures	12.681	12	0.393	62.599	12	0.000
Mutual funds	14.286	12	0.283	32.428	12	0.001
Insurance policies	18.052	12	0.114	47.349	12	0.000
Equity shares	9.180a	12	0.687	13.673	12	0.322
Chit Funds	27.365	12	0.007	26.706	12	0.009

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Table 6.7 shows that in case of Hyderabad for all variables except chit funds there is no association between investing experience and selection of investment option, as the p-values are less than 0.05.

In case of Mumbai investors there is a statistically significant association between investment experience and selection of investment options, however in case of post office deposits and equity investment such association does not exist.

6.4 Conclusion

Chapter six presented the results from analysis for objective three of the study which was related to the association between preference of investment instrument and demographic characteristics of individual investors from Hyderabad and Mumbai.

Chi-square test was adapted to analyse the relationship between variables as it was found most appropriate satisfying all the assumptions. The data used comprises of 662 respondents consisting of 309 from Hyderabad and 353 from Mumbai. Eleven most popularly used investment instruments were utilised in the questionnaire to assess preference of investors across various demographic variables (i.e.) city, age of investor, income level of investor, education level and investing experience.

From the study on the association between education level and preference of investment instrument using chi-square test it was found that there was a statistically significant association with eight investment instruments for Hyderabad. For Mumbai education level had an association with six investment instruments. It may therefore be concluded that education level of investors may have an incidence on the preferences of investors regarding selection of investment instrument.

Results indicated that investment choice differed across the city of residence and all investment instruments in the study. From the analysis of the association between income level and investment preference showed a significant association between variables for Hyderabad investors except in the case of savings bank deposits. For Mumbai investors, it was found that bank fixed deposits and equity investment were preferred equally by all investors from all income groups.

Investing experience was not found to have any association with the preference of investment instrument among Hyderabad investors. In case of Mumbai investors; such association was statistically significant for all except in the case of post office deposits and equity investment.

CHAPTER VII

INVESTOR DEMOGRAPHICS AND MARKET INFORMATION

CHAPTER – VII

INVESTOR DEMOGRAPHICS AND MARKET INFORMATION

7.1 Introduction

The recent literature of behavioural finance presents several arguments made regarding the importance of information and trading volume for investors. It is more often believed that investors who spend more time and money on acquisition of information receive more signals and can therefore trade to increase their investment returns. Another school of thought in behavioural finance also believes that more information may lead to higher overconfidence and higher trading volume. Through the present chapter an attempt is made to study the sources of information accessed by investors and their frequency of information acquisition.

In operation and success of financial system of a country one of the most important elements is the generation and distribution of information. It has been assumed that the frequency of information acquisition is related to quality of information acquired by investors. “News from trustworthy sources should lead to more trades (portfolio rebalancing) than news from a less reliable source” (Epstein & Schneider, 2008). Allen (1999), presented through this research the presence of three different ways for classifying the prices in allocating resources (1) Prices as indicator of value and scarcity (2) The statistical use of prices to analyse risk (3) Prices as aggregators of income.

Verrecchia (1982), investor characteristics have an influence on their trading activity and on the acquisition of information. Irrational behaviour may reduce with increase in wealth and investor sophistication. Statman, Thorley, & Vorkink (2006) support the belief that

investor overconfidence leads to higher trading volume as long as they believe that their past returns are positively correlated with overconfidence. From the study on investors in American markets it was found that investors trading volume was higher after higher returns. Therefore it is believed that a higher degree of overconfidence leads to higher trading volume.

Barber & Odean (2001) in their study on gender and demographic characteristics found that gender was a good proxy for overconfidence, overconfident men traded more than overconfident women. Da Silva & Giannikos (2004) from their study reveal that occupation had an influence on the investor's behaviour. Christiansen. et al. (2009), environment (geographic location) in which they live (Goetzmann & A. Kumar, 2001; Fischer & Gerhardt, 2007), advice from professional leads to self-evaluation by investors leading to better and more rational decisions, with a clear positive impact on trading. Dorn & Huberman (2005), investors who are holding their investment for a shorter period of time are expected to trade more. They conclude that neither experience, nor investment style have an impact on trading, and that risk loving investors trade more.

From the literature it is found that individual investors who invest more also tend to access information more frequently and have better chances of gaining higher returns. Demographic variables such as age, investing experience, socio-economic variables and geographic location have impact on their sources of information and frequency of trading.

Description of Variables

Frequency of Information Acquisition: It involves the time frame, in which investor perceives that they have been accessing information to update themselves on market

information. It also indicates how active an investor is with equity investment. It has been captured as “Daily, Weekly, Monthly, and Every 6 Months and Not Sure” for the present study.

Market Information refers to all such information which may influence investor portfolio. There are various types of information flowing in the capital markets related to macroeconomic variables, corporate actions, firm’s accounting information etc. All such information which may affect investors equity investment decisions are considered to be market information.

Source of Market Information is all categorised in the present study based on the expenditure which needs to be made for acquisition of information. Although there may be various sources, in the present study four most popular sources are included. They are as follows:

- Publicly available sources (T.V, Newspapers, Magazines, Facebook, Blogs)
- Insider Information (Advisers, Brokers, Co-Investors, etc.)
- Subscribed/Contributed Information (Newsletters, Brokers, etc.)
- Others

To understand what each of them implies, the first source (Publicly available sources) comprises of all such information which may be available very easily and is accessible to almost all. It comprises of all such information which has been made mandatory to be made public by SEBI. Examples for which are financial reports, corporate actions etc.

The second category is the *insider information*; these are the facts which are not made public by companies. These facts may comprise of the company’s future strategies and plans which may provide financial advantage to investors by making buy or sell decisions

for shares. Insider information may be acquired through someone who is working within the company in an influential position.

Subscribed/Contributed Information: It comprises of all such information which is acquired by payment. It may be from financial institutions or brokerage firms or from advisers. It basically comprises of specific information about certain stocks. Such paid information can be obtained depending on the time frame for which an investor may be interested in. Subscribed information may include fundamental and technical analysis of stocks, suggestions of stocks for buy/sell, fundamentals of stocks held etc.

7.2 Objectives and Hypotheses

(4) To study the relation between investor perceptions on the importance of stock market information and their demographic characteristics.

H₁₈: There is an association between frequency of trade and the demographic characteristics of investors across two cities.

H_{18(a)}: There is an association between frequency of information acquisition and city of residence of investors.

H_{18(b)}: There is an association between frequency of information acquisition and the age of investor across two cities.

H_{18(c)}: There is an association between frequency of information acquisition and the income level of investors across two cities.

H_{18(d)}: There is an association between frequency of information acquisition and the education level of investors across two cities.

H_{18(e)}: There is an association between frequency of information acquisition and the investing experience of investors across two cities

H₁₉: There is an association between sources of information used and the demographic characteristics of investors across two cities

H_{19(a)}: There is an association between sources of information used and the city of residence of investors.

H_{19(b)}: There is an association between sources of information used and the age of investor across two cities

H_{19(c)}: There is an association between sources of information used and the income level of investors across two cities

H_{19(d)}: There is an association between sources of information used and the education level of investors across two cities

H_{19(e)}: There is an association between sources of information used and the investing experience of investors across two cities.

7.3 Analysis and Results

The analysis and results have been presented in the order of hypotheses mentioned along with the objectives. Figure 7.1 presents the feedback obtained from investors regarding their frequency of information acquisition for market information. It has been categorised as five levels.

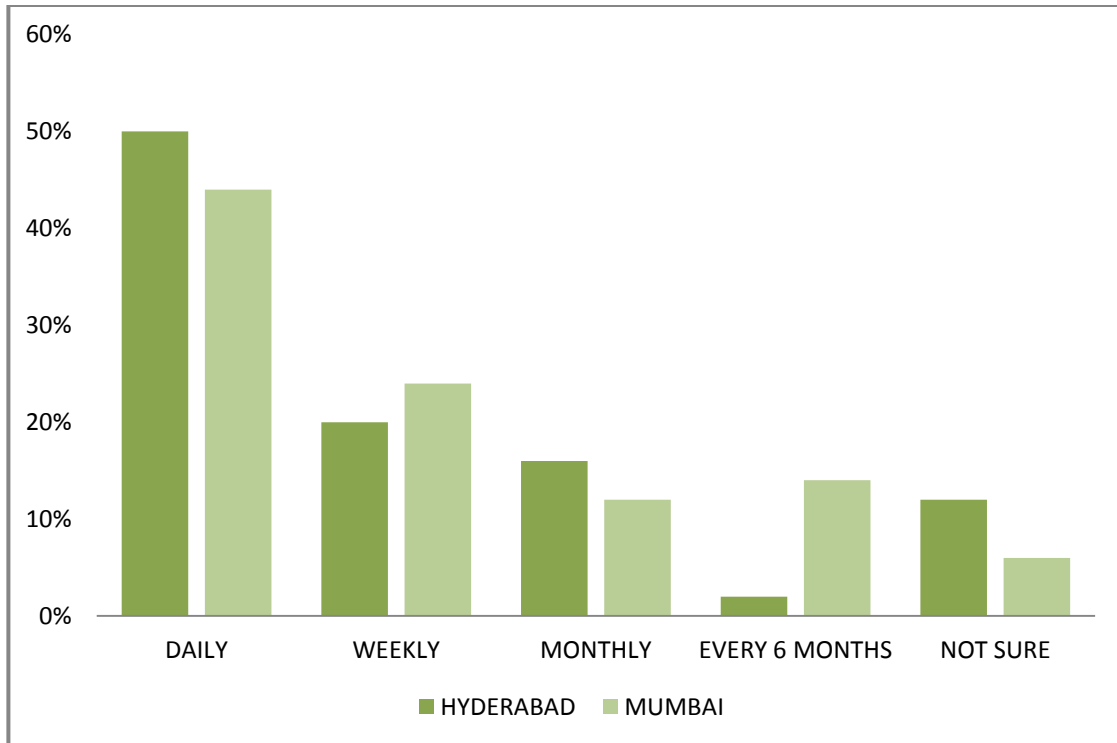


Figure 7.1 *Representation of Frequency Information Acquisition by Investors from Hyderabad and Mumbai*

Source: From analysis of primary data from SPSS 20

From the figure 7.1 it may be observed that almost 50% of investors from Hyderabad and 44% from Mumbai are found to be acquiring market information on daily basis. It can also be observed that about 14% of investors from Hyderabad and 20% of investors from Mumbai have indicated that they try to check such information at least every 6 months and few of them are not sure about the last instance they had looked for market information. Overall about 36% investors seem to be trading at least on weekly or monthly basis.

Figure 7.2 presents the feedback obtained from investors regarding their frequency of information acquisition for market information based on their age group.

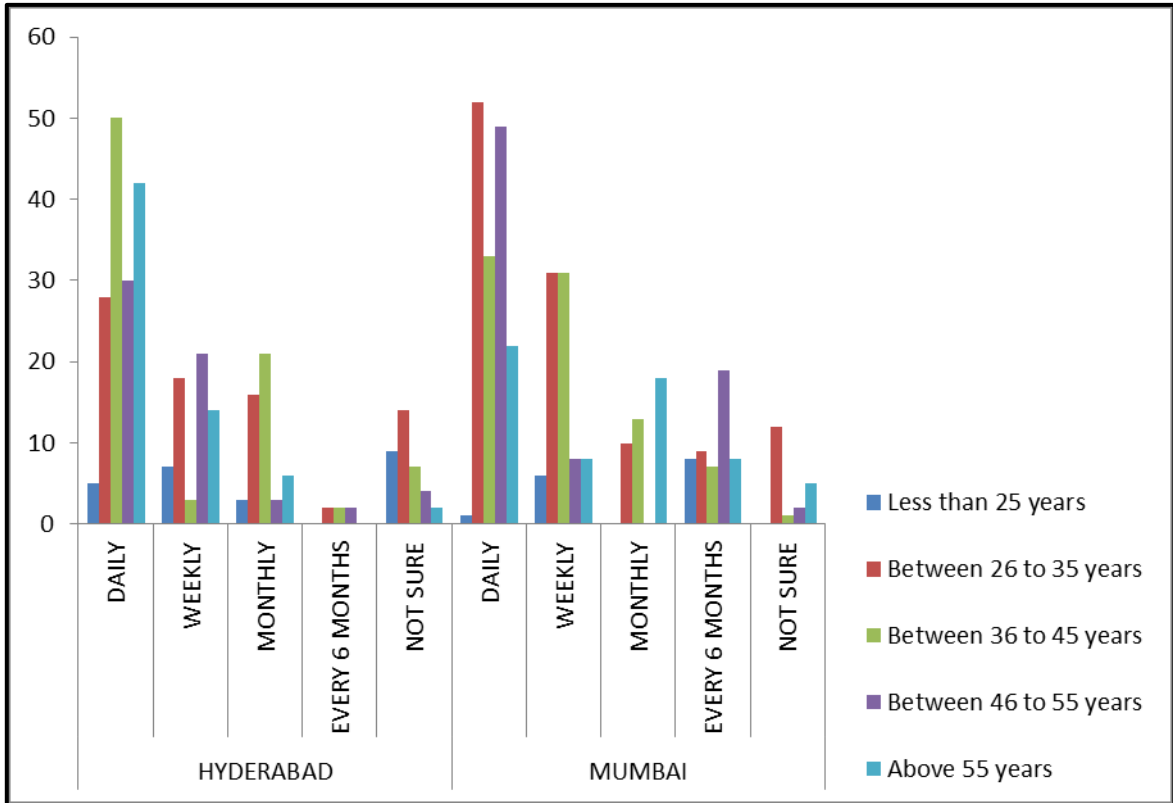


Figure 7.2 *Frequency of Information Acquisition and Age of Investors from Hyderabad and Mumbai*

Source: From analysis of primary data from SPSS 20

It is observed from figure 7.2 that majority of investors who acquired information on daily basis from Mumbai are those aged between 36 to 45 years followed by those who are above 55 years of age. Overall 44% of all investors from Mumbai have agreed that they acquired information on daily basis and 6% are not sure when they acquired information last.

In case of Hyderabad it is observed that majority of investor who acquired information on daily basis belong mostly to group two and four (as mentioned in table 4.9 of chapter 3). It can also be observed that most of the investors from Hyderabad have accepted that they acquired information on daily basis (50%) and (12%) of them are not sure when they made the last got information.

Figure 7.3 presents the feedback obtained from investors regarding their frequency of information acquisition for market information based on their income level.

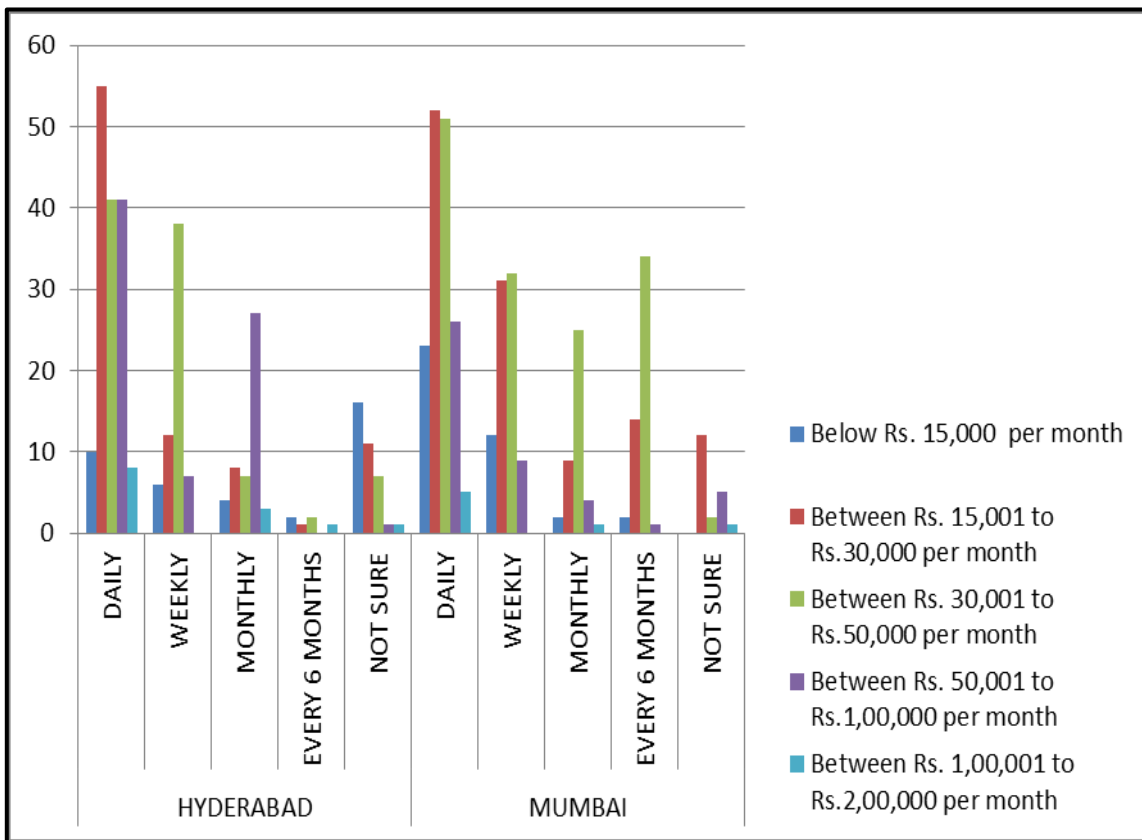


Figure 7.3 *Frequency of Information Acquisition and Income Level of Investors from Hyderabad and Mumbai*

Source: From analysis of primary data from SPSS 20

Figure 7.3 indicates that for investors from Hyderabad and Mumbai belonging to income group two, the frequency of information acquisition is mostly on daily basis. It is then followed by investors from income group three and four. On comparing the investors from income group five it is found that most of the investors got information on daily basis from both cities.

Figure 7.4 presents the feedback obtained from investors regarding their frequency of information acquisition for market information based on their education level. It has been categorised as five levels for each city.

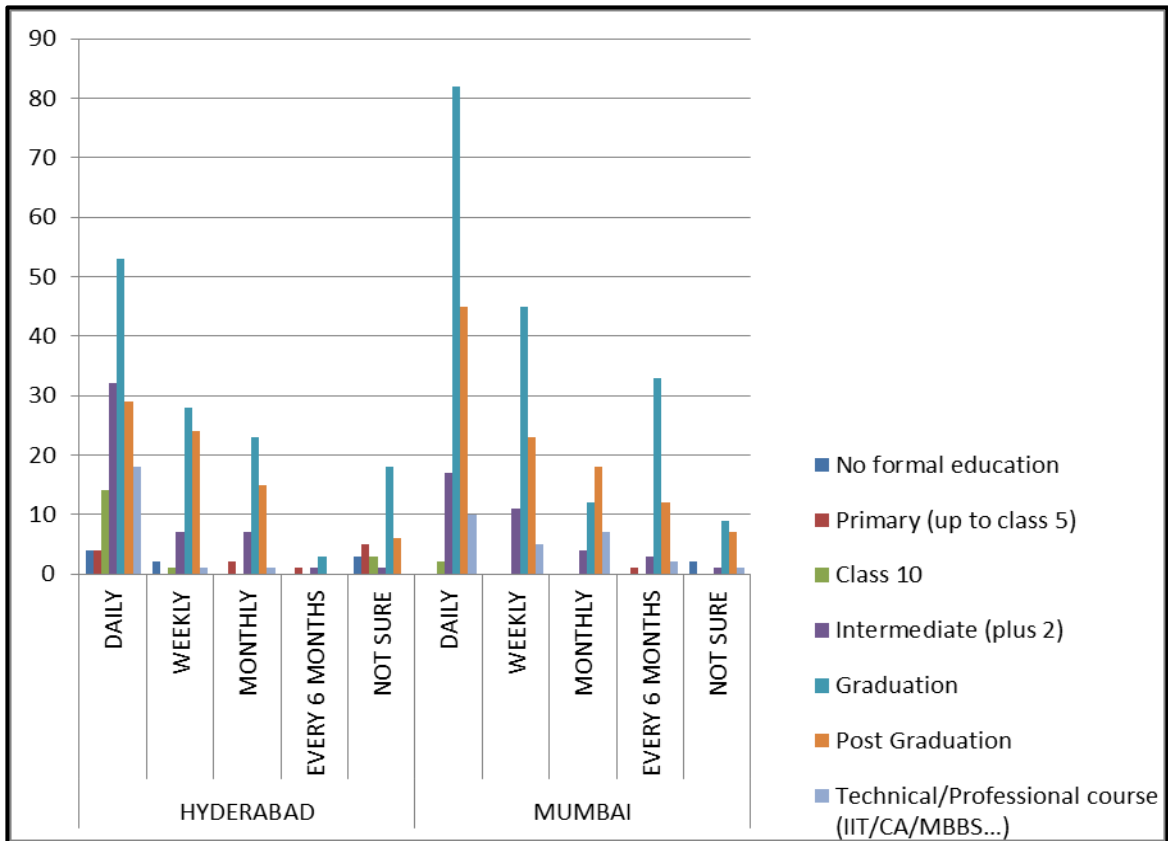


Figure 7.4 *Frequency of Information acquisition and Education Level of Investors from Hyderabad and Mumbai*

Source: From analysis of primary data from SPSS 20

From Figure 7.4 which represents the distribution of investors based on education level and frequency of information acquisition across two cities, it is found that most of the investors who are graduates from both cities belong to daily investor type of category followed by post graduates.

Figure 7.5 presents the feedback obtained from investors regarding their frequency of information acquisition for market information based on their investing experience.

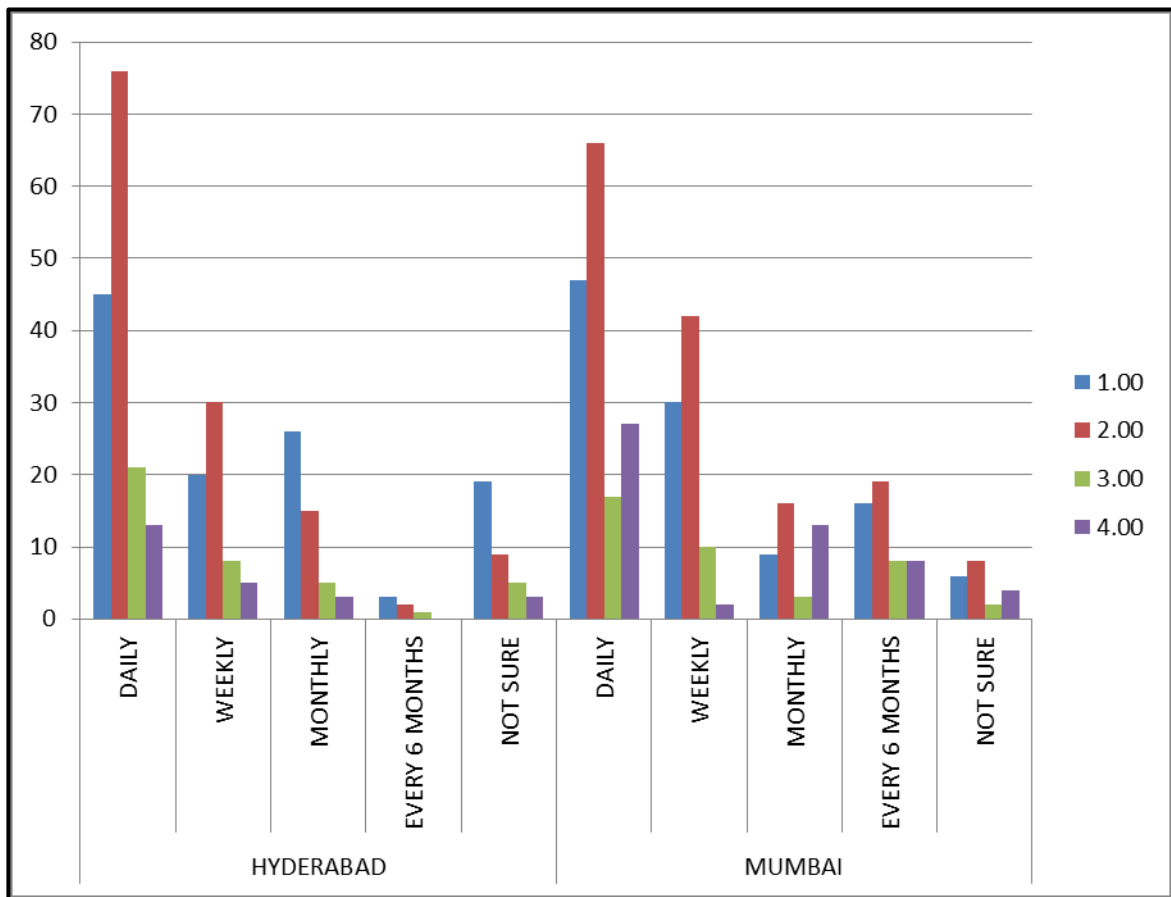


Figure 7.5 *Frequency of Information acquisition and Investing Experience of Investors from Hyderabad and Mumbai*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Figure 7.5 shows that most of the investors who acquired information on daily and weekly basis are investors from category two (those holding active demat account for 3 to 6 years). Investors who are not sure when they acquired information last are those belonging to category one, (i.e.) holding demat account for two to three years across both cities. It may be concluded that most of the investors who have just started investing are not regularly acquiring market information. Similar trend is observed among investors from both the cities.

Table 7.1 presents the summarised results of chi-square test conducted to test for association between variable frequency of information acquisition by investors and their preference demographic variables.

Table 7.1

Results of Analysis for Hypotheses H_{18(b to e)}

Summary of Results from Chi-Square Tests for H_{18(b to e)}						
CITY	HYDERABAD			MUMBAI		
Variables	Pearson Chi-Square Value	d.f.	Sig.	Pearson Chi-Square Value	d.f.	Sig.
Age *Freq. of Information acquisition	68.049	16	0.000	95.996	16	0.000
Income*Freq. of Information acquisition	107.73	16	0.000	49.362	16	0.000
Education*Freq. of Information acquisition	78.916	28	0.000	61.838	28	0.000
Investing Exp.*Freq. of Information acquisition	16.737	12	.160	21.905	12	.038

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

The summarised results for chi-square test of association between variables indicates that city of residence is associated with investor's frequency of information acquisition. The

results indicates towards the existence of significant association between these variables as the p-values are found to be less than 0.05, demographic characteristics age, income, education for both the cities. In case of investing experience there was no significant association in case of investors from Mumbai.

H₁₉: There is an association between sources of information used and the demographic characteristics of investors across two cities.

Figure 7.6 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels for both the cities.

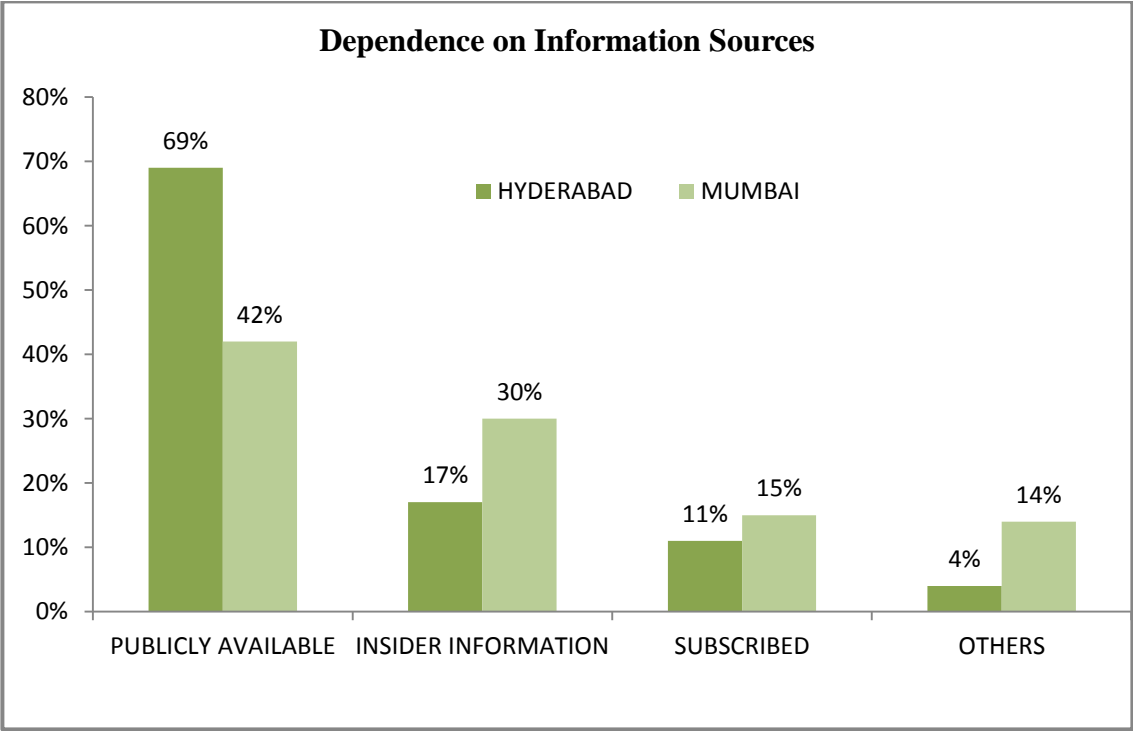


Figure 7.6 Sources of Market Information Used by Investors from Hyderabad and Mumbai

Source: From analysis of primary data using MS-Excel

Investors from both the cities follow publicly available information. Insider information is also been followed keenly by investors from Mumbai as responded by them. It can also be noticed that investors from Mumbai are spread in clusters seeking information from different sources, while majority of them 42% depend on publicly available sources, a good proportion 30% depend on insider information. Investors are also found to be acquiring information through paid sources (i.e.) Hyderabad (11%) and Mumbai (15%). One more important observation that can be made from figure 7.6 is that a good proportion of investors from Mumbai (14%) have revealed that they depend on other sources of market information.

Figure 7.7 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on age of investors from Hyderabad.

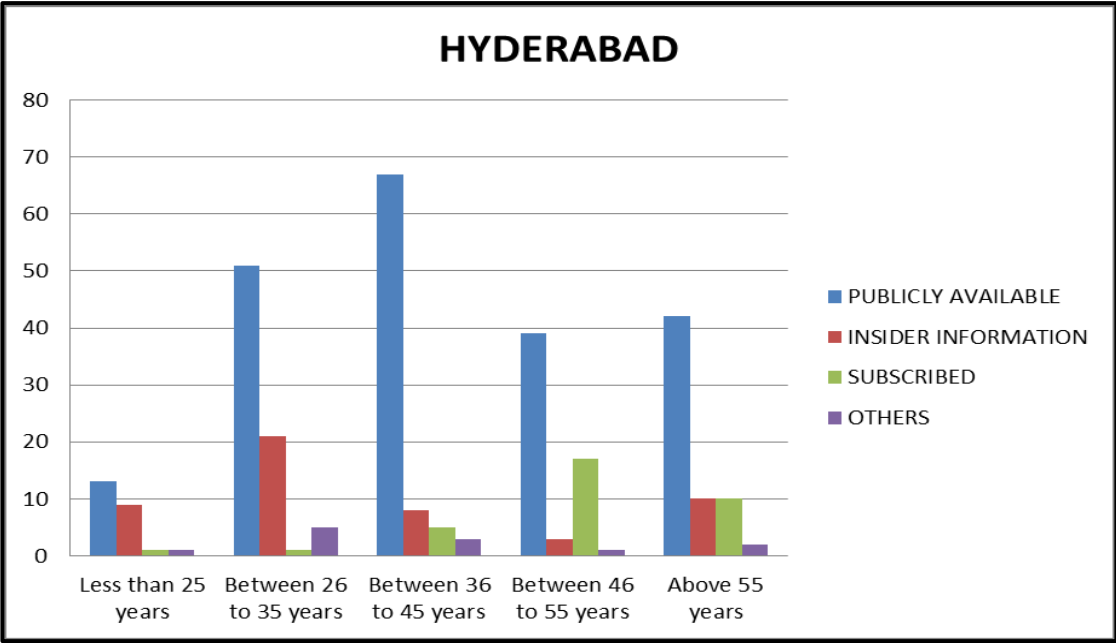


Figure 7.7 Investor Age Group and Sources of Information Used (Hyderabad)

Source: From primary data analysis using SPSS 20 software and MS-Excel

Figure 7.7 shows that most of the investors seeking publicly available information from Hyderabad are in the age category three. Another observation made is that majority of investors from each age category mostly use publicly available information. The investors in second category seem to be depending on more of insider information when compared to others. Investors from age category four are mostly depending on subscribed information and very less on insider information or other sources.

Figure 7.8 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on age of investors from Mumbai.

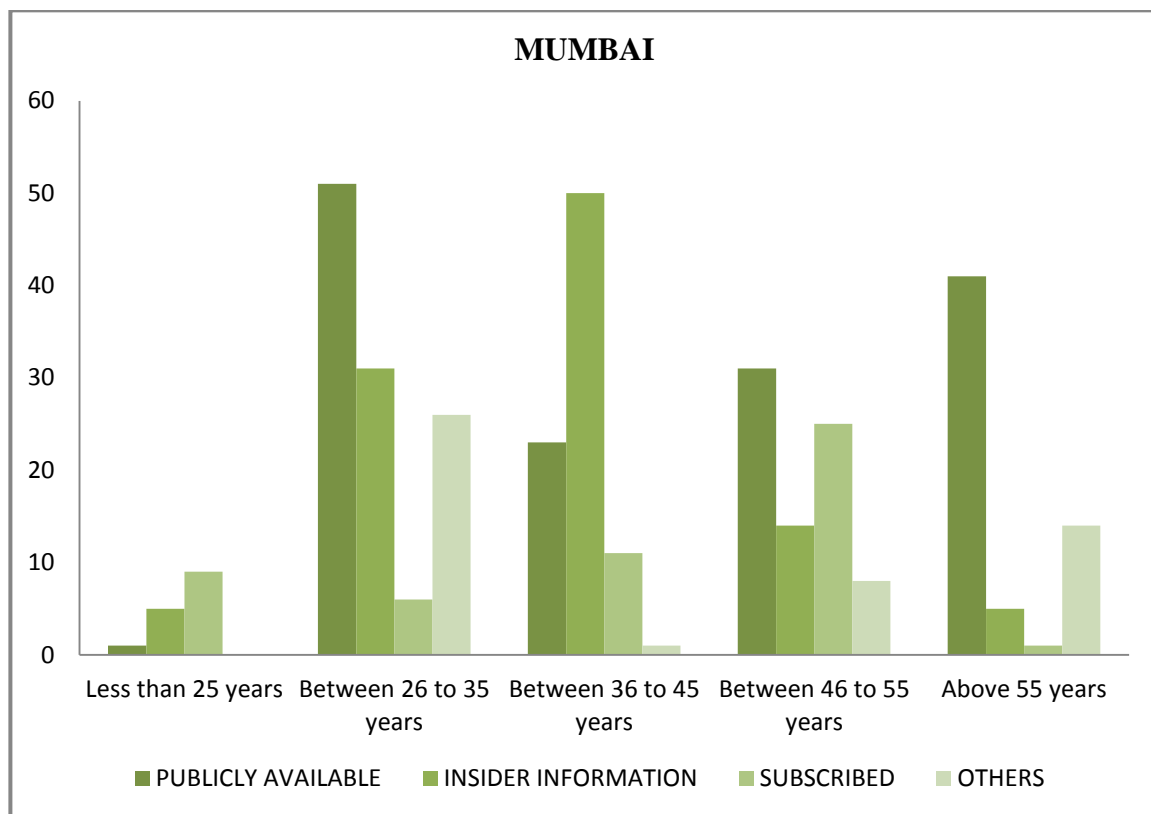


Figure 7.8 Investor Age Group and Sources of Information Used (Mumbai)

Source: From primary data analysis using SPSS 20 software and MS-Excel

Figure 7.8 shows the distribution of investors from Mumbai depending upon the type of information used among five age groups of investors. It can be noticed that most of the investors across all age groups except age group one are depending upon publicly available information. Investors from age group one are depending upon subscribed information mostly, same type of trend is observed by investors from age group four also.

Figure 7.9 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on income of investors from Hyderabad.

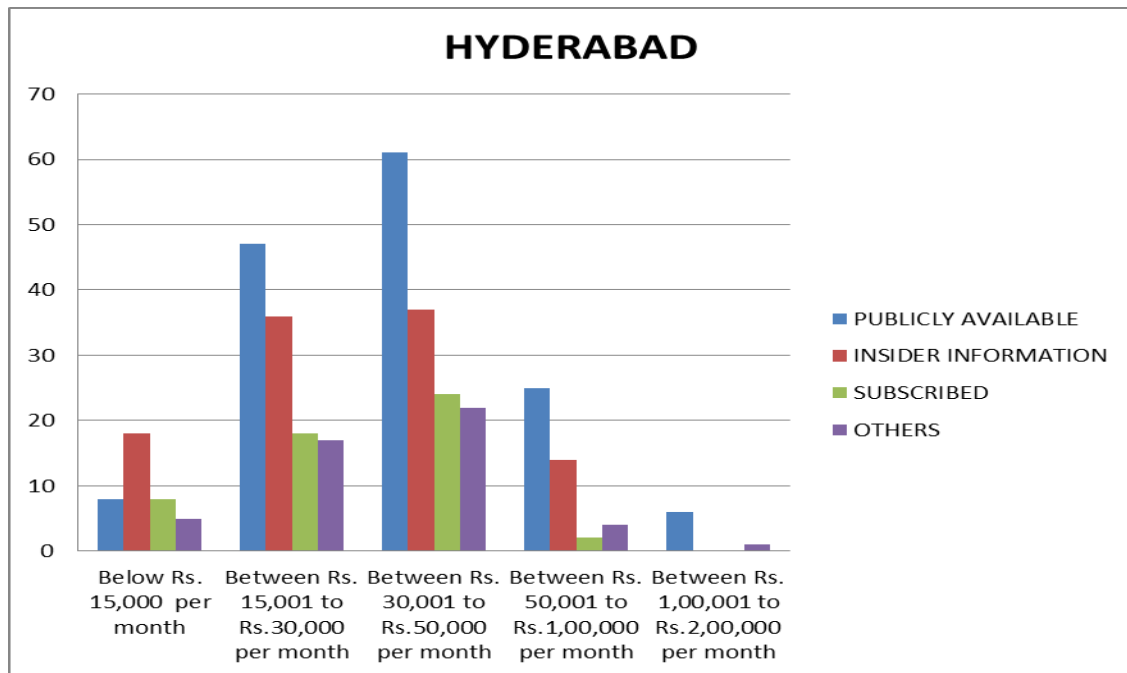


Figure 7.9 Investors Income Level and Market Information Sources (Hyderabad)

Source: From primary data analysis using SPSS 20 software and MS-Excel

Figure 7.9 shows the distribution of investors from Hyderabad and their preference of information sources. It is noticed that majority of investors in the income group two and four depend on publicly available information. From among all income groups only a

considerable proportion of investors from income group three avail subscribed information and insider information.

Figure 7.10 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on income level of investors from Mumbai.

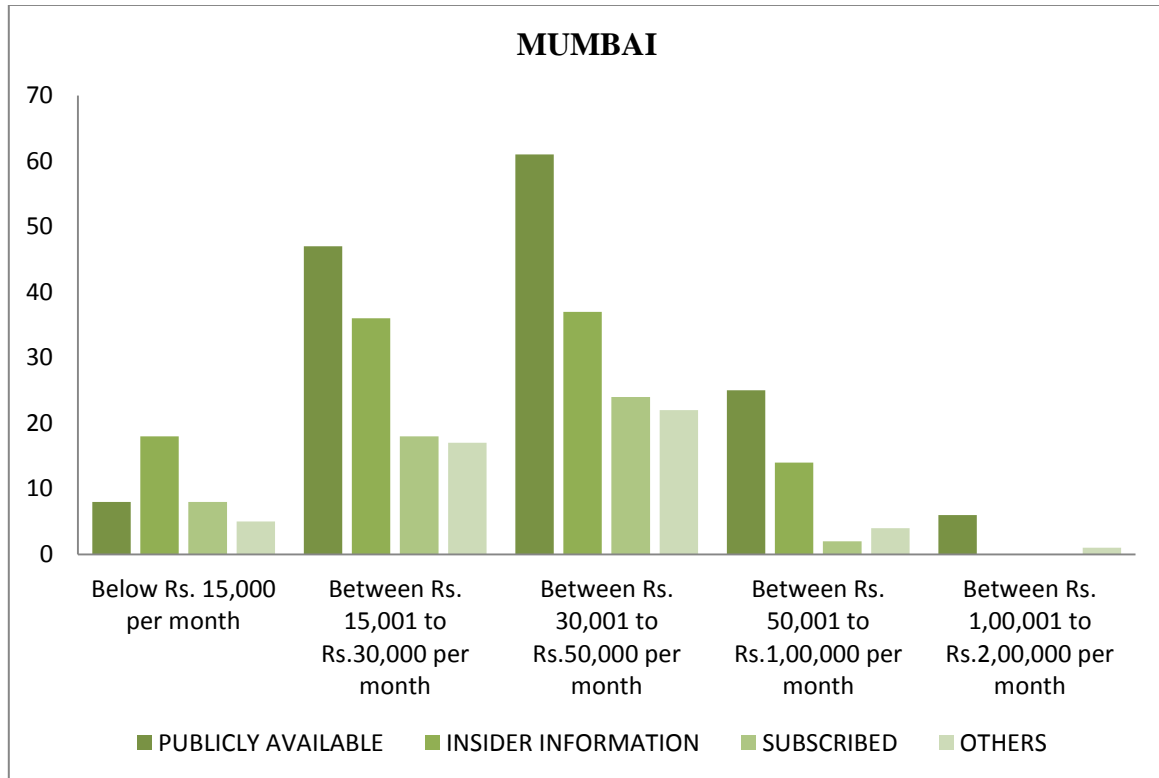


Figure 7.10 Investors Income Level and Information Sources (Mumbai)

Source: From primary data analysis using SPSS 20 software and MS-Excel

From the above figure 7.10 it can be noticed that majority of investors from Mumbai depend on publicly available information from all income groups except first. The sources of information used by investors from all income groups shows that majority of the investors depend on publicly available information, followed by insider information then followed by subscribed sources of information.

Figure 7.11 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on education level of investors from Hyderabad.

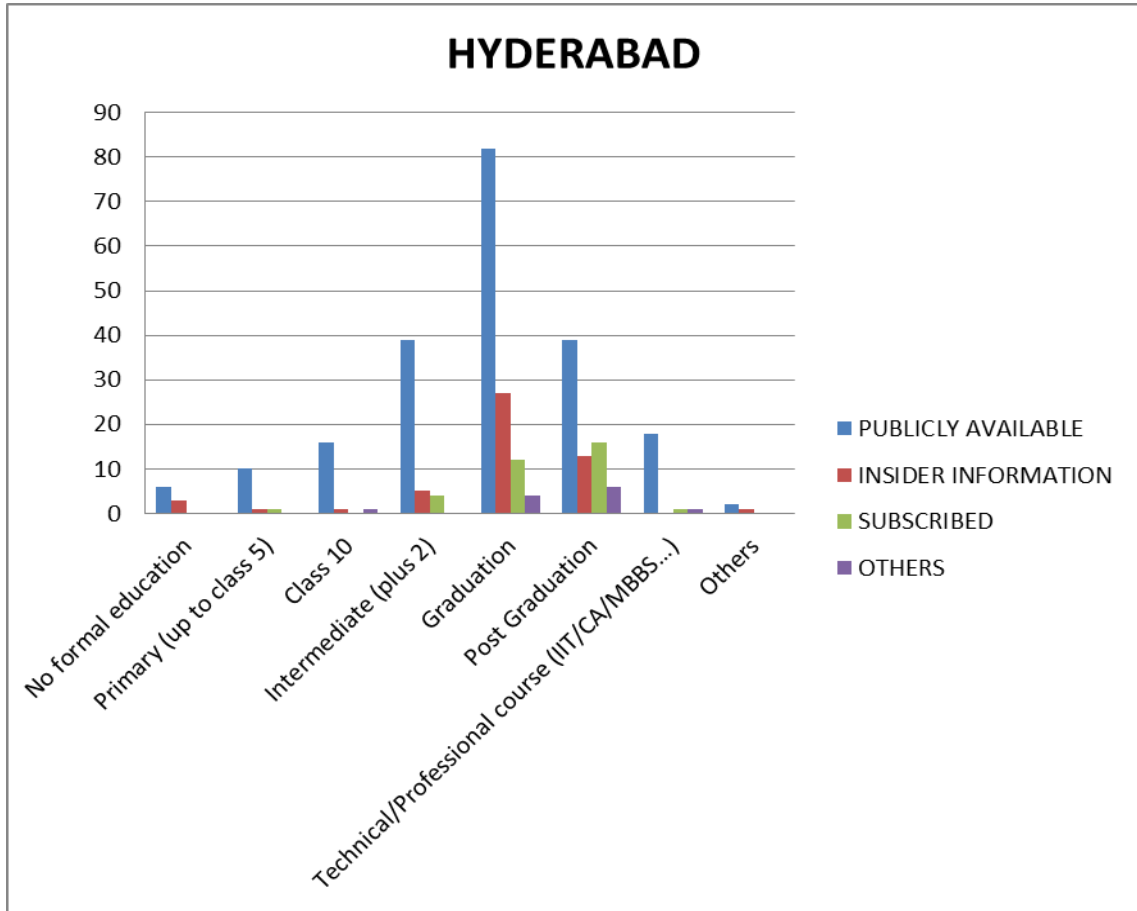


Figure 7.11 Investors Education Level and Information Sources (Hyderabad)

Source: From analysis of primary data using MS-Excel

Figure 7.11 shows that majority of investors who are using publicly available information are those with education from intermediate level to post-graduation. A small proportion of sample within this group uses subscribed information as well. For the purpose of analysis investors from group one, two, and eight are grouped together, while those from group seven are merged with group six.

Figure 7.12 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on education level of investors from Mumbai.

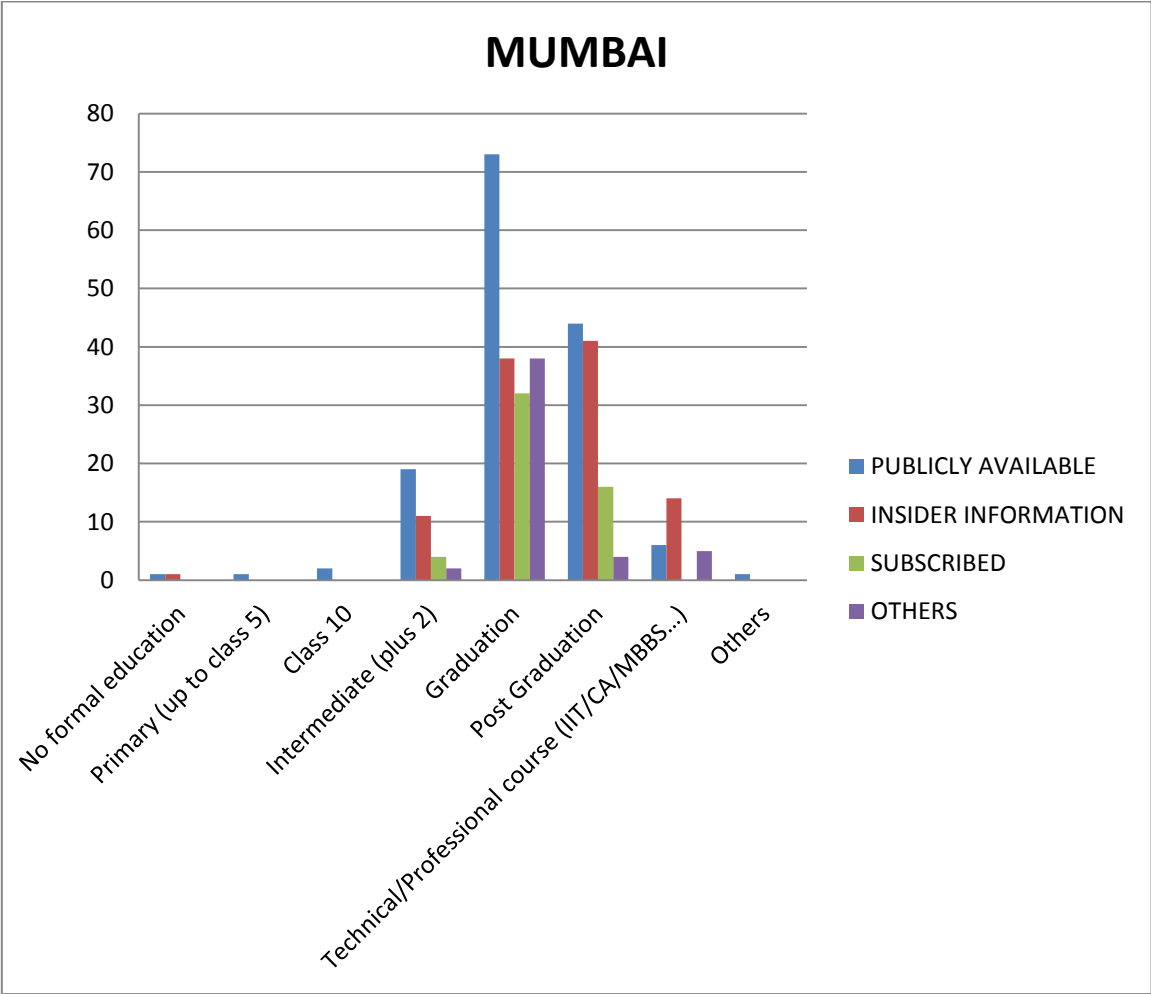


Figure 7.12 Investors Education Level and Information Sources (Mumbai)

Source: From primary data analysis using SPSS 20 software and MS-Excel

Figure 7.12 illustrates the distribution of investors across Hyderabad and Mumbai. It can be noticed clearly that majority of investors depend upon publicly available information across all education level, majority of them being educated between

intermediate and post-graduation. Except for investors from these groups others hardly use subscribed or other sources of information.

Figure 7.13 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on their investing experience from Hyderabad.

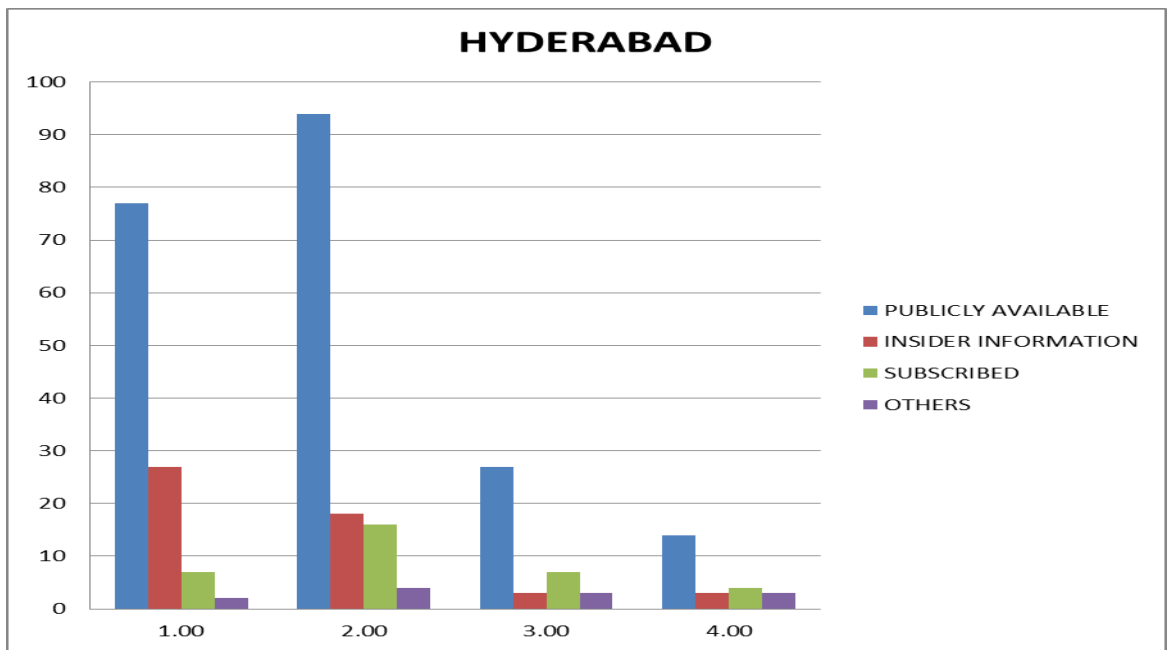


Figure 7.13 Investing Experience Level and Information Sources (Hyderabad)

Source: From primary data analysis using SPSS 20 software and MS-Excel

Figure 7.14 presents the feedback obtained from investors regarding the sources of information. It has been categorised under four levels based on their investing experience from Mumbai.

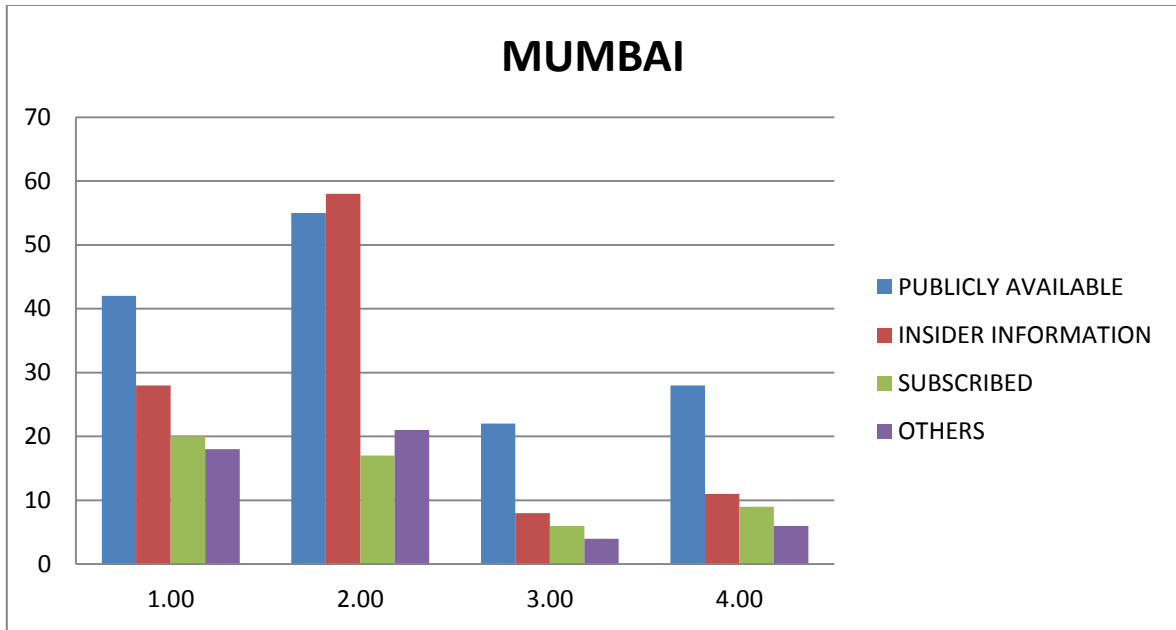


Figure 7.14 Investing Experience Level and Information Sources (Mumbai)

Source: From analysis of primary data using MS-Excel

From the figures (7.13 and 7.14) it can be found that a majority of investors irrespective of investing experience depend on the publicly available information. Insider information is used more by investors from level 1 and 2 when compared to others.

H_{19(b to e)}: There is an association between sources of information used and the demographic characteristics of investors across two cities

Table 7.2 presents the summarised results of chi-square test conducted to test for association between variable source of market information used by investors and their demographic variables.

Table 7.2

Results of Analysis for Hypotheses H_{19(b to e)}

CITY	HYDERABAD			MUMBAI		
	Pearson Chi-Square Value	d.f.	*Sig.	Pearson Chi-Square Value	d.f.	*Sig.
Age *Sources of Mrk. Infn.	50.937	12	.000	130.137	12	.000
Income*Sources of Mrk. Infn.	62.626	12	.000	22.710	12	.030
Education*Sources of Mrk. Infn.	35.751	18	.023	44.852	21	.002
Investing Exp.*Sources of Mrk. Infn.	19.346	9	.022	15.227	9	.085

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

Table 7.2 illustrates the results of analysis conducted to find the presence of association between sources of market information used by investors and the demographic characteristics like age, income level, education and investing experience across two cities. It is observed that for Hyderabad city there is a statistically significant association between age, education, income and investing experience with the sources of information.

In case of Mumbai investors it is found that except for investing experience all other demographic characteristics have statistically significant association with sources of information. It may therefore be concluded that investors from Hyderabad, the preference for sources of information differs depending on the age, income, education and investing experience.

Table 7.3 presents the results of chi-square test of association between city of residence of investors with other two variables namely, sources of market information and frequency of

Table 7.3

Results of Analysis for Hypothesis $H_{18(a)}$ and $H_{19(a)}$

Variables	Pearson Chi-Square Value	d.f.	*Sig.
City * Source of Market Information	53.985	3	.000
City* Freq. of Information acquisition	16.737	12	0.16

*Note * at 5% level of significance*

Source: From analysis of primary data using SPSS 20 and MS-Excel software

The summarised results indicate that there is a statistically significant association between city of residence and sources of market information; whereas city does not have an association with the frequency of information acquisition. It is also been observed that investors from Hyderabad (69%) and Mumbai (42%) depend on publicly available information. The preference for sources of information is different across cities.

7.4 Conclusion

Chapter seven illustrated the dimension of market information and it's importance in equity investing. Objective four is discussed here with relevant literature, data used and analysis. It comprised of Hypotheses 18 and 19 with five sub-hypotheses under each. The study was conducted to understand the existence of the association between demographic variables and investor perceptions on the importance of information acquisition about stock market. Results from analysis indicate that the city of residence is not having association with the frequency of Information Acquisition executed by investors.

However, it is also found that investor's location has a statistically significant association with the sources of information used. For other variables (i.e.) age, education

level and income there was a significant association with frequency of information acquisition and sources of market information among investors from both the cities.

It may be concluded that the investor perception towards information sources and frequency of information acquisition was similar across age, income, and education levels for investors from both the cities. It is also found that investing experience does not have any association with the frequency of investment from Hyderabad.

CHAPTER VIII

INVESTMENT PROFILE OF INVESTORS ACROSS HYDERABAD AND MUMBAI

CHAPTER – VIII
INVESTMENT PROFILE OF INVESTORS ACROSS HYDERABAD
AND MUMBAI

8.1 Introduction

Present chapter includes a brief discussion on the literature related to investor categorisation based on demographic and psychographic attributes. It is followed by the discussion on objectives and hypotheses of the study, analysis, results and conclusions.

As investors behave depending upon various cognitive and behavioural biases so does their investment decisions. These psychographic attributes influence investor's investment decisions. Certain demographic characteristics like income, education, age, location, family, gender, occupation, marital status, family size, risk taking ability, financial goals etc. are few variables which may influence the behaviour of investors in capital markets.

Mittal & Vyas (2008) have classified investors on the basis of their relative risk taking ability and the type of investment they make. (Barber and Odean, 2001; Hallahan, Faff and McKenzie, 2004) have concluded that gender plays a key role in risk aversion.

Glaser and Weber (2007) in their book on behavioural finance suggest that "Behavioural finance closely combines individual investor behaviour and market phenomena using the knowledge taken from both the psychological field and financial theory." Fromlet (2001) behavioural finance provides investors with the strategies to overcome behavioural biases faced by investors. There is research which suggests that individual investment decisions are influenced by various demographic variables (Riley & Chow, 1992; and Schooley & Worden; 1999)

For the present study individual investors have been classified into four different personality types. Relationship with various demographic factors and investment personality has been explored across two cities in Indian perspective. Categorising investors based on their financial objectives, risk taking ability, and choice of the investment portfolio (depending upon expected return). Such segmentation may be useful to brokerage firms and investment advisers who would be able to understand the requirements of investors and develop appropriate products. In this process, investors and brokerage firms are both at a winning end.

To mention a few studies which have been conducted to classify investors. (Bailard, Biehl, & Kaiser, 1986), through their five-way model classified investor and presented the investor behavioural classification. Five-Way model features the classification of investor personalities along two axes- level of confidence and method of action through a graphic representation of the model. They are classified as (1) The Adventurer (2) The Celebrity (3) The Guardian (4) Individualists and (5) The Straight Arrow. Barnwell (1987) psychographic investor model distinguishes investors based on two types (1) Passive investors and (2) Active investors. Passive investor is those who have become wealthy by means of inheritance with lower risk tolerance and greater need for security. Active investors are those who have earned their own wealth by involving their own capital, they have a higher risk tolerance level with a lower need for security.

One more popular classification was given by (Jonathan Myers, 1987) author of “Profits without Panics: Investment Psychology for Personal Wealth” and founder of investment website psychonomics.com, “the way to improved financial returns is to match investments with investor’s personality and needs”. Myers has classified investors into

cautious, emotional, technical, busy, casual and informed categories. He has also constructed various questionnaires and tools to determine the investor's personality. Brad, Barber, & Odean (2001) in their research paper from the "Quarterly Journal of Economics", entitled "Boys will be Boys: Gender, Overconfidence, and Common Stock Investment" have concluded that gender has a specific role in financial behaviour.

Gill & Davar (2008) conducted several statistical tests and concluded that gender has a prominent role in investment decision-making. It was concluded that female were very cautious with investment decision when the funds were limited, on account of which they had lower risk tolerance, lower awareness, and lower confidence levels. Thomas & Rajendran (2012) reviewed the literature on choices and decision of investors and can be classified into two schools of thought, one group of researchers believe that demographic features that relate to the significance of age, income, education, location, gender, ethnicity, wealth and others believed in a variety of other factors.

8.2 Objective and Hypotheses

(5) To determine and study the investment profile of investors from Hyderabad and Mumbai.

H₂₀: There is a significant difference in the investment objective of investors from Hyderabad and Mumbai.

H₂₁: There is a significant difference in the risk tolerance levels of investors from Hyderabad and Mumbai.

H₂₂: There is a significant difference in the expectation about portfolio return by investors from Hyderabad and Mumbai.

H₂₃: There is a significant difference in the investment personality of investors from Hyderabad and Mumbai.

Investment personality is determined based on specific information observed from investor feedback through questionnaire survey. However, it may be perceived that these attributes change from time to time as per the requirements of the investors. Demographic attributes include factors related to an individual's personality, such as age, gender, marital status, race, education, income, family size, occupation etc. Investment personality of an individual investor depends upon various factors and is dynamic. In present case, it is determined based on attributes related to three important characteristics such as investment objective, risk tolerance level and choice of the portfolio.

A detailed description of variables used for measuring each of these attributes is explained in chapter three.

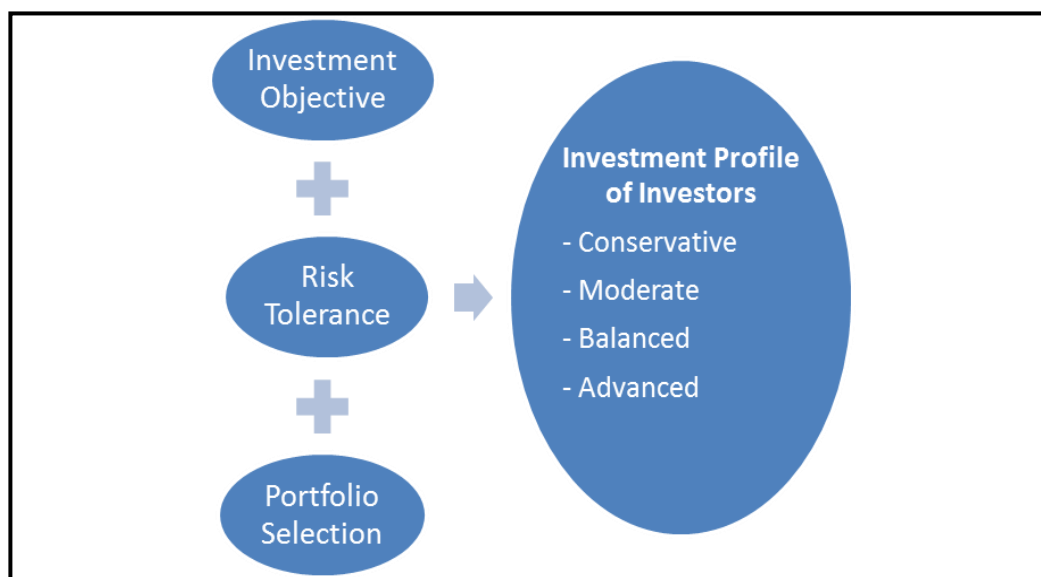


Figure 8.1 *Determinants of Investment Profile of Investors*

Figure 8.1 is used to present the dimensions which have been used to develop investment profile of investors. It can be noticed that there are four types of investment profiles for

investors which have been dependent upon three attributes of investor behaviour. These three attributes are included based on literature review.

Typography of Investors Profile

With the above-mentioned variables information, investment profile of each investor has been determined. Four types of investment profile of investors have been categorised based on literature. Investment profile of investors was determined depending upon the total scores obtained after coding each of the feedback for three attributes.

(a) *Conservative Type of Investors:* The most important goal from the investment is income generation within short time frame. They are interested in regular income and concerned about portfolio volatility with very low risk.

(b) *Moderate Type of Investors:* They are interested in higher income than and less keen about the growth of their investment with a time frame of about less than three years. Their expectations on portfolio volatility are very low indicating lower risk taking ability.

(c) *Balanced Type of Investor:* They are interested in long term balance between growth and income with low risk.

(d) *Advanced Type of Investors:* They are concerned about growth of their investment with the capital appreciation over a long term. They are little concerned about short term fluctuation and are only interested in returns after a long time frame and are not much bothered about the volatility in short run.

Table 8.1

Description of Each Category of Investors' Based on Investment Objective

Category	Description
Type 1	Investors with a primary goal of income generation with stable prices and no further contributions.
Type 2	Investors with primary goal to generate income for future with Fluctuation, potential growth and plans of making both contribution and withdrawals.
Type 3	Investors who want to fund large future expense, with long-term growth in prices likely to make a regular contribution.

Figure 8.2 depicts the city wise distribution of investors based on their investment objectives for determination of investment profile.

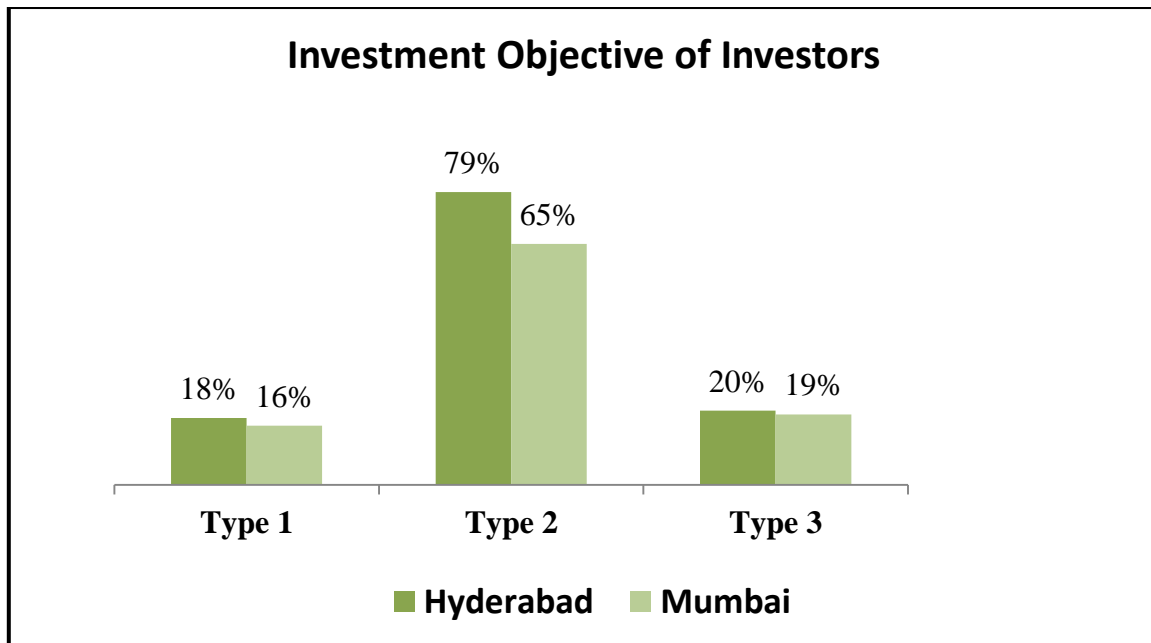


Figure 8.2 *Distribution of Investor Category Based on Investment Objective and City of*

Residence

Source: From primary data analysis using SPSS 20 and MS-Excel software.

It can be found from figure 8.2 that very few investors belong to type one and type three, a majority of investors belong to type two whose investment goal is to generate income for future from their present investments. It is found that majority of investors belong to category type two for investment objective (72%), city wise also the same trend is observed. These investors have a goal to generate income for future; they are tolerant towards fluctuation in investment returns with an expectation of potential growth in future. They also have plans of making both contribution and withdrawals to their existing investments.

Table 8.2

Description of Each Category Investors Based on Risk Taking Ability

Category	Description
Type 1	Investor with very little knowledge on investment and not prepared to take any risk expects short-term prices with no fluctuations.
Type 2	Investor with an imperfect knowledge about investment; with small holding period and prepared for least fluctuation in the portfolio.
Type 3	Investor with good working knowledge on investment with 3 years holding period, targeting high long run prices with limited fluctuation.
Type 4	Investor with complete knowledge on investment, expecting high long-term prices and not bothered about short-term fluctuation.

Figure 8.3 depicts the city wise distribution of investors based on their risk taking ability for determination of investment profile.

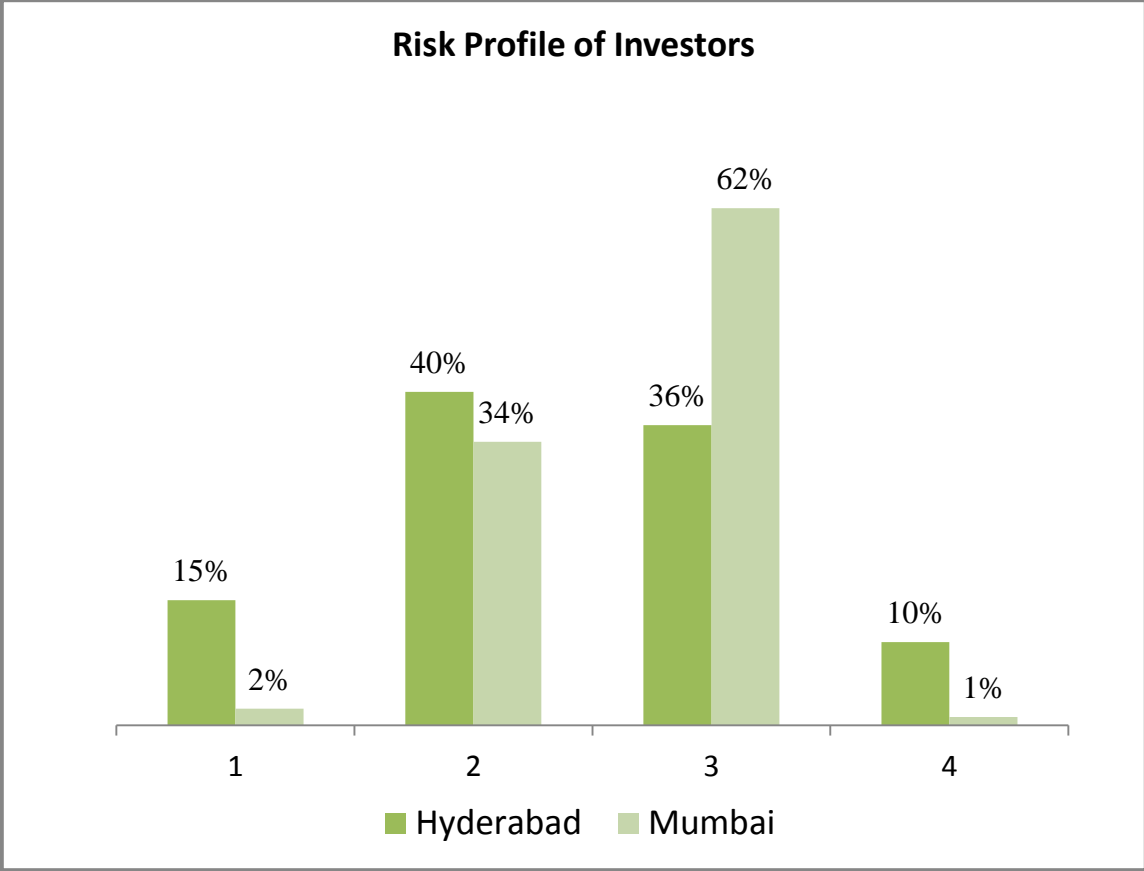


Figure 8.3 *Distribution of Investor Category Based on Risk Taking Ability*

Source: From primary data analysis using SPSS 20 and MS-Excel software.

From figure 8.3 it can be noticed that risk tolerance level of Mumbai investors is reasonably high when compared to Hyderabad investors, as a majority of them 62% belong to type three from Mumbai (62%) and (36%) for Hyderabad. They are the investors who think they possess reasonably good knowledge on investments and have a holding period of at least three years.

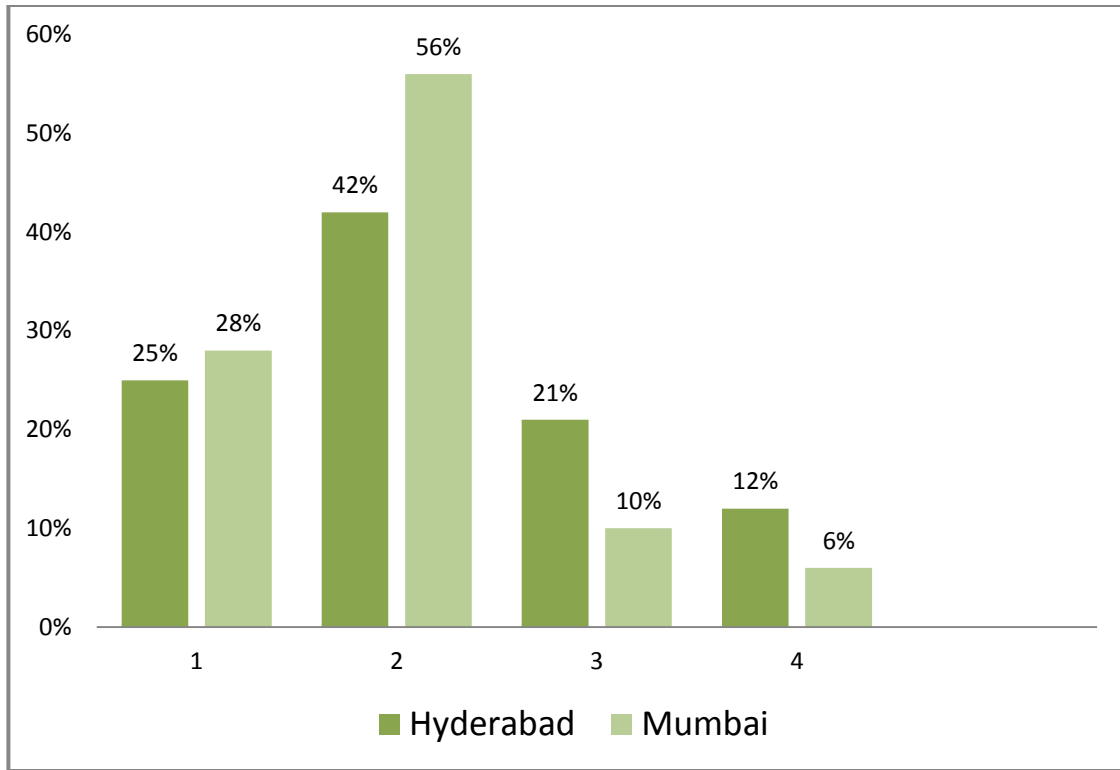


Figure 8.4 *Distribution of Investor Category Based on Choice of Portfolio*

Source: From primary data analysis using SPSS 20 and MS-Excel software.

It is noticed that number of investors from Hyderabad (42%) and Mumbai (56%) belong to type two. These investors are characterised with imperfect knowledge on investing, not prepared for fluctuations in their investment returns and intend to invest for a small duration. There are few investors in type -1 and type -4 categories from both the cities.

Table 8.3

Description of Each Category Investors Based on Portfolio selection

Category	Description
Type 1	Investor not prepared for any change in basic investment with chance of any long term prices

Type 2	Investor ready for least fluctuation, with safe prices and minimum loss.
Type 3	Investor ready to accept some fluctuation in portfolio value with high overall long-run prices.
Type 4	Investor targeting high long run prices and prepared for large and frequent decline with a chance of high long-term Prices.

The majority of investors from both cities are of Type -3 followed by Type – 2. These are investors who are prepared for some fluctuations in the portfolio return with an expectation of higher returns in long run.

Distribution of Investor Category

Investment profile of investor has been derived after coding the investor responses towards three attributes namely investment objective, risk profile and portfolio choice. The distribution of investors for these categories has been presented in table 8.4.

Table 8.4

Distribution of Investor Category Based on Investment Objective, Risk Profile and Portfolio selection of Investors

Measures	Category	Hyd.	Hyd.(%)	Mumbai	Mumbai (%)	Total	%
Investment Objective Investor Category	1	55	18%	57	16%	112	17%
	2	247	79%	228	65%	475	72%
	3	7	3%	68	19%	75	11%
Total		309	100%	353	100%	662	100%
Risk Profile Investor Category	1	47	15%	7	2%	54	8%
	2	121	40%	121	34%	242	37%
	3	110	35%	220	62%	330	50%
	4	31	10%	5	2%	36	5%
Total		309	100%	353	100%	662	100%
Portfolio	1	77	25%	99	28%	176	27%

Return Investor Category	2	130	42%	197	56%	327	49%
	3	65	21%	34	10%	99	15%
	4	37	12%	23	7%	60	9%
Total		309	100%	353	100%	662	100%

Source: From primary data analysis using SPSS 20 software and MS- Excel

Table 8.4 presents the distribution of investors from two cities based on investment objective, risk profile and portfolio choice. It can be noticed that they are further categorised, based on their characteristics. For risk profile they are distributed into four types, overall 50% belong to Type-3. Among Hyderabad investors Type-2 investors are maximum (40%) and from Mumbai, Type-3 form the majority (62%). It is also noticed that depending on portfolio choice majority of investors belong to Type-2 category.

8.3 Results from Analysis

H₂₀: There is a significant difference in the investment objective of investors from Hyderabad and Mumbai.

H₂₁: There is a significant difference in the risk tolerance levels of investors from Hyderabad and Mumbai.

H₂₂: There is a significant difference in the expectation about portfolio return by investors from Hyderabad and Mumbai.

A chi-square test of association was conducted to study the association between variables.

The summarised results are presents in table 8.5.

Table 8.5

Summary of Results of Chi-square test for Hypotheses 20 to 22

Variables	Pearson Chi-Square Value	d.f.	Asymp. Sig. (2-sided)*
City * Investment Objective	66.809	2	0.000
City * Risk	82.514	3	0.000
City * Portfolio Return	26.645	3	0.000

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software and MS- Excel

A significant interaction was found as indicated by the above table 8.5, the significance values were less than 0.05 and it can be concluded that city of residence had an association with investment objective, risk profile and portfolio selection of investors.

H₂₃: There is a significant difference in the investment personality of investors from Hyderabad and Mumbai

Table 8.6 presents the distribution of investors based on their investor profiles from two cities (i.e) Hyderabad and Mumbai.

Table 8.6

City and Investor Profile Cross Tabulation and Percentages

City	Investment Personality of Investor							
	Conservative	(%)	Moderate	(%)	Balanced	(%)	Advanced	(%)
Hyderabad	89	13%	126	19%	74	11%	20	3%
Mumbai	55	8%	202	31%	72	11%	24	4%
Total	144	22%	328	50%	146	22%	44	7%

Source: From primary data analysis using SPSS 20 software and MS- Excel

From the table it can be observed that investors who are moderate are maximum across both the cities and those who have the minimum size are the advanced type of investors.

Figure 8.5 presents the graphical view for distribution of investors based on their investor profiles from two cities (i.e) Hyderabad and Mumbai.

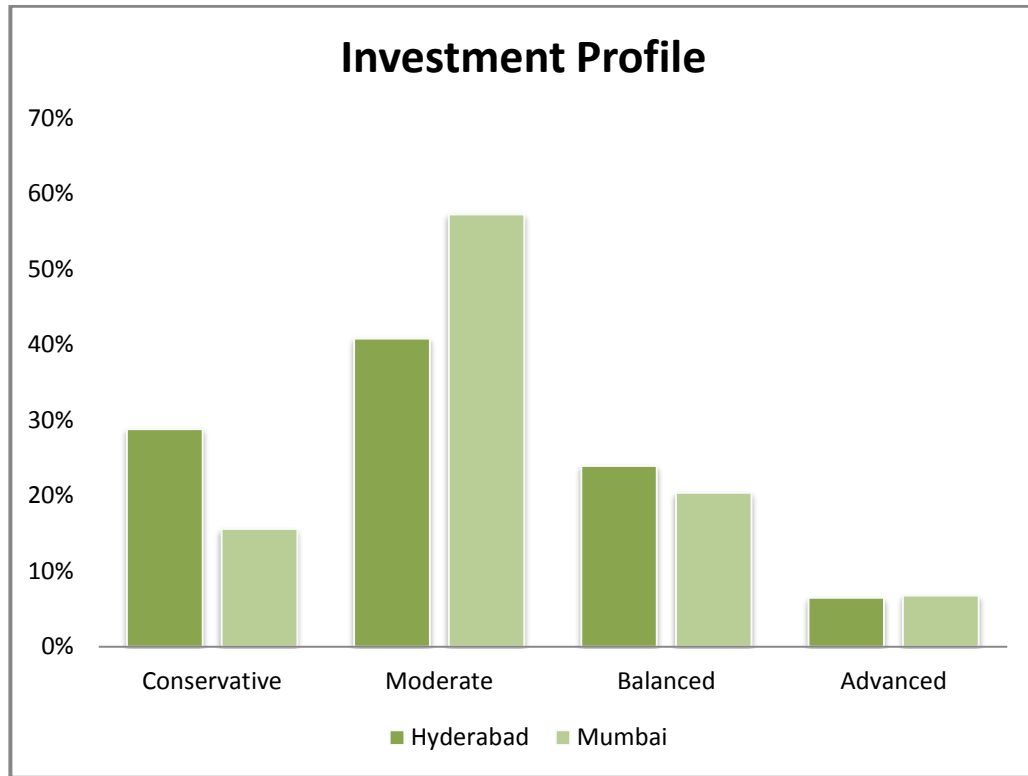


Figure 8.5 *Distribution of Investors Based on Profile (Hyderabad and Mumbai)*

Source: From primary data analysis using SPSS 20 software and MS- Excel

Figure 8.4 shows that majority of investors from Mumbai (57%) and Hyderabad (41%) are moderate type. The second category were most of the investors are concentrated is the conservative type for Hyderabad (29%) and balanced type for Mumbai (24%).

Table 8.7 shows the summarised results for chi-square test of association between the city of residence and investment profile of investors.

Table 8.7

Results of Chi-square Test for H₂₃

Chi-Square Tests			
Investor Profile*City [H₍₂₃₎]	Value	d.f.	Asymp. Sig.*
Pearson Chi-Square	23.207	3	.000
N of Valid Cases	662		

**Note: tested at 5% level of significance*

Source: From primary data analysis using SPSS 20 software and MS- Excel

A chi-square test of association between the city of residence and investment profile of investors results from table 8.7 indicate the presence of a significant association between variables with chi-square value (23.207, d.f. =3) at value less than 0.05. Most of the investor personality type was found to be of moderate nature from both cities; at the same time, very few investors were of advanced nature

8.3 Conclusion

Chapter five is related to objective five of the study. Investment profile of individual investors is assessed based on three primary attributes as recognised from the literature review; they are investment objective, risk taking ability and expected return from the portfolio. This chapter included the analysis conducted based on primary data collected from 662 respondents from Hyderabad (309) and Mumbai (353).

The results indicated a statistically significant relation between the city of residence with investment objective, risk taking ability and choice of the portfolio. Overall investor personality type was found to be influenced by the city of residence of investors, most of the investor personality type was found to be of moderate nature from both cities; at the same time, very few are of advanced in nature. It is also found that from among moderate investors most of them were from Mumbai whereas Hyderabad investors are more of conservative nature.

CHAPTER IX

CONCLUSION AND SUGGESTIONS

CHAPTER - IX

CONCLUSION AND SUGGESTIONS

9.1 Introduction

This chapter illustrates the results obtained to the research questions which were proposed for the present study. A brief summary of objectives, methodology, analysis, results and conclusions are incorporated in this chapter. In addition, it includes the contribution of present study to theory and practice in the area of factors affecting equity investor's returns. The limitations and scope of study, suggestions from the present research are incorporated for stakeholders in equity markets such as individual investors, depository participants and policy makers.

Most of the study related to individual investors so far has been based on the extensive stock market data, statistics from brokerage houses related to market portfolio simulations. It is found that there are very few attempts made to capture this data through observations as it is challenging to attain. Through the present research an effort is made to fill this gap to some extent. It is also found that researchers have given considerable emphasis towards research on institutional investors whereas very little sensitivity is found towards the behaviour of individual investors. Research on individual investors is mostly found from industrialised countries (e.g. USA, UK, and Canada). Further the objectives of present study aim to understand the investor's preference for Investment Instrument, relating their sources of information with demographic characteristics and presenting an investment profile of investors.

The execution of the study is done after categorising various factors as macroeconomic factors, corporate actions, and identifying the most influential demographic attributes of investors. A survey of individual investors across two cities has been conducted to recognise their demographics and its incidence on their perceptions regarding various factors. The cities selected for the study are Hyderabad and Mumbai. The basis for selection of city has been high concentration of active demat account holders in Mumbai; as well as this city being the financial capital of India. Another city was Hyderabad selected for comparative study, the main reason for its selection being that it is a fast developing city apart from being the domicile city of researcher and affiliated University. Hyderabad is also a city which is very much advanced in technology and development. The main component of financial world is technology and Hyderabad has proven record for the same. It is assumed that individuals here have huge potential to benefit from equity investments.

Identification of various factors which may potentially influence the equity investments were drawn from existing literature. It was understood that these factors may further be classified into categories before proceeding with further study for more articulation. There have been studies where each of these factors was separately researched upon to draw significant conclusions. This is an attempt to bring together some of the factors which influence investment returns from equity and they have been categorised as macroeconomic factors, corporate actions, and demographic characteristics. These factors have been analysed based on secondary data and primary data which was obtained through survey.

9.2 Macroeconomic Variables

Engel & Granger (2005) In spite of numerous attempts for stabilisation and development of stock markets, emerging economies are characterised by very high volatility. They also seem to be sensitive to changes in economic activity both domestic and international. Changes in government policy and political factors also are found to influence stock markets. This relation may vary depending upon the macroeconomic variables, duration of study, time frame selected for study, frequency of data for reason that these factors are of dynamic nature.

Table 9.1 presents the information about objectives 1(a) with relevant hypotheses which were tested and their results.

Table 9.1

Summary of Objectives, Hypotheses and Conclusions for 1(a)

S.No.	Objectives and Hypotheses	Conclusion from Analysis
Obj.1(a)	To study the relationship between macroeconomic variables and stock market prices	Not supported
H ₁	There is a causal relationship between monthly stock price movement of Nifty 50 and Crude Oil Prices	No Causality
H ₂	There is a causal relationship between monthly stock price movement of Nifty 50 and Gold Prices	No Causality
H ₃	There is a causal relationship between monthly stock price movement of Nifty 50 and Index of Industrial Production	No Causality
H ₄	There is a causal relationship between monthly stock price movement of Nifty 50 and Wholesale Price Index	No Causality
H ₅	There is a causal relationship between monthly stock price movement of Nifty 50 and US Dollar to Indian Rupee Exchange Rate	Bi-directional causality
H ₆	There is a causal relationship between monthly stock price movement of Nifty 50 and European Euro to Indian Rupee Exchange Rate	No Causality

Secondary data included six macroeconomic variables as shown in table 9.1 with monthly data for 117 observations from April 2006 to December 2015. An analysis using granger causality test between Nifty 50 and six macroeconomic variables namely, crude oil prices, gold prices, index of industrial production, wholesale price index, US Dollar to Indian rupee exchange rates and Euro to Indian rupee exchange rate was conducted. Nifty 50 index closing prices were considered as proxy for market movement.

After testing for the satisfaction of the assumptions for stationarity of data using ADF tests the final analysis was conducted. The results indicated the existence of bi-directional causality between Nifty 50 index and INR to USD exchange rate. In case of other macroeconomic variables no causal effect was found between independent variables and dependent variables during the period of study.

The results of analysis indicated very high standard deviation for Nifty 50 Index and gold prices which imply that the spread of these variables was away from their respective means. Correlation analysis of the variables has indicated existence of a high correlation coefficient (0.76) between wholesale price index and Nifty 50, (0.75) with Index of Industrial Production and (0.65) with gold prices. Graphical representation of data indicated that gold and Nifty 50 almost seemed to move together. There was a strong positive correlation between Nifty 50 index movements with Gold prices. All the macroeconomic variables had a statistically significant correlation with Nifty 50 index; crude oil prices had the least correlation coefficient of (0.21) and wholesale price index had the highest coefficient (0.76).

The outcome of the analysis is consistent with the findings of Agarwal, et al., (2010); which was conducted to understand the relation between Nifty and INR to USD exchange rates for period 1st October, 2007 to 31st December, 2009 using daily closing prices after correction to natural log. Other such study by Baranidharan & Srinivasan (2014) tested for the causal relation between CNX BankEx and exchange rate revealed the existence of causal relation between these variables. The study was conducted on monthly data during January 1st, 2004 to 31st December, 2013.

Ahuja, et al., (2012) in their study using seven macroeconomic variables and their effect on stock market has indicated that three important variables which were Sensex and exchange rate from INR to USD had a positive correlation coefficient.

- As indicated from analysis there is bidirectional causality between INR and USD exchange rate with Nifty 50, revealed through granger causality test. It may therefore be concluded that these two variables can be used to forecast each other's movement.
- It is also concluded that the relation between Nifty 50 and USD to INR exchange rate is on account of influence of foreign investment which have a significant market participation in Indian markets.
- Although other macroeconomic variables have not shown significant causal relationship they do share a significant correlation, hence it may be concluded that they also have some commonness with Nifty 50 movement.

Table 9.2 presents the information about objectives 1(b) with relevant hypotheses which were tested and their results.

Table 9.2

Summary of Objectives, Hypotheses and Conclusions for Objective 1(b)

S.No.	Hypotheses	Conclusion from Analysis
1(b)	To make a comparative analysis on perceptions of individual investors on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai	
H _{7(a)}	City of residence has an association with investor perception on the importance of awareness about the macroeconomic variables for equity investment decisions.	Accepted
H _{7(b)}	Age of the investor has an association with their perception on the importance of awareness about the macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.	Accepted
H _{7(c)}	Education level of the investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai	Partially Accepted
H _{7(d)}	Income level of investor has an association with their perception on the importance of awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.	Partially Accepted
H _{7(e)}	Investing experience of investor has an association with their perception on the importance on awareness about macroeconomic variables for equity investment decisions from Hyderabad and Mumbai.	Partially Accepted

There were eleven variables included for the study which were identified from literature. These variables were used in the questionnaire as a sub-scale with five point likert scale, for obtaining investor feedback from investors. Chi-square test of association was found to be appropriate for conducting analysis of primary data depending upon the satisfaction of assumptions of the test. The purpose of the present objective was to test for the existence of association between the demographic variables across two cities and it's effect on the perceptions of investors on the importance of each macroeconomic variable. The results of

the analysis indicated that city of residence played an important role on the perceptions of individual investors in case of all macroeconomic variables except for two variables.

- These two variables were stock market fluctuation and inflation rate for which the association with city was statistically insignificant with (p-value > 0.05).
- Results from analysis indicate that for Mumbai city the mean values of variables were very high in case of bank interest rate (4.07) and stock market sentiment (4.07), political factors (4.06) thus indicating that there was higher level of importance given to these variables when compared to others which were included in the study.
- Among the respondents from Hyderabad it was found that for bank interest rate the mean was (3.95), for inflation and political conditions it was (3.89). However Mumbai investors seemed to be better informed about the importance of macroeconomic variables when compared to investors from Hyderabad as revealed by the results of analysis.

Therefore, it is noted is that stock market fluctuation, bank interest rates and political conditions topped the list of awareness level by two investor groups. The relation between the demographic variables such as age, income level, education level, city of residence and investment experience were tested for association with awareness on importance of awareness on macroeconomic variables.

The results that have been summarised in table 9.2, which indicate that geographic location of investors and their age level had an association with their perceptions. Whereas, in case of other variables same could not be proved for investors from Hyderabad there was no association found between demographic variables and perceptions of investors.

The study of relation between investor perceptions on macroeconomic variables and demographic attributes in Indian perspective has been of value as this area is very less explored in Indian context.

- The results from analysis indicate that investment decisions in equity for investors across Hyderabad and Mumbai are influenced by their awareness about macroeconomic variables.
- Investors believe that being informed about these factors may have an impact on their equity returns. Study by Ruta, K (2014) on investor perceptions towards the macroeconomic variables and their impact on stock market investors revealed that individual factors such as age and years of market investment influenced their perception.

9.3 Corporate Actions

Table 9.3 presents the information about objectives 2(a) with relevant hypotheses which were tested and their results.

Table 9.3

Summary of Objectives, Hypotheses and Conclusions for Objective 2(a)

S.No.	Hypotheses	Conclusion from Analysis
2(a)	To Study the effect of corporate announcements on stock prices of companies listed under Nifty Index.	
H ₈	<i>There is an effect of the ex-dividend date on stock prices of Nifty firms</i>	Not Supported
H _{8(a)}	There is an effect of the ex-dividend date on stock prices of Nifty firms for 61 days event window.	Not Supported
H _{8(b)}	There is an effect of the ex-dividend date on stock prices of Nifty firms for 31 days event window.	Not Supported
H _{8(c)}	There is an effect of the ex-dividend date on stock prices of Nifty firms for 11 days event window.	Not Supported
H ₉	<i>There is an effect of the ex-bonus date on stock prices of Nifty firms.</i>	Supported
H _{9(a)}	There is an effect of the ex-bonus date on stock prices of Nifty for 61 days event window.	Supported

H _{9(b)}	There is an effect of the ex-bonus date on stock prices of Nifty for 31 days event window.	Supported
H _{9(c)}	There is an effect of the ex-bonus date on stock prices of Nifty firms for 11 days event window.	Supported
H ₁₀	<i>There is an effect of the ex-rights date on stock prices of Nifty firms.</i>	Supported
H _{10(a)}	There is an effect of the ex-rights date on stock prices of Nifty firms for 61 days event window	Supported
H _{10(b)}	There is an effect of the ex-rights date on stock prices of Nifty firms for 31 days event window.	Supported
H _{10(c)}	There is an effect of the ex-rights date on stock prices of Nifty firms for 11 days event window.	Supported
H ₁₁	<i>There is an effect of the ex-splits date on stock prices of Nifty firms.</i>	Not supported
H _{11(a)}	There is an effect of the ex-splits date on stock prices of Nifty firms for 61 days event window.	Not supported
H _{11(b)}	There is an effect of the ex-splits date on stock prices of Nifty firms for 31 days event window.	Supported
H _{11(c)}	There is an effect of the ex-splits date on stock prices of Nifty firms for 11 days event window.	Not supported

The second objective of the study is to understand the response/awareness of investors about effect of information on corporate actions on the companies listed under Nifty 50 Index. This objective has been effectuated by the analysis of secondary as well as primary data. Corporate actions which were very basic, well published and publicly available were included in the study. This comprised of four corporate actions which were dividend announcements, bonus issues announcement, rights issue and stock splits announcements.

Event study methodology, an econometric method have been used to understand the effect of each announcement. Secondary data included the ex-dates for each of these announcements made by companies listed under Nifty 50 Index. Following market model for calculation of abnormal returns and using the closing prices of Nifty 50 index as market proxy, abnormal returns were calculated for each ex-date separately. The cumulative average abnormal returns were derived for each corporate action across the time period

(i.e.) 2011 to 2015. This comprised of 105 ex-dividend dates, 14 ex-bonus dates, two ex-rights dates and six share splits. Abnormal returns were tested for difference during pre-event and post event period for event windows of 61 days (-30 to +30), 31 days (-15 to +15) and 11 days (-5 to +5). For understanding the trend in the stock returns during the pre and post event period statistical tests such as paired t-test, Wilcoxon signed rank test were used on average abnormal returns of each event. The results indicated significance of abnormal returns for 11 days event period for ex-bonus dates, 61 days, 31 days and 11 days event period for ex-splits date. Dividend's and rights issue events were not found to be impacting the stock returns around these three event windows.

It can therefore be concluded that stock prices of firms listed under Nifty 50 index were highly responsive to stock split and short period market responsiveness for bonus announcements. Other studies which were conducted in same area have found that Raja & Sudhakar (2010), in information technology sectors security prices were responsive to bonus issue announcements during the period (2000 to 2007). Malhotra (2013) study on bonus and rights issue announcements around 2011 also is indicative of market reaction to these two announcements and also affirms that firms should release such news carefully in the market. It can therefore be concluded that in Indian markets there is a semi-strong form of information efficiency except in the case of dividends and stock splits. This phenomenon is supported by little study considering that their effect may be diluted; due to other information which was released at the same time. (Yu & Yin, 2001) Study from Chinese markets concludes that markets were not sensitive to cash dividends. Titman & Wei (2001) study from Shanghai Stock Exchanges on the signaling effect of dividend policy suggested that the degree of CAR was greatly different on account of different

dividend policies. (Conroy. et al., 1999; Mikhail, et al., 1999) Indicate that dividends lose signaling content in explaining the firms future performance when stumpy earnings and other earning related information is released simultaneously.

- The significant contribution of study lies in capturing the reaction of Indian stock markets for ex-dates of four corporate actions for a period of five years. There have been very limited numbers of studies which have researched upon ex-dates, although the announcement date has been well researched.
- It is also recommended that investors today have sufficient access to information on internet and other sources. If they keep a tract of corporate actions it may help them to make better returns from equity investing.

Table 9.4 presents the information about objectives 2(b) with relevant hypotheses which were tested.

Table 9.4

Summary of Objectives, Hypotheses and Conclusions for Objective 2(b)

S.No.	Objectives and Hypotheses	Conclusion from Analysis	
Obj.2 (b)	To make a comparative analysis on perceptions of individual investors on the importance of awareness on corporate actions for equity investment decisions from	Hyderabad	Mumbai
H₁₂	City of residence of investor has an association with their perception on the importance of awareness about corporate actions for equity investment decisions from Hyderabad and Mumbai.	Supported	Supported
H _{12(a)}	There is an association between perceptions of investors on dividend announcement and city of residence.	Supported	Supported
H _{12(b)}	There is an association between perceptions of investors on bonus issue announcement and city of residence.	Supported	Supported
H _{12(c)}	There is an association between perceptions of	Supported	Supported

	investors on stock split announcement and city of residence.		
H _{12(d)}	There is an association between perceptions of investors on rights issue announcement and city of residence.	Supported	Supported
H ₁₃	Age of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.	Supported	Supported
H _{13(a)}	There is an association between perceptions of investors on dividend announcement and age across two cities.	Supported	Supported
H _{13(b)}	There is an association between perceptions of investors on bonus issue announcement and age across two cities.	Supported	Supported
H _{13(c)}	There is an association between perceptions of investors on stock split announcement and age across two cities.	Supported	Supported
H _{13(d)}	There is an association between perceptions of investors on rights issue announcement and age across two cities.	Supported	Supported
H ₁₄	Education level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.	Not Supported	Not Supported
H _{14(a)}	There is an association between perceptions of investors on dividend announcement and education level across two cities.	Not Supported	Supported
H _{14(b)}	There is an association between perceptions of investors on bonus issue announcement and education level across two cities.	Supported	Not Supported
H _{14(c)}	There is an association between perceptions of investors on stock split announcement and education level across two cities.	Not Supported	Not Supported
H _{14(d)}	There is an association between perceptions of investors on rights issue announcement and education level across two cities.	Not Supported	Not Supported
H ₁₅	Income level of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.	Hyderabad	Mumbai
H _{15(a)}	There is an association between perceptions of investors on dividend announcement and income level across two cities.	Supported	Not Supported
H _{15(b)}	There is an association between perceptions of investors on bonus issue announcement and income level across two cities.	Supported	Supported
H _{15(c)}	There is an association between perceptions of investors on stock split announcement and income level across two cities.	Supported	Supported
H _{15(d)}	There is an association between perceptions of investors on rights issue announcement and income	Supported	Not Supported

	level across two cities.		
H ₁₆	Investing experience of an investor has an association with their perception on importance of awareness on corporate actions from Hyderabad and Mumbai.	Hyderabad	Mumbai
H _{16(a)}	There is an association between perceptions of investors on dividend announcement and investing experience across two cities.	Not Supported	Supported
H _{16(b)}	There is an association between perceptions of investors on bonus issue announcement and investing experience across two cities.	Not Supported	Supported
H _{16(c)}	There is an association between perceptions of investors on stock split announcement and investing experience across two cities.	Supported	Supported
H _{16(d)}	There is an association between perceptions of investors on rights issue announcement and investing experience across two cities.	Not Supported	Supported

Objective 2(b) was included with the goal to understand the existence of any association between the perceptions of investors regarding the importance of corporate actions based on their demographic characteristics across two cities. It has been found that various demographic variables have an effect on the investor behaviour towards the awareness on corporate actions.

Obamuyi, T.M (2013) this difference in behaviour of investors across cities could be on account of socio economic characteristics being different across different locations. Sireesha & Laxmi (2013) concluded that the investors from Hyderabad and Secunderabad twin cities are conservative in nature and not much interested to make money multiplication and liquidity. (Jain & Mandot, 2012; Mittal & Vyas, 2008; Pawar, 2013; Shanmugasundaram & Balakrishnan, 2009; Sharma & Gupta, 2011) through their research find that corporate actions have an impact from various demographic categories. The present study is in consensus with the findings from literature in addition to adding a new perspective of comparison between two prominent cities.

The results indicated the follows:

- A significant interaction was found for all corporate announcements, indicating that city of residence and age was vital and affected the perceptions of individual investors regarding importance of awareness of all four corporate actions.
- Education level of investors did not seem to have much influence on the investors' perceptions on importance of awareness about corporate actions.
- Income level of investors was found to influence investor's perception on importance of awareness about corporate actions among investors surveyed from Hyderabad.
- In case of Mumbai investors it was found that investors from difference income groups had similar opinions about the importance of awareness on dividend and right issue announcements only.
- A perception of investors (Mumbai) from various categories of investment experience was found to different towards importance of awareness on corporate actions. In case of investors from Hyderabad no such association was found

It may therefore be agreed that investors from both the cities consider the need to be informed about corporate actions. However it is also found that demographic characteristics such as age had a considerable influence on their perceptions.

9.4 Investor Demographics and Choice of the Investment Instrument

The objective three of the study is framed to study the awareness level of individual investors across two cities with respect choice of investment instruments. The perceptions of individual investors were analysed based on their association with demographic variables such as the city of residence, education level, income level, investing experience,

and the income level. Gender was not included due to low participation from female investors in the sample obtained.

For fulfillment of objective the hypotheses has been framed and tested using chi-square test of association. The results indicate that age as variables has an implication on the earning capacity of individuals, which will have a direct impact on their ability make investments, as investments are sourced from savings. Therefore as age increases the ability to invest is believed to be increasing; however there may be other factors which act as a hindrance to this belief. Fares & Khamis (2011) investigated the individual investor's stock trading behaviour in Anman Stock Exchange and find that investor's age, education and accessibility to internet have a significant impact on stock trading. Education has an impact on the financial knowledge of investors and their ability to understand dynamics of investment in financial markets.

Table 9.5 presents the information about objectives three with relevant hypotheses which were tested.

Table 9.5

Summary of Objectives, Hypotheses and Conclusions for Objective 3

S.No.	Objectives and Hypotheses	Conclusion from Analysis	
Obj. 3	To examine association between investor's preference of investment instrument and their demographic characteristics.	Hyderabad	Mumbai
H ₁₇	There is an association between investor's preference of the investment instrument and their demographic characteristics from Hyderabad and Mumbai.		
H _{17(a)}	There is an association between investor's preference of the investment instrument and their city of residence.	Supported	
H _{17(b)}	There is an association between investor's preference of the investment instrument and their age.	Supported	Partially Supported (7/10)

H _{17(c)}	There is an association between investor's preference of the investment instrument and their education level.	Partially Supported (7/10)	Partially Supported (6/10)
H _{17(d)}	There is an association between investor's preference of the investment instrument and their income level.	Supported	Supported
H _{17(e)}	There is an association between investor's preference of the investment instrument and their investing experience.	Partially Supported (9/10)	Partially Supported (8/10)

It was witnessed that:

- City played an important role in selection of the investment instrument among investors. The chi-square values were found statistically significant at 5% level of significance for all the investment instruments for both the cities except in case of fixed deposits, Post office deposits and corporate bonds.
- For investors from Hyderabad, mutual funds and insurance are the two most preferred investment instruments after equity.
- In case of Mumbai investors after Equity investment, Public Provident Fund and Bank deposits are considered more attractive.
- Post office deposits, Insurance and Bank deposits are found to be more attractive investment options among all income groups.
- Equity is preferred mostly by investors from income groups Rs.15,000 - Rs.30,000 as well as by Rs.50,000 to Rs.1,00,000.
- Chit funds are not found to be preferred by most of the investors from almost all income groups.
- Education level of investors and their investing experience was not found to be associated with the choice of Investment Instrument.

➤ To attract more and more investors into equity segment it is therefore required to organise more investor awareness programs to remove these barriers.

Therefore an investor who has higher education, there is a better opportunity to invest in sophisticated investment instruments. Schooley & Worden, (1999) from their study observed that investors with education higher than the secondary school level hold more risky portfolios. They also find that the percentage of equity holdings in their portfolios increase with age until retirement and then decreases with age. Riley & Chow (1992) risk aversion decreases with age until five years prior to retirement and then increases with age. The investing experience does not have an association with the choice of Investment Instrument; Glaser & Weber (2007) study confirms that overconfident investors are those who think they are above average in terms of investment skills or past performance. This is implied when they have a longer period of investing experience. This conclusion is consistent with other recent studies (Deaves, et al. 2009; Graham et al. 2009).

9.5 Sources of Information and Frequency of Information Acquisition

Table 9.6 presents the information about objectives four with relevant hypotheses which were tested.

Table 9.6
Summary of Objectives, Hypotheses and Conclusions for Objective 4

S.No.	Objectives and Hypotheses	Conclusion from Analysis	
Obj.(4)	To examine association between investor's preference of investment instrument and their demographic characteristics.	Hyderabad	Mumbai
H _{18(a)}	There is an association between frequency of information acquisition and city of residence of investors.	Supported	

H _{19(a)}	There is an association between sources of information used and the city of residence of investors.	Supported	
H _{18(b)}	There is an association between frequency of information acquisition and the age of investor across two cities.	Supported	Supported
H _{18(c)}	There is an association between frequency of information acquisition and the income level of investors across two cities.	Supported	Supported
H _{18(d)}	There is an association between frequency of information acquisition and the education level of investors across two cities.	Supported	Supported
H _{18(e)}	There is an association between frequency of information acquisition and the investing experience of investors across two cities	Not Supported	Not Supported
H _{19(b)}	There is an association between sources of information used and the age of investor across two cities.	Supported	Supported
H _{19(c)}	There is an association between sources of information used and the income level of investors across two cities.	Supported	Supported
H _{19(d)}	There is an association between sources of information used and the education level of investors across two cities	Supported	Supported
H _{19(e)}	There is an association between sources of information used and the investing experience of investors across two cities.	Supported	Not Supported

The results indicated that city of residence influenced the frequency of information as well as the sources of information. As investors from these cities are exposed to different financial environment this could be the reason for the difference. Overall it was found that most of the investors used publicly available information from both the cities.

- It is also concluded from results that there was statistically significant association between investor's sources of information with their age, income level, and education level with their frequency of information acquisition.

9.6 Investment Profile of Investors

The **fifth objective** of the study was to explore the determinants of investor investment profile and make a comparison across Hyderabad and Mumbai. This was achieved using chi-square test of association between determinants of investor personality and city of residence.

Investors were categorised into four types (1) Conservative (2) Moderate (3) Balanced and (4) Advanced based on the feedback from survey. Three determinants of investor personality have been included that are investment objective, attitude towards risk and portfolio return. From the analysis it can be concluded that investor personality differed across two cities.

Table 9.7 presents the information about objectives 2(b) with relevant hypotheses which were tested.

Table 9.7

Summary of Objectives, Hypotheses and Conclusions for Objective (5)

Objective/Hypotheses		Conclusion from Analysis
Obj. (5)	To Study Investors investment profile and it's determinants across two cities.	
H ₂₀	There is a significant association between investment objective of investors from Hyderabad and Mumbai	Supported
H ₂₁	There is a significant association between risk tolerance levels of investors from Hyderabad and Mumbai	Supported
H ₂₂	There is a significant association between portfolio selection by investors from Hyderabad and Mumbai.	Supported
H ₂₃	There is a significant association between the investment personality of investors from Hyderabad and Mumbai.	Supported

The results indicate that geographic location of investors is an important aspect and has an influence on the determinants of investor personality. Another observation is that investor

personality differs across two cities. Mumbai being the financial capital is assumed to be flooded with lot of market information (Barberis, Shleifer, & Vishny, 1998). Iyer & Bhasker (2002) investors are reluctant to sell a stock at loss; they often would want to hold back until it goes back to the price paid by them no matter how long it takes. Successful investors are able to understand and overcome this adverse psychological condition. Rajarajan (2000) confirmed that there is an association between lifestyle clusters of the investors and their investment related traits. Geetha & Ramesh (2012) have illustrated through their study that demographic factors such as age, gender, education, occupation, annual income and savings have relationship with their awareness obtained for equity investments.

➤ It was also found that 8% of investors from Hyderabad and 16% from Mumbai were of conservative nature, 40% from Hyderabad and 58% from Mumbai were of moderate type, 24% from Hyderabad and 20% from Mumbai were balanced type and 8% from Hyderabad and 6% from Mumbai were of advanced nature.

➤ It could be concluded from the analysis that investors from Mumbai are mostly moderate by nature that are interested in growth of their equity investments and have a time frame of less than 3 years and on comparison to conservative type of investors these investors perceived risk taking ability was higher.

➤ City plays an important role in determining investment objective, risk and portfolio selection of investors.

➤ As indicated from findings it can be established that majority of investors (Hyderabad 79%, Mumbai 65%) have an investment objective of generating income for future with plan of making both contribution and withdrawal.

- Investors from Hyderabad (40%), Mumbai (34%) belong to 2nd category, revealing an imperfect knowledge on investment with small holding period and prepared for least fluctuation in portfolio returns.
- It is also found that investors from Mumbai (62%), Hyderabad (36%) belong to risk category three with good working knowledge on equity investment, minimum three years holding period and targeting high long run returns with limited fluctuation.
- Majority of Mumbai investors (56%), Hyderabad (46%) show interest in such combination of assets which have minimum fluctuations, safe returns and minimum loss. It's also found that a segment of Hyderabad investors (25%) are not prepared for change in basic investment although there may be a chance of higher returns in future.
- Investors from Hyderabad are mostly belonging to Conservative and Moderate category, while investor's from Mumbai are of moderate type.

To summarise the conclusions from the complete study, it can be established that factors such as macroeconomic variables, dividend announcement and stock split announcement do not create much market reaction among the prices of Nifty stocks in Indian capital markets based on analysis of secondary data for the period selected for the present study.

Investor's demographic characteristics such as age, city of residence have an impact on their awareness level on macroeconomic variables. Similarly perceptions of investors on corporate actions were found to be associated with demographic variables such as city of residence, age and education level of investors. It was also found that there was association between income level and investing experience with awareness on dividends and rights issue announcements and the same was not with Hyderabad investors.

Choice of Investment Instrument also was found to be independent from the influence of education level and investing experience from both cities. Investor's investment profile was different across both cities. There was no association found between investing experience and frequency of information acquisition among investors from both cities.

9.7 Suggestions and Recommendations

Indian stock markets especially in case of Nifty 50 Index have a bidirectional causal relationship with exchange rate between INR to USD. Therefore, it can be concluded that any major changes in the currency exchange rates may have an influence on the Nifty movement. As the macroeconomic variables have a positive and statistically significant correlation with Nifty Index, the forecasting ability of these variables is not proven, it is therefore indicative of the presence of other variables which influence the Nifty movement. These results are suggestive towards the necessity to be updates on the changes in macroeconomic variables to benefit from higher equity returns, possible through timely decisions.

There exists a semi-strong form of market efficiency in Indian stock markets. This can be proven by the results of study on corporate actions using event study methodology for four events namely dividends, right issue, stock-splits and bonus issue. Therefore keeping track of major corporate actions may help individual investors in making appropriate investment decisions in equity markets.

A study on perceptions of individual investors from two cities regarding importance of corporate actions revealed that although there existed statistical significance in perceptions

of investors across two cities, but there was a section of investors in both cities who were not aware of the importance of corporate actions. It was also found that dividend announcements did not create market reactions from individual investors. Although, it is an important constituent of return from equity investment most investors are found to ignore them. These results are indicative towards the need to create better awareness about the role of corporate actions in equity investment decisions. The financial impact of these actions needs to be discussed during the investor awareness programs.

Demographic variables such as age of investor, income level, education and city of residence have a significant influence on the awareness level of equity investors regarding corporate actions and information on macroeconomic variables. It was also found that selection of Investment Instrument had an association with demographic characteristics of individual investors and varied across Hyderabad and Mumbai. Investor's investment profile personality was also found to differ across cities.

The outcome of study indicates the importance behavioural dimensions hence SEBI and brokerage firms must include the role of these factors in their awareness campaigns. Similarly investment analysts and other sources of market information especially TV channels are recommended to emphasize on behavioural factors alongside the technical factors during their discussions.

9.8 Limitations of the Study

Despite many unique advantages and contributions of the present study, it suffers from few limitations.

- There are many investment instruments in capital markets however; the present study confines only to equity investments.
- Due to general reluctance of respondents on their actual returns (during pilot study) certain facets on returns could not be included in the final study.
- Most of the similar study was confined to single city; present study is exploratory by nature in this context by captivating comparison of investors attributes from two cities.
- The list of factors related to macroeconomic variables is confined to six variables and corporate actions are confined to four based on literature and response of investors during pilot study.
- The scope of the study is limited to comparison of two cities; it can be further spread to study on all major cities in India.
- Methodology has been limited to chi-square test for the primary data collected although some research has been carried out using structural equation modeling and factor analysis on account of the non-agreement of the basic assumptions of the statistical techniques.

9.9 Scope for Future Research

The present research explored the factors influencing individual investors from various dimensions with respect to macroeconomic variables, corporate actions, market information, sources of information, the demographic attributes such as city of residence, education, age, investment experience and income, the same can be repeated using a test retest methodology to efficiently understand the effect of these factors over a longitudinal period of time. Gender, marital status and occupation of investors are other demographic

factors which have been excluded and a study in this perspective can also add another dimension in understanding investor behaviour across different cities.

Similar study can be conducted during different phases in the economy (i.e.) during a phase of boom, slump, major reforms in markets, this would let us know the difference in behaviour of investors during each phase of stock market.

Various reforms and amendments brought in during the five years plans with respect to motivating individual investors to enter capital markets may be studied to understand the governments take on this aspect.

References

- Aamir, Muhammad., & Syed Zullfiqar, Ali Shah. (2011). Dividend announcements and the Abnormal Stock Returns for the Event Firm and its Rivals. *Australian Journal of Business and Management Research*, Vol.1, No.8, pp.72-76.
- Abigail McWilliams, & Donald Siegel. (1997). Event studies in management studies: theoretical and empirical issues. *The Academy of Management Journal*, Vol.40, No.3, 626-657.
- Abhilash, Sreekumar Nair, & Rani, Ladha. (2014). Determinants of Non-Economic Investment Goals Among Indian Investors. *Corporate Governance*, Vol. 14, Issue: 5, pp.714-727, doi: 10.1108/CG-09-2014-0102
- Abreu, M., & Mendes, V. (2011). Information, overconfidence and trading: do the sources of information matter. Retrieved from Citeseer: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1023.7732&rep=rep1&type=pdf>
- Adnan, B. (2013). Impact of rights issues announcement on shareholders wealth: A case study of Pakistani listed companies. *International Journal of Contemporary Business Studies*, Vol.4, No.3, pp. 6-12.
- Aduda, J., & Chemarum, C. (2010). Market Reaction to Stocks Splits: Empirical Evidence from the Nairobi Stock Exchange. *African Journal of Business & Management*. Vol. 1, pp. 165-184.
- Aelee Jun. (2008). Price And Volume Behaviour Around The Ex-Dividend Day: Evidence On The Value Of Dividends From American Depositary Receipts And Their Underlying Australian Stocks. *International Review of Finance*, 8:1–2,2008: pp.21-55, DOI:10.1111/j.1468-2443.2008.00073.
- Ahuja, A. K; Makan, C; & Chauhan,S. (2012). A Study On Effect Of Macroeconomic Variables On Stock Markets:An Indian Perspective, Working Paper, University of Delhi, <http://ssrn.com/abstract=2178481>.
- Akbar, M., & Baig, H. H. (2010). Reaction of Stock Prices to Dividend Announcements and Market Efficiency in Pakistan. *The Lahore Journal of Economics*, Vol.15, pp.103-125.
- Alika, M. Phillips. (2006). A Study Of Market Efficiency In The Period Preceding Earnings Announcements. Massachusetts University. W.P.
- Allen, F. (1999). The Role Of Information In Financial And Capital Markets. *Financial Markets Evolution and its Perspectives*. March 24, Conference Symposium, Tokyo.

- Aman, Srivastava. (2010). Relevance of Macro Economic Factors for the Indian stock Markets, *Decision*, Vol. 37, No.3.
- Anderson, A. M., & Dyl, E. A. (2003). Market Structure And Trading Volume. July, available, [http://www.lehigh.edu/~incbeug/Attachments/Anderson%20Trading% 20 Volume%20paper.pdf](http://www.lehigh.edu/~incbeug/Attachments/Anderson%20Trading%20Volume%20paper.pdf)
- Ball, R., Brown, P., & Finn, F. J. (1977). Share Capitalization Changes, Information, And The Australian Equity Market. *Australian Journal of Finance*, Vol. VIII, pp.105-117.
- Banerjee, P., Nagar, R., and Banerjee, P.S. (2012). Split Evidence in India. *Global Business Review*, 13(2), pp. 297–309.
- Baranidharan, Subburayan; Vanitha, & Srinivasan. (2014). The Effects of Macroeconomic Variables on CNX Bankex Returns: Evidence from Indian Stock Market. *International Journal of Management & Business Studies*, Vol. 4, Issue 2, pp.67-71.
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, Overconfidence, and Common stock investment. *Quarterly Journal of Economic*, February, pp. 261-292
- Barberis, N., Shleifer, A., & Vishny, R. (1998). A Model Of Investor Sentiment. *Journal of Financial Economics*, Vol. 49, pp. 307-343.
- Barua, S. K., & Srinivasan, G. (1986). Experiment On Individual Investment Decision Making Process. *Vikalpa*, Vol.12, 423-435.
- Bashir A. (2013). Impact of Rights Issue Announcement on Shareholders Wealth: Case Study of Pakistani Listed Companies. *International Journal of Contemporary Business Studies*, Vol. 4, No.3.
- Beverly, R.Walther, and Richard, H. Willis. 1999. Does Forecast Accuracy Matter To Security Analysts? *The Accounting Review*, 74, 2, pp. 185–200.
- Bhandari, G., Hassanein, K., and Deaves, R. (2008). Debiasing Investors With Decision Support Systems: An Experimental Investigation. *Decision Support Systems*, 46(1),pp. 399-410.
- Bhatt, A. Kaushal. (2013). Investment and Trading Pattern of Individuals Dealing in Stock Market. *The SIJ Transactions on Industrial, Financial & Business Management*, Vol. 1, No. 2, pp.67-74.
- Bhattacharya, C.D. (1981). The Study Of Wealth Ratios Of Indian Companies. Working Paper 354, IIM-A

- Bhattacharya, S. (1979). Imperfect Information, Dividend Policy, And The Bird In Hand Fallacy. *The Bell Journal of Economics*, March, 259-270.
- Black, F. & Scholes, M.S., (1974). The Effects Of Dividend Yield And Dividend Policy On Common Stock Prices And Returns. *Journal of Financial Economics*, Vol. 1, No. 1, 1-22.
- Black, F. (1976). The Dividend Puzzle. *Journal of Portfolio Management*, vol 2, no. 4, pp.5-8.
- Booth, G., Kallunki, J., Sahlstro, P., & Tyynela, J. (2011). Foreign Vs Domestic Investors And The Post Announcement Drift. *International Journal of Managerial Finance* , Vol. 7 (3), pp. 220-237.
- Bosworth, B. P. 1993. Saving and Investment in a Global Economy. Washington, D.C. Brookings Institution.
- Brown, S. J. and T. Otsuki, 1990, Macroeconomic Factors and the Japanese Equity Markets: The CAPMD project, in E. J. Elton and M. Gruber (eds.), Japanese Capital Markets, New York: Harper & Row.
- Brown, S., & Warner, J. (1985). Using Daily Stocks Returns: The case of Event Studies. *Journal of Financial Economics* , Vol. 14, pp. 3-31.
- Burton G. Makiel. (2011). A Random Walk Down Wall Street. The Best Investment Tactic for the New Century, Norton & Company, New York.
- Chan, Hallahan, Faff, R., & MacKinsey Hariharan, Chapman. (2005). Firm Size and the Information Content of Annual Earnings Announcement. *Australian Evidence. Journal of Business Finance and Accounting* , Vol 32 (1), pp. 211-253.
- Chan, L., Jegadeesh, N., & Lakonishok, J. (1996). Momentum Strategies. *Journal of Finance* , Vol. 51, pp. 713-1681.
- Chen, G., Cheng, T. Wong., & Gao, N. (2005). Information Content and Timing of Earnings Announcements. *Journal of Business Finance & Accounting* , Vol 31 (1 & 2), pp. 65-95.
- Chen, N., Roll, R. and Ross, S. (1986), Economic forces and the stock market, *Journal of Business*, Vol. 59, No. 3, pp. 383-403.
- Chenxi, Wang & Gerky King, Phet. (2012). Stock Return Performance around Earnings Announcements Empirical Evidence from Nordic Stock Market. Project Report, Sweden.
- Chumney & Frances, L.(2013). Structural Equation Models with Small Samples: A

Comparative Study of Four Approaches. Public Access Theses and Dissertations from the College of Education and Human Sciences. Paper 189.
<http://digitalcommons.unl.edu/cehdsdiss/189>

- Conroy, R., & Harris, R. (1999). Stock splits and information: the role of share price. *Financial Management*. Vol.28, pp.28-40.
- Corrado, C.J. (1989). A Non-Parametric Test For Abnormal Security Price Performance In Event Studies. *Journal of Financial Economics*, vol. 23, pp. 385-395.
- Corrado, C.J. And Zivney, T.L. (1992). The Specification And Power Of The Sign Test In Event Study Hypothesis Tests Using Daily Stock Returns. *Journal of Financial and Quantitative Analysis*, vol. 27(3), pp. 465-478.
- Craig, A., & MacKinlay. (1997). Event Study in Economics and Finance. *Journal of Economic Literature*. Vol. XXXV, pp. 13-39.
- Dale Griffin & Amos Tversky. (1992). The Weighing of Evidence and the Determinants of Confidence. *Cognitive Psychology*, Vol. XXIV, pp. 411-435.
- Daniel, K., Titman, S., & Wei, K. C. J. (2001). Explaining The Cross-Section Of Stock Returns In Japan: Factors Or Characteristics. *Journal Of Finance*, 61(2), 743-766.
- Darrat, A. F. (1990). Stock Returns, Money and Fiscal Policy. *Journal of Financial and Quantitative Analysis*, Vol. 25, 387-98.
- Darrat, A. F. and T. K. Mukherjee, 1987, The Behaviour Of The Stock Market In A Developing Economy. *Economics Letters*. 22, 273-78.
- DaSilva, A. & Giannikos, C. (2004). Higher Risk Aversion In Older Agents: Its Asset Pricing Implications. Financial Management Association 2005, Conference. Chicago.
- David C. Heath & Robert A. Jarrow. (1988). Ex-Dividend Stock Price Behavior And Arbitrage Opportunities. *The Journal of Business*, Vol. 61, no.1, <http://dx.doi.org/10.1086/296421>
- De-Wai, Chou, Michael, Gombola & Feng-Ying, Liu. (2010). Earnings management and long- run stock performance following private equity placements. *Review of Quantitative and Financial Accounting*. DOI 10.1007/s11156-009-0129-8.(New York, USA).
- Dickey, D. A. and W. A. Fuller. (1981). Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root. *Econometrica*, 49, 1057-72.
- Divecha, A., & Morse, D. (1983). Market Responses To Dividend Increases And Changes

- In Payout Ratios. *The Journal of Financial and Quantitative Analysis*, pp. 163-173.
- Dorn, D. & Huberman, G. (2005). Talk And Action: What Individual Investors Say And What They Do. *Review of Finance*, 591-603.
- Doron, Avramov & Tarun, Chordia. (2006). Predicting Stock Returns, *Journal of Financial Economics*, Vol. 82, pp. 387-415.
- Easterbrook. (1984). Two agency cost explanations of Dividends. *The American Economic Review*. pp. 650-659.
- Elton, E. & Gruber, M. (1970). Marginal Stockholder Tax Rates And The Clientele Effect. *Review of Economics and Statistics*. Pp. 68-74.
- Epstein, R., & Schneider, M. (2008). Ambiguity, Information Quality, And Asset Pricing. *Journal of Finance*, 197-228.
- Eugene F. Fama, Lawrence, Fisher, Michael C. Jensen, Richard Roll. (1969). The Adjustment of Stock Price to New Information. *International Economic Review*, Vol. 10, Issue 1.
- Eugene Fama et.al Efficient Market Hypothesis. (1909). The Efficient Market Hypothesis. doi:10.1057/9781137292216.0017
- Eugene F. Fama; Lawrence Fisher; Michael C. Jensen; Richard Roll. (1969). *International Economic Review*, Vol. 10, No. 1, pp. 1-21.
- Fama, E. (1965). The Behavior Of Stock Market Prices. *Journal of Business*, 4(8),pp. 34-105.
- Fama, E. F. (1970). Efficient Capital Markets : A Review of Theory & Empirical Work, *The Journal of Finance*, Vol.25, No.2, pp.383-417.
- Fares, A. R. F. & Khamis, F. G. (2011). Individual Investors' Stock Trading Behavior at Amman Stock Exchange. *International Journal of Economics and Finance*, 3(6), 128 –134.
- Fernando, & Guneratne. (2009). Measuring Abnormal Performance In Event Studies: An Application With Bonus Issue Announcements In Colombo Stock Exchange. Retrieved from <http://ssrn.com/abstract>.
- Fischer, R., & Gerhardt, R. (2007). The Missing Link Between Investors And Portfolios: Introducing Financial Advice. Retrieved from <http://ssrn.com/abstract=967374>.

- Fromlet, H. (2001). Behavioural Finance—Theory And Practical Application.
- Garrett, Ian & Priestley, Richard. (2000). Dividend behaviour and Signaling. *Journal of Financial and Quantitative Analysis*, Vol.35.No.2.
- Gaurav, Agrawal; Kumar, Anirudh; Srivastava, Ankita. (2010). A Study of Exchange Rates Movement and Stock Market Volatility. *International Journal of Business and Management*, Vol. 5(12), pp. 62-73.
- Geetha, N., & Ramesh, M. (2012). A Study In Relevance Of Demographic Factors On Investment Decisions. *Perspectives of Innovations, Economics and Business*, 14-27.
- Ghosh, A., Saidi, R., & Johnson, K. (1999). Who Moves The Asia-Pacific Stock Markets—US Or Japan? Empirical Evidence Based On Theory Of Cointegration. *The Financial Review*, 159-189.
- Gill, Suveera. (2012). Upward Switches On BSE: An Explanation For Anomalous Stock Price Behaviour, *Vikalpa*, Vol.37, No.4
- Glaser, M., & Weber, M. (2007). Overconfidence And Trading Volume. *Geneva Risk Insurance Review*, 1-36.
- Glaser. (2003). Online Broker Investors: Demographic Information, Investment Strategy, Portfolio Positions, And Trading Activity. Retrieved from. <http://ssrn.com/abstract=975985>.
- Godden, B. (2004). Sample Size and Confidence Interval Tutorial. <http://williamgodden.com/samplesizeformula.pdf>.
- Goetzmann, W. N., & A. Kumar. (2001). Equity portfolio diversification.
- Graham, & Dodd. (1951). Security analysis. New York: McGraw-Hill Book Company
- Granger, C. 1969. Investigating Causal Relations By Econometric Models And Cross-Spectral Methods. *Econometrica* 37, 424–38.
- Groves, F. (2008). Corporate Actions A Concise Guide. Hampshire, Britain: Harriman House Ltd.
- Guo, W.C., Shiah-Hou, S.R., & Yang, Y.W. (2006). Stock Bonus Compensation And Firm Performance In Taiwan. *Managerial Finance*.
- Gupta L.C., Rates Of Returns On Equities: The Indian Experience, New Delhi: Oxford University, 2012.

- Gupta, Amitabh., *Mutual Funds In India: A Study Of Investment Management*, New Delhi: Anmol Publications, 2010.
- Gupta, L. C., *Mutual Funds and Asset Preference*, New Delhi: Society for Capital Market Research and Development, 2008.
- Gurloveleen K, Bhatia BS (2015) An Impact Of Macroeconomic Variables On The Functioning Of Indian Stock Market: A Study Of Manufacturing Firms Of BSE 500. *J Stock Forex Trad* 4:160. doi:10.4172/2168-9458.1000160
- Hair, Joseph F., et al. *Multivariate Data Analysis: A Global Perspective*. 7th ed. Upper Saddle River: Prentice Hall, 2009. Print.
- Harsha, J., & Kerav, P. (2012). Investors Behaviour Of Equity Investment : An Empirical Study Of Individual Investors. *Ganpat University Faculty Journal for Management Research, Vol. 5*, 1-33.
- Hillman, A. J., & Keim, G. D. 2001. Shareholder Value, Stakeholder Management, And Social Issues: What's The Bottom Line? *Strategic Management Journal*, 22. pp. 125-139. <http://dx.doi.org/10.1093/rfs/8.3.817>
- Huei-Wen Lin. (2011). Elucidating the Influence of Demographics and Psychological Traits on Investment Biases. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering. Vol.5*.
- Ivo Welch. (2004). Capital Structure & Stock Returns. *Journal of Political Economy, Vol.112*, No.1.
- Iyer, B. & Bhaskar, R.K. (2002). Investor Psychology : A Study Of Investor Behaviour In The Indian Capital Market. *Finance India, Vol. XVI*, No.4, pp. 1357-1375.
- Jagongo, A., & Mutswenje, V. (2014). A Survey Of The Factors Influencing Investment Decisions: The Case Of Individual Investors At The NSE. *International Journal of Humanities and Social Science*.
- Jain, D. & Mandot, N. (2012). Impact Of Demographic Factors On Investment Decision Of Investors In Rajasthan. *Journal of Arts, Science and Commerce, Vol.– III, Issue –2(3)*, 81-92.
- Jain, R. (2012). Investor's Attitude Towards Secondary Market Equity Investments And Influence Of Behavioral Finance. *International Journal on Emerging Technologies*, 67-74.
- Jensen, M., Roll, R., & Fama, E. (1995). The Adjustment Of Stock Price To New Information. *International Economic Review*.

- Joanes, & Gill, C. (1998). Comparing Measures Of Sample Skewness & Kurtosis. *The Statistician, Vol.47*, Issue. 1, pp. 183-189.
- John J.Binder. (1998). The Event Study Methodology Since 1969. *Review of Quantitative Finance and Accounting, Vol.11*. <http://dx.doi.org/10.1023/A:1008295500105>.
- Jumming Hsu, Xu-Ming Wang, & Chunchi Wu. (1998). The Role Of Earnings Information In Corporate Dividend Decisions. *Management Science*, Vol. 44, No. 12.
- Kalay, A. (1982). The Ex-Dividend Day Behavior Of Stock Prices: A Re-Examination Of The Clientele Effect. *Journal of Finance*, 37, 1059-1070.
- Kasilingam. R, & G. Jayabal. (2009). Alternative Investment Option to Small Investors, *Southern Economist, Vol 48*, No.9, pp. 18-20.
- Kato, Kiyoshi & Lowenstein, Uri. (1995). The Ex-Dividend Day Behavior Of Stock Prices: The Case Of Japan. *The Review of Financial Studies, Vol.8*, No.3.
- Kewei, Hou; Karolyi, Andrew & Kho, Bong Chan. (2007). What Factors Drive Global Stock Returns, USC FBE Final Seminar. Retrieved from https://www.fep.up.pt/investigacao/cempre/actividades/sem_fin/sem_fin_01_05/PA_PERS_PDF/paper_sem_fin_27abr06.pdf.
- Khaparde, Ruta & Bhute, Anjali. (2014). Investors' Perception towards Impact of Macroeconomic Performance on Stock Market Behavior. *The International Journal Of Management, Vol. 3(1)*. Retrieved from <http://www.theijm.com/vol3issue1/5.345.pdf>, date: 5/12/2014
- Kiel, B. (2011). *A Random Walk Down Wall Street: The Time-Tested Strategy For Successful Investing*. New York: Thomson Reuters.
- Kibria, U., Mehmood, Y., Kamran, M., Arshad, M. U., Perveen, R., & Sajid, M. (2014). The Impact of Macroeconomic Variables on Stock Market Returns: A Case of Pakistan. *Research Journal of Management Sciences. Vol. 3(8)*, pp.1-7.
- Korniotis, G. M., & Kumar, A. (2013). Do Portfolio Distortions Reflect Superior Information Or Psychological Biases? *Journal of Financial and Quantitative Analysis. Vol. 48, Issue. 1*, pp. 1-45.
- Koski, J. L. (1998). Stock Splits And Stock Dividends. *The Review of Financial Studies, 11(1)*, 143–162.
- Kothari, C.R., (2004), 'Research Methodology - Methods and techniques', New Delhi: New Age International Publishers, 2nd Edition.
- Kremen, A. M. and Block, J. 2002. Absorption: Construct explication by Q-sort

assessments of personality. *Journal of Research in Personality.*, 36: 252–259.

- Kuwornu, J. K. (2012). Effect Of Macroeconomic Variables On The Ghanaian Stock Market Returns: A Co-Integration Analysis. *AGRIS on-line Papers in Economics and Informatics*, 4(2), 1-12
- L. D. Booth and D. J. Johnston. (1984). The Ex-Dividend Day Behavior Of Canadian Stock Prices: Tax Changes And Clientele Effects. *The Journal of Finance*, Vol.39, No.2. <http://dx.doi.org/10.1111/j.1540-6261.1984.tb02320.x>
- L.Barnes, M., & Ma, S. (1999). The Behavior Of China'S Stock Prices In Response to Announcements. Conference In Economics. Perth, Australia.
- Lamoureux, C. and P. Poon, 1987, The Market Reaction To Splits. *Journal of Finance*, Vol 62,1347-1370. <http://dx.doi.org/10.1111/j.1540-6261.1987.tb04370>.
- Lewellen, W. G., Lease, R. C., & Schlarbaum, G. (1977). Patterns Of Investment Strategy And Behavior Among Individual Investors. *Journal of Business*, Vol. 50, issue 3 pp. 296-333.
- Lintner, J. (1956). Distribution of Incomes of Corporation among Dividends, Retained Earnings and Taxes. *The American Economic Review* , 46 (2), 97-113.
- Lintner, J. (1964). Optimal Dividends And Corporate Growth Under Uncertainty. *The Quarterly Journal of Economics*, 78(1), 49-95.
- Loderer, C., & Zimmermann, H. (1988). Stock Offerings In A Different Institutional Setting: The Swiss Case. *Journal of Banking and Finance*, 12, 353-378.
- Lovric, M., Kaymak, U., & Spronk, J. (2008). A Conceptual Model of Investor Behavior. Retrieved from <http://hdl.handle.net/1765/12468>.
http://dx.doi.org/10.1049/PBCE071E_ch13Maddala, G.S. (Ed.), 1993. *The Econometrics of Panel Data*, Vols. 1 and 2. Cambridge University Press, Cambridge
- Madhuri Malhotra, M. Thenmozhi, G. Arun Kumar.(2013). Evidence On Changes In Time Varying Volatility Around Bonus And Rights Issue Announcements. *International Journal of Emerging Markets*, Vol. 8 Issue: 2, pp.129-143, doi: 10.1108/17468801311307000.
- Mark S. Grinblatt, Ronald W. Masulis and Sheridan Titman. (1984). The Valuation Effects of Stock Splits and Stock Dividends. *Journal of Financial Economics*, Vol.13, 461-490. [http://dx.doi.org/10.1016/0304-405X\(84\)90011-4](http://dx.doi.org/10.1016/0304-405X(84)90011-4)
- Mark, S. (1995). *Statistics for social sciences*. California. John Wiley and Sons.

- Markowitz, H.M. (March 1952). Portfolio Selection. *The Journal of Finance*. 7(1), 77–91. doi:10.2307/2975974. JSTOR 2975974.
- Mehta, Chavi. (2014). Market Reaction To Stock Dividends: Evidence From India. *Vikalpa, Volume 39*, No.4.
- Michelle, L.Barnes & Shiguang, Ma. (2002). The Behavior Of China'S Stock Prices In Response To The Proposal And Approval Of Bonus Issues. Conference paper. China.
- Miller, J., & Bruce, D. (1973). Stock-split and Stock- dividend decisions. *Financial Management.vol.2*, pp.38-45.
- Mishra, A. K. (2005). The empirical Analysis of Market Reaction Around The Bonus Issues In India. *The ICAI Journal Of Applied Finance, August*, Pp 21-37.
- Mishra, C. S., & Narender, V. (1996). Dividend Policy of SOEs in India, *Finance India, Vol. 10*, No.3.
- Mitchell, Mark L. and Jeffry M. Netter. (1994). The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission. *The Business Lawyer. 49(2)*.
- Mittal, M., & Vyas, R. K. (2008). Personality Type And Investment Choice: An Empirical Study. *The ICAI University Journal of Behavioral Finance, 5(3)*,7-22.
- Mohanty, Pitabas. (2002). Evidence of Size effect on Stock Returns in India, *Vikalpa, Vol. 27*, No.3.
- Mukherjee, T and A. Naka (1995). Dynamic Linkage Between Macroeconomic Variables and the Japanese Stock Market: An Application of a Vector Error Correction Model, *Journal of Financial Research*. Vol. 18, 223-37.
- Naik & Padhi. (2012). The Impact of Macroeconomic Fundamentals on Stock Prices Revisited: Evidence from Indian Data. *Eurasian Journal of Business and Economics, 5(10)*, pp. 25-44.
- Naka, Atsuyuki., Mukherjee, Tarun; and Tufte, David,(1998), Macroeconomic Variables And The Performance Of The Indian Stock Market. Department of Economics and Finance Working Papers, 1991-2006. Paper 15.
- Nelson. (1965). Price Effects In Rights Offerings. *Journal of Finance, Vol. 20*, No. 4, pp. 650-657.
- Obamuyi T. M. (2013). Factors Influencing Investment Decisions In Capital Market: A Study Of Individual Investors In Nigeria. *Organizations and Markets in Emerging*

Economies, Vol. 4, No. 1, pp. 141-161.

- Ongkrutaraksa, W. (1996). Theory of Capital Markets: A Review of Literature, www.academia.edu. Retrieved April 30/04/2013, 2013, from [www.google.com:http://www.academia.edu/1098447/Theory of Capital Markets_A Re view_of_Literature](http://www.google.com/http://www.academia.edu/1098447/Theory_of_Capital_Markets_A_Re_view_of_Literature)
- Osei, K. (1998). Analysis Of Factors Affecting The Development Of An Emerging Capital Market: The Case Of The Ghana Stock Market. *African Economic Research Consortium Research, Paper no. 76.*
- Pandey, I., & Bhatt, R. (2007). Dividend Behaviour of Indian Companies Under Monetary Policy Restrictions, *Managerial Finance, Vol.33, No.1, pp.14- 25.*
- Pandey, I.M. & Bhatt, Ramesh. (2004). Dividend Behaviour Of Indian Companies Under Monetary Policy Restrictions. Working Paper Series, IIMA. <http://dx.doi.org/10.2139/ssrn.657181>
- Pandey, I.M. (2001). Corporate Dividend Policy And Behaviour: The Malaysian Experience. Working Paper Series, IIMA.
- Pandian, A., & Thangadurai, G. (2013). A Study Of Investor's Preference Towards Various Investments Avenues In Dehradun District. *International Journal of Management and Social Sciences Research, Vol.2(4), pp.22-32.*
- Papanastasopoulos, G., Thomakos, D., & Wang, T. (2010). The Implications Of Retained And Distributed Earnings For Future Profitability And Stock Returns. *Review of Accounting and Finance, 395-423.*
- Parikh, P. (2006). *Stocks to Riches Insight on Investor Behavior.* New Delhi: Tata Mcgraw Hill.
- Patel, Samveg. (2012). The Effect Of Macroeconomic Determinants On The Performance Of The Indian Stock Market. *NMIMS Management Review. Volume XXII.*
- Pathak, H., & Giri, D. (2008). Rights Share Issue Practice In Nepal. *The Journal of Nepalese Business Studies. December, pp. 93-100.*
- Pathak, Hari Prasad & Dhanesh, Giri. (2008). Rights Share issue practice in Nepal. *The Journal of Nepalese Business Studies, Vol. V No. 1*
- Pathak, Hari Prasad; Giri, Dhanesh. (2009). Rights Share Issue Practice in Nepal. *Journal of Nepalese Business Studies. Vol. 5, no.1, p. 93-100, jul. 2009. ISSN 2350-8795. Available at: <http://www.nepjol.info/index.php/JNBS/article/view/2087>>. Date accessed: 26 May. 2017. doi:<http://dx.doi.org/10.3126/jnbs.v5i1.2087>.*

- Pawar, I. (2013). Investment Pattern And Behaviour Of Investors In Indian Capital Markets. *Sumedh: Journal of Management, Vol. 10*, 1-21.
- Pearson, K. (1934). On A New Method Of Determining 'Goodness Of Fit'. *Biometrika* 26, 425-442.
- Pearson, K. (1956). Karl Pearson's Early Statistical Papers. Cambridge University Press.
- Penman, S. H. (1983). The Predictive Content of Earnings Forecasts and Dividends. *The Journal of Finance, Vol. 38, No. 4* , 1181-1199.
- Perron, P. (1989). The Great Crash, the Oil Price Shock and the Unit Root Hypothesis, *Econometrica*. 57.
- Peterson D. R., Peterson P. P.(1992). A Further Understanding of Stock Distributions: The Case of Reverse Stock Splits. *Journal of Financial Research, 15 (Fall)*: 189–205. Google Scholar.
- Peterson, R. (1971). Bonus Issues, Share Issues, Share Splits And Rights Issues. *The Chartered Secretary, 11*, 198-207.
- Phillips, P. C. B., and P. Perron. (1988). Testing for a Unit Root in Time Series Regression. *Biometrika*, 75, 335-46.
- Phillips, P.C.B.(1991). Optimal Inference in Cointegrated Systems. *Econometrica*. 59,pp. 283-306.
- Purnithavathy, P. (2006). Security Analysis and Portfolio Management. Pune: Vikas Publishing
- Raja, Abhay. (2012). Right Issues And Price Behaviour: Indian Evidence. *Indian Journal of Research. Vol.1, Issue.9*.
- Raja, M., & Clement, J. Sudhakar. (2010). An Empirical Test Of Indian Stock Market Efficiency In Respect Of Bonus Announcement. *Asia Pacific Journal of Finance and Banking Research. Vol. 4. No. 4*, pp.3-14.
- Rajarajan, V. (1997). Investment Size Based Segmentation Of Individual Investors. *Management Researcher, 3, 3&4*, pp. 27-36.
- Rajarajan, V. (1998). Stages In Life Cycle And Investment Pattern. *The Indian Journal of Commerce, 51, 2&3*, pp. 27-36.
- Rajarajan, V. (2000). Investors' Lifestyles and Investment Characteristics. *Finance India, 14, 2*, pp. 465-478.

- Rajarajan, V. (2003). Investors' Demographics and Risk Bearing capacity, *Finance India*, 17, 2, 565-576.
- Ramachandran, Remya. (2003). Share Price and trading volume reaction on bonus issue announcements. *Indian Journal of Research*. Vol.3, Issue-4, pp.30-31.
- Ramesh, S & Nimalathasan, B. (2011). Bonus issue announcements and its impact on share price of Colombo stock exchange in Sri Lanka. 8th International Conference on Business Management. Retrieved from https://www.academia.edu/2501567/bonus_issue_announcements_and_its_impact_on_share_prices_of_colombo_stock_exchange_cse_in_sri_lanka
- Ray Ball & S.P. Kothari. (1991). Security Returns around Earnings Announcements. *The Accounting Review*, Vol. 66. No.4, pp. 718-738.
- Riley, W. B., & Chow, V. K. (1992). Asset Allocation And Individual Risk Aversion. *Financial Analysts Journal*, vol.47, 32-37.
- Robert F. Engle; C. W. J. Granger. (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, Vol. 55, No. 2. (Mar., 1987), pp. 251-276.
- Robert M. Conroy & Robert S. Harris. (1999). Stock Splits and Information: The Role of Share Price, *Financial Management*, Vol.28, No.3.
- Sanjay Sehgal, G. S. Sood, Namita Rajput. (2009). Investor Sentiment in India- A Survey. *Vision – A Journal of Indian Perspective*, Vol.13, Issue 2.
- Sankar, D. (1975, September). Dividends and Stock Prices: The Indian Experience. *Economic and Political Weekly*, pp. 62-72.
- Serra, A.P. (1999). Dual-Listings On International Exchanges: The Case Of Emerging Markets' Stocks. *European Financial Management*. Vol. 5 (2), pp. 165-202.
- Shanmugasundaram, V., & Balakrishnan, V. (2009). Behavioral Biases Of Investors In Capital Markets. *South Asian Journal of Socio Political Studies*, 99-102.
- Sharma J. L, Kennedy RE (1977). "A Comparative Analysis Of Stock Price Behavior On The Bombay, London And New York Stock Exchanges. *Journal of Financial Quantitative Analysis*., September. pp. 183-190.
- Sharma, M., & Gupta, S. (2011). Role Of Subjective Norm In Investment Decision Making Of Casual Investors. *Indian Journal of Finance*, 39-46.
- Sharpe, W. F. (1964). Capital Asset Prices: A Theory Of Market Equilibrium Under Conditions Of Risk. *Journal of Finance*, 19(3), 425–442. S

- Singh Preeti (1986), —Investment Management: Security Analysis and Portfolio Management, Himalaya Publishing House, Bombay
- Sims, C. 1972. Money, income and causality. *American Economic Review* 62, 540–52.
- Sims, C. 1980. Macroeconomics and reality. *Econometrica* 48, 1–48.
- Sireesha, P. B., & Laxmi , C. H. (2013). Impact Of Demographics On Select Investment Avenues: A Case Study Of Twin Cities Of Hyderabad And Secunderabad. *International Journal of Marketing, Financial Services and Management Research*, 47-55.
- Srivastava, A., 2010. Relevance Of Macroeconomic Factors For The Indian Stock Market. *Decision*. 37(3), 69-89.
- Statman, M., Thorley, S., & Vorkink, K. (2006). Investor Overconfidence And Trading Volume. *Review of Financial Studies*, 1531–1565.
- Strong, N. (1992). Modelling Abnormal Returns: A Review Article. *Journal of Business Finance and Accounting*, Vol. 19 (4), pp. 533 - 553.
- Sultana, S. T., & Pardhasaradhi, S. (2012). An Empirical Analysis of Factors Influencing Indian Individual Equity Investors Decision Making and Behavior. *European Journal of Business and Management*, 4 (18), 50-61.
- Suresha, B & Naidu, Gajendra. (2012). An Empirical Study of Announcement Effect of Right Issue on Share Price Volatility and Liquidity and Its Impact on Market Wealth Creation of Informed Investors In Bangalore with special Reference to CNX Nifty Stocks of NSE. *Excel International Journal of Multidisciplinary Management Studies*. Vol.2, Issue 7.
- Suskie, L. (2009). Assessing student learning: A common sense guide (2nded.). San Francisco, CA: Jossey-Bass. p. 47
- Thomas, T. C., & Rajendran, G. (2012). BB & K Five-Way Model and investment behavior of individual investors: evidence from India. *International Journal of Economics and Management*, 115-127.
- Times, T. E. (2013, September 11). Indian stock market regains \$1 trillion mark. Markets.
- Tobin, James (1958). Liquidity Preference As Behavior Towards Risk. *The Review of Economic Studies*. 25 (2), 65–86. doi:10.2307/2296205
- Tzu-Chun Sheng, Shu-Hui, Lan, & Hai-Shan, Chang. (2011). *The Business Review*, Vol.18, No.1.

- Umid Akhmedov & Keith Jakob. (2010). The Ex-Dividend Day: Action On And Off The Danish Exchange. *The Financial Review*, 45, pp. 83—103.
<http://dx.doi.org/10.1111/j.1540-6288.2009.00238>.
- Varghese, T. (1999). A Study of Individual Investors in the Capital Market in Kerala.Cochin. Thesis
- Vasant, D. (2009). Financial Markets and Financial Services (Vol. I). Delhi: Himalaya Publishing House.
- Verrecchia. (1982). Information Acquisition In A Noisy Rational Expectations Economy. *Econometrica*, 1415-1430.
- Weber, M. (1999). Behavioral Finance-Research for Practitioners. University of Mannheim. Working paper.
- White, & Lusztig. (1980). The Price Effects Of Rights Offerings. *Journal of finance and quantitative analysis*, 25-40.
- Yan. Zhipeng. (2012, April 24) A Random Walk Down Wall Street. Retrieved April 24, 2012,from
 Google.com:[http://www.knopers.net/webpace/bjorn/artikelenvalueinvestingdeel2/malkiel%20\(3\)book.pdf](http://www.knopers.net/webpace/bjorn/artikelenvalueinvestingdeel2/malkiel%20(3)book.pdf)
- Yadav, I.S., Lagesh, M.A., 2011. Macroeconomic Relationship In India: ARDL Evidence On Cointegration And Causality. *Journal of Quantitative Economics* 9:1, pp. 156-168.
- Yi, Zhang, Kathleen & A. Farrell. (2008). Ex–Dividend Day Price And Volume: The Case Of 2003 Dividend Tax Cut. *National Tax Journal*, Vol.61.No.1.
- Yu, Q., & Yin, C. (2001). Dividend Policy And Fluctuation Of The Stock Market In Chinese Companies. *Working paper*, University of Singapore.
- Zakaria, R. (2012). Financial Behavior And Financial Position: A Structural Equation Modelling Approach. *Middle-East Journal of Scientific Research*. 11(5), pp. 602-609.

APPENDIX - 1

UNIVERSITY OF HYDERABAD

Hyderabad – 500 046, Andhra Pradesh

QUESTIONNAIRE FOR INVESTOR

Lakshmi Rawat, Ph.D Scholar (Full time)
School of Management Studies

Dr.V.Mary Jessica, Associate Professor
Research Supervisor

Dear Respondent,

I, **LAKSHMI RAWAT**, Research Scholar, School of Management Studies, University of Hyderabad, pursuing my **Ph.D.** on the topic “**Investment Returns of individual Investor’s in India**”. Pursuance of this research involves conducting a survey regarding equity investor preferences in India Your comment is highly important for the analysis and will be treated with anonymity as well as extreme confidentiality. Your valuable responses would help me in doing my research successfully. I, request your co-operation in this endeavor.

1. **Gender** : Male Female , 1(b) **Age** _____ (in years)

2. **Marital Status**

Married Single Separated/Divorced Widowed

3. **Your city of residence is** _____

4. **Since how long are you having a Demat a/c** _____ years or _____ months.

5. **Do you invest in equity shares?** YES NO

6. **Your income per month is :**

Below Rs. 15,000 per month. Between Rs. 50,001 to Rs.1,00,000 per month
 Between Rs. 15,001 to Rs.30,000 per month Between Rs. 1,00,001 to Rs.2,00,000 per month
 Between Rs. 30,001 to Rs.50,000 per month Above Rs.2,00,000 per month.

7. **Highest education till date:**

No formal education Graduation
 Primary (up to class 5) Post Graduation
 Class 10 Technical/Professional course (IIT/CA/MBBS...)
 Intermediate (plus 2) Others specify _____

8. **In your view which of the below is best to get highest returns. (Mark a ✓ for your choice)**

PREFERENCE OF INVESTMENT	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
Savings bank deposits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Money Market Funds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bank fixed deposits(less than 1year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Office Deposits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PPF(Public Provident Fund)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company fixed deposits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bonds and debentures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mutual funds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insurance policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equity shares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chit Funds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Are you first person to start investing in equity shares from your family? YES NO

10. Have you inherited some equity investments from your parents/guardian? YES NO

11. What is your most important goal when you invest?

- To generate income for today To provide for my dependents at later stage
 To generate income at a later stage To fund a large future expense

12. What is the major goal of your investment portfolio?

- To ensure my portfolio value remains secure
 To ensure that my portfolio value grows and avoid unstable returns
 To accept fluctuating returns with growth potential
 To provide growth potential, and to accept some fluctuation in returns
 To provide the sole objective of potential long term growth in returns

13. When do you expect to use these funds?(Money invested)

- Immediately (6-10) years
 (1-3) years (16-20) years
 (4-5) years (11-15) years More than 20 years

14. What are your plans about drawings or additions to your equity investments today and over next 5 yrs.?

- I plan to withdraw at regular intervals and make no contributions
 I plan to make a lump-sum withdrawal and no more contributions
 I plan to make both withdrawals and contributions
 I am likely to make regular contributions and no withdrawals
 I will certainly make regular contributions and will not be withdrawing any funds

15. Which statement best describes your knowledge of equity investments?

- I have very little knowledge and depend on financial advisors recommendations
 I have imperfect knowledge and do not monitor financial markets
 I have good working knowledge and regularly monitor financial markets
 I completely know how different equity investments work and follow financial markets

16. Understanding that there will be declines in the market, in case of a major loss, how long are you ready to hold your present investment in hope of recovery?

- Less than 3 months For 1-2 years
 For 3-6 months For 2-3 years
 For 6 months to 1 year For more than 3 years

17. Suppose you invest Rs.1,00,000 for a long term(5 years) in various equity portfolio. What is the maximum drop in portfolio value you are comfortable to accept?

- I am Comfortable with any loss I am Comfortable with Rs.15,000 drop
 I am Comfortable with Rs.5,000 drop I am Comfortable with Rs.20,000 drop
 I am Comfortable with Rs.10,000 drop I am OK with a drop of more than Rs.20,000

(3)

18. Are your expectations from your equity returns fulfilled so far?

- Yes No

19. Which of the following statements most correctly describe your equity investment rational?

- I cannot accept any changes in basic investment
- I can accept least fluctuations and prefer safe, low return investments
- I am ready to accept some ups and downs in the value to achieve high overall returns in long run
- I target high long run returns therefore am not worried about short-term fluctuations

20. An equity investment portfolio is a basket of different investment. The returns earned by a specific portfolio depend on the mix of investments that make up the portfolio.

Which of these equity investment portfolio, you would prefer to invest for 1 year with given range of maximum and minimum returns?

- Portfolio A (13% to -2%) return
- Portfolio B (20% to -7%) return
- Portfolio C (28% to -13%) return
- Portfolio D (37 to -20%) return

21. Are you ready to accept large and frequent declines in your equity returns with a chance of achieving higher long-term returns

- Strongly Dis-agree Dis-agree Agree Strongly Agree

22. (A) Do you think there is a need to check these factors **FOR BETTER RETURNS** while **INVESTING IN EQUITY?** (Mark a ✓)

Macro-Economic Factors	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Stock Market Fluctuations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stock Market Sentiment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unemployment Rate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inflation rate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corporate Earnings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gold/Silver/Crude Oil Prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foreign Direct Investment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Index for Industrial Production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Political Conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bank Interest Rate on Savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exchange Rate of Dollar/Euro etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Short Term Deposit Interest Rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. Are you satisfied with the returns you earned from your equity investments so far?

- Yes No

24. (B) Do you think there is a need to check these factors **FOR BETTER RETURNS** while **INVESTING IN EQUITY**? (Mark a ✓)

Company Related Aspects/Corporate Actions	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Dividend Announcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bonus Announcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rights Issue Announcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stock Splits Announcement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. Do you think there is a need to **HAVE UPDATED INFORMATION** about **financial markets** for positive equity returns?

- Yes No

26. How frequently do you update yourself with market information?

- Daily Weekly Monthly Every 6 Months Not sure

27. Which of the following information sources do you depend on, for better equity investment returns?

- Publicly available sources (T.V, Newspapers, Magazines, Facebook, Blogs)
- Insider Information (Advisers, Brokers, Co-Investors, etc.)
- Subscribed/Contributed Information (Newsletters, Brokers, Advisors etc.)
- Others _____

*******THANK YOU*******

APPENDIX – 2

COMPANIES LISTED WITH NIFTY 50

S.No.	COMPANY NAME	S.No.	COMPANY NAME
1	ACC Ltd.	26	IndusInd Bank Ltd.
2	Ambuja Cements Ltd.	27	Infosys Ltd.
3	Asian Paints Ltd.	28	Jaiprakash Associates Ltd.
4	Axis Bank	29	Jindal Steel & Power Ltd.
5	Bajaj Auto Ltd.	30	Kotak Mahindra Bank Ltd.
6	Bank of Baroda	31	Larsen & Toubro Ltd.
7	Bharat Heavy Electricals Ltd.	32	Lupin Ltd.
8	Bharat Petroleum Corporation Ltd.	33	Mahindra & Mahindra Ltd.
9	Bharti Airtel Ltd.	34	Maruti Suzuki India Ltd.
10	Cairn India Ltd.	35	NMDC Ltd.
11	Cipla Ltd.	36	NTPC Ltd.
12	Coal India Ltd.	37	Oil & Natural Gas Corporation Ltd. Energy
13	DLF Ltd.	38	Power Grid Corporation of India Ltd. Energy
14	Dr. Reddy's Laboratories Ltd.	39	Punjab National Bank Financial Services
15	GAIL (India) Ltd.	40	Ranbaxy Laboratories Ltd. Pharma
16	Grasim Industries Ltd.	41	Reliance Industries Ltd. Energy
17	HCL Technologies Ltd.	42	SesaSterlite Ltd. Metals
18	HDFC Bank Ltd.	43	State Bank of India Financial Services
19	Hero MotoCorp Ltd.	44	Sun Pharmaceutical Industries Ltd. Pharma
20	Hindalco Industries Ltd.	45	Tata Consultancy Services Ltd. IT
21	Hindustan Unilever Ltd.	46	Tata Motors Ltd. Automobile
22	Housing Development Finance Corporation Ltd.	47	Tata Power Co. Ltd. Energy
23	I T C Ltd.	48	Tata Steel Ltd. Metals
24	ICICI Bank Ltd.	49	Ultra Tech Cement Ltd. Cement & Cement Products
25	IDFC Ltd.	50	Wipro Ltd. IT

APPENDIX - 3

Enhancement of limit for defining Retail Individual Investors in public issues Discussion Paper for proposed changes to SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2009

1.0 Background:

1.1 Retail Individual Investor in a public issue was defined in the erstwhile SEBI (Disclosure and Investor Protection) Guidelines, 2000 (DIP Guidelines) until August 2003 as under:

(i) Fixed price issue: Retail Individual Investor is one who applies for allotment equal to or less than 10 marketable lots.

(ii) Book built issue: Retail Individual Investor is one who applies for up to 1000 securities.

1.2 The aforesaid definition of Retail Individual Investor did not differentiate between profiles of different investors. e.g. a Retail Individual Investor who applies for 1000 shares of ₹530/- each and a Retail Individual Investor who applies for 1000 shares of ₹.10/- each. It was decided to define Retail Individual Investor on the basis of amount applied for, instead of the number of shares applied for and DIP Guidelines were amended in August 2003 to provide that a Retail Individual Investor means an investor who applies or bids for securities of or for a value of not more than ₹50,000.

1.3 The aforesaid limit of ₹50,000 was found to be too low particularly in the context of large size book built issues and also resulted in higher transaction costs. In view of this, in March 2005, the DIP Guidelines were amended to enhance the aforesaid limit from ₹50,000 to ₹1,00,000.

1.4 The aforesaid stipulation of DIP Guidelines has now been incorporated in the SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2009 (ICDR Regulations).

2.0 Matter for consideration :

2.1 It is more than five years since the limit of ₹1,00,000 for defining a retail individual investor was stipulated. It is felt that the aforesaid limit of ₹1,00,000 for defining a retail individual investor needs to be enhanced on account of interalia the following reasons:

- (i) It has been observed that in recent public offerings, approximately 75% of applications in the Retail Individual Investor category have come in the size of ₹80,000 to ₹1,00,000. Whereas, in the Non Institutional Investor category, the number of applications in the size of less than ₹5,00,000 is negligible. The above suggests that Retail Individual Investors who have the capacity and appetite to apply for securities worth above ₹1,00,000 were constrained from doing so because of the ₹1,00,000 limit nor do they make an application under the Non Institutional Investor category because the allocation there is limited to 15% as against 35% for Retail Individual Investor category.
- (ii) In terms of ICDR Regulations, since 35% of the public issue is to be allocated to Retail Individual Investors, in a large sized public issue e.g. for an issue size of ₹.4000 crores to ₹6000 crores, the limit of ₹1,00,000 would mean that the issue has to receive a minimum of 1,50,000 to 2,00,000 applications from Retail Individual Investors to fill in the 35% allocation. This could be a daunting task considering that in case of well oversubscribed issues, the number of applications received from Retail Individual Investors was in the range of 35,000 to 70,000.
- (iii) The rate of inflation in India has increased from about 4% in 2005 to about 12% currently, measured in terms of wholesale price index. In the same period, the BSE Sensex has risen from about 8000 points to about 18000 points. This means that the Retail Individual Investors now buy a lesser number of securities with ₹1,00,000 than they would buy with the same amount in 2005.

3.0 Proposal:

- 3.1 Having regard to the above, it is proposed to amend ICDR Regulations to enhance the limit prescribed for defining a Retail Individual Investor in a public issue from the existing ₹.1,00,000 to ₹.2,00,000.

4.0 Public comments:

- 4.1 As part of the consultative decision making process followed by SEBI in policy formulation, comments / suggestions are invited from the public on the proposed changes. Comments/ suggestions may be sent to the address mentioned below to Mr. Sudeep Mishra, Assistant General Manager, Division of Issues and Listing, Corporation Finance Department, Securities and Exchange Board of India, on or before September 3, 2010.

SEBI Bhavan, Plot No: C – 4A, G Block,
Bandra Kurla Complex,
Mumbai 400 051.

Comments/suggestions may also be emailed to sudeepm@sebi.gov.in or to sanjayp@sebi.gov.in.

An Event Study Analysis of Rights Issues Announcement by Indian Corporates

Lakshmi Rawat & Mary Jessica***

Research in finance to understand the information asymmetry of a particular event has been established mostly using the event study methodology. Although sufficient amount of study has been done on the topic of stock market event's and their information asymmetry in emerging economies of the world, there has been no clarity of thought yet. Through the present paper, we try to analyze the impact of Rights Issue announcement made by 50 companies which are both listed in CNX-Nifty and BSE-India indices. The sample consists of 5 announcements declared during 2004-2013. Based on the analysis of data it is found that only one of them gained statistical significance for different event windows. Significance of abnormal returns is explained by different reasons for each of the significant event.

Keywords : Listed Companies, Information Asymmetry, Bonus Issue, Stock Price Behavior.

Introduction

Corporate announcements create lot of noise in stock market, but timely usage of this kind of information is still a debatable topic. Share rights issue is a scenario where companies give an opportunity to existing shareholders to buy new shares at a discount or at current trading price on a given future date. Most of the time it is perceived that companies which need to increase finance sort to rights issue, but this may not be true always. The paper is focused on the study of information asymmetry content of share rights issue announcement and its impact on stock returns.

An attempt has been made to understand the characteristics of rights offering by listed companies and their effect on share

returns of these companies. Indian stock market is regarded to be one among the most volatile market with largest volume. It comprises of two major indices BSE and NSE which has more than 5,000 companies listed until May, 2014(1). With a total market capitalization of USD 1.51 trillion (2) NSE India, which is another leading index has 3,091 securities listed as on June 2014 with a market capitalization of 1.5 trillion (3,4) It, therefore, becomes a difficult choice for an investor to

* *Lakshmi Rawat, Research Scholar, School of Management Studies, University of Hyderabad and IPE-ICSSR Fellow.*

** *Dr. Mary Jessica, Associate Professor, School of Management Studies, University of Hyderabad.*



PEOPLE: International Journal of Social Sciences
ISSN 2454-5899

Lakshmi Rawat & Mary Jessica

Special Issue Volume 2 Issue 1, pp. 236-248

DOI-<http://dx.doi.org/10.20319/pijss.2016.s21.236248>

EFFECT OF EX-DIVIDEND DATE ON STOCK RETURNS OF NIFTY STOCKS IN INDIA

Lakshmi Rawat

Research Scholar, School of Management Studies, University of Hyderabad, Telangana, India

f11lakshmir@iima.ac.in

f11lakshmir@iimahd.ernet.in

Mary Jessica

Associate Professor, School of Management Studies, University of Hyderabad, Telangana, India

Abstract

In the present study we examine the impact of ex-dividend day on stock returns to Indian companies listed under Nifty 50 companies during the period 2011-2015 both inclusive. We examine the daily abnormal returns for 61 days, 31 days and 11 days event window using event study methodology with an estimation period of 250 days prior to ex-dividend date. Abnormal returns have been calculated using Market Model with Nifty index as proxy for market returns. To test the significant of Average Abnormal Returns both parametric and non-parametric tests has been used, that is paired t –test and Wilcoxon Signed Rank Test. We conclude from the analysis of the study that AAR have been statistically significant for 31 days event window, with an average mean of 0.0944 during preannouncement and -.0960 average mean during post announcement. This implies that, there had been very high actual returns during the pre-announcement period indicating positive market reaction.

Keywords

© 2016 The author and GRDS Publishing. All rights reserved.

Available Online at: <http://grdspublishing.org/journals-PEOPLE-home>

236

A Study on Factors Affecting Individual Investors Returns in Hyderabad and Mumbai

by Lakshmi Rawat

FILE	11MBPH01-LAKSHMI_RAWAT.PDF (3.31M)		
TIME SUBMITTED	20-JUN-2017 04:22PM	WORD COUNT	54420
SUBMISSION ID	826351493	CHARACTER COUNT	286898

A Study on Factors Affecting Individual Investors Returns in Hyderabad and Mumbai

ORIGINALITY REPORT

%**9**

SIMILARITY INDEX

%**6**

INTERNET SOURCES

%**5**

PUBLICATIONS

%**5**

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to Indian Institute of Management,
Bangalore

Student Paper

<%**1**

2

mpra.ub.uni-muenchen.de

Internet Source

<%**1**

3

Tarak Nath Sahu. "Macroeconomic Variables
and Security Prices in India during the
Liberalized Period", Springer Nature, 2015

Publication

<%**1**

4

ierigz.waw.pl

Internet Source

<%**1**

5

www.ukessays.com

Internet Source

<%**1**

6

www.cmvm.pt

Internet Source

<%**1**

7

Submitted to Universiti Teknologi Malaysia

Student Paper

<%**1**

www.sebi.gov.in

172

www.om.ef.vu.lt

Internet Source

<% 1

173

Submitted to Griffith University

Student Paper

<% 1

174

Submitted to NALSAR University of Law
Hyderabad

Student Paper

<% 1

EXCLUDE QUOTES ON

EXCLUDE MATCHES < 5 WORDS

EXCLUDE
BIBLIOGRAPHY ON