CHAPTER 3

REVIEW OF LITERATURE

3.1 INTRODUCTION

Existing literature, both Indian and Foreign are important, since it will throw light on the behaviour of the individual investors. Hence it is proposed to highlight on the literature (both Indian and foreign) available on individual investor behaviour. The review of literature will bring out the gaps in the study on investor behaviour, which has given rise to the present study. The review has been confined to research articles only.

3.2 REVIEW OF FOREIGN LITERATURE

Chottiner Sherman,¹ in the article entitled "Optimum Investor -- Stock Market Efficiency Standard" has thrown light on evaluating the investor's performance in the stock market. According to him, a knowledge of perfect performance is valuable as it will provide;

(i) A universal standard of stock market performance. Actual decision rules can then be compared using this efficiency measure.

(ii) A measure of a decision rule's deviation from optimality. This measure would provide insights into our understanding of market movements. Also, it would assist in determining how much research it is feasible to do in order to develop more rewarding decision rules.

The research into perfect performance resulted in many interesting by-products, such as, the severity of market fluctuations over the years, the effect of increasing commissions on performance, and the optimum trading activity.

In a study of investment experience with less popular common stocks, Bauman\(^2\) found that among investors who are seeking maximum returns on common stock investments, two widely used but opposing concepts prevail. One concept is that long-term profits are maximized by investing in the widely owned stocks of the large, well-

---

entrenched companies in major industries. The other concept is that better returns are obtained from stocks of smaller, lesser known companies.

The least popular stocks are generally those of the medium and smaller size companies which include younger, lesser known companies with more specialized product lines. The stocks of many of these companies are described as lower quality, speculative, special situations, lesser known, less popular or stocks of smaller "growth" companies. The most popular stocks are generally those of the large, well-known and broadly based companies. These stocks are normally considered of relatively high quality and are referred to as "blue chip" stocks.

The research findings reveal several worthwhile implications for common stock investors. First, the results clearly justify the consideration of less popular stocks by investors who are particularly interested in capital gains. These stocks often are equities in younger firms with small capital bases that offer the prospects for substantial rates of growth in earnings and market prices. Not only were the less popular group of stocks over 22% more profitable per year than the most popular group during the period studied but many of the individual less popular stocks were considerably more profitable.
Secondly, however, investors in this category of securities should have the financial ability and temperament to assume the greater risks involved in some of the least popular stocks. Since the size of returns from individual stocks are much more widely dispersed, the investors should be prepared financially and psychologically to absorb severe losses as sometime result from such individual issues.

Investors may be able to reduce the adverse effects of dispersion in two ways. One method is to hold a number of least popular stocks so as to benefit from the "off-setting" effects provided by the "law of large numbers". Some of these stocks represent a high degree of risk because the companies are financially less stable and their product lines less diversified. Many of the less popular stocks had substantial changes in earnings per share from one year to another. Therefore, an investor, who holds only a few of the less popular stocks, assumes a greater risk than if he held only a few of the most popular stocks.

A factor which contributes to the instability of market prices of the less popular stocks is that the market for their securities tends to be thinner. Because of the smaller volume of shares bought and sold, prices sometimes fluctuate widely within a period of a month or two. Likewise, there may be greater costs incurred in buying and selling such stocks because of the larger spread between bid and ask investors, shift their
investment positions in these stocks, they should do it gradually in order to minimise any direct effect on market prices.

A second method by which to reduce the adverse effects of dispersion is to exercise unusual care in selecting and holding stocks of this kind. Less popular stocks should be selected for investment only after an intelligent and thorough analysis. This is occasionally difficult to do when adequate and reliable information about these companies is not readily available. Consequently, it takes additional time and effort on occasion to acquire these data. Since the financial positions of the lesser known companies are subject to more frequent significant changes, there is a greater need for investors to review frequently the current status and outlook for such companies.

Since the prices of some of these stocks may be more greatly affected by general cyclical changes in economic and stock market conditions, investors in this type of security should observe these changes closely. In general, it is desirable to purchase these equities in the earlier phase of a period of economic expansion and improving investor confidence. Similarly, they should be re-examined with a view to liquidation toward the end of such a period.
Bauman concludes the study with the advice that investors who are financially and psychologically able to assume the greater risks, who avail themselves of good quality investment and economic research, and who are alert to changing conditions may appropriately invest in a diversified list of less popular stocks. Any investor whose investment policy emphasizes safety of principal and stable income, should generally avoid the least popular stocks.

Graham\textsuperscript{3} in a study on "Trust Investors and Public Utility Equities" highlighted that projected growth in population and general economic activity will be a major factor in future investment valuations of utility securities. He is of the opinion that utility companies will be competing for new investment money not only with each other, but with all industry. Utilities will not grow as rapidly as the office equipment industry, or the textbook publishers, or many chemical, drug and electronic companies. Utility shares will not yield as much as those of many basic industries. The utility industry has great advantages. For steady, reliable and predictable growth, no other industry can approach its record. Real

problems must be faced, but that is nothing new. The same energy and imagination which has served so well in the past will take care of the future.

Mckelvey in his study entitled "Intangible factors in Stock Evaluation" pointed out that when making an investment decision one should look for certain factors beyond current earnings and dividends. The factors suggested in his study are growth trend, quality of growth, qualitative factors, management factor, volatility of earnings, use of leverage, diversification, shareholder relations and other intangible factors. The intangible factors are stocks with restricted voting rights, full voting rights, reputation of the underwriter and the length of time that the shares have been on the market. The study emphasizes that current earnings and yield are important factors in determining the attractiveness of a stock, but they are not the only ones.

The findings of a study on the behaviour of individuals in security investment decisions by Keller are as follows: (i) although each decision process was highly individualized, it was possible to synthesize


a multi-step general model: (ii) the expectation of desirable future "reported earnings" to be generated from "adequate company resources" by a "good management" is a requisite to any investment; (iii) financial leverage in a company under consideration for investment has some optimal range relative to "adequate resources" and risk; (iv) dividends had value only for their possible information content and any "yield floor" was considered to be beyond the range of acceptable downside risk and therefore of no consequences; (v) investors tend to identify with their investments and any particular stock was rarely regarded dispassionately as a mere portfolio item; and (vi) potential market realization was the hallmark of success even among investors who held that any sale was unjustified unless the original purchase had been a mistake.

Westerfield in his study "A Behavioural Approach to the Investment-Management Decision and to the Securities Markets" examined the individual investment decision. The major findings may be summarized as follows: (i) There is a significant difference between an amateur investor and a non-investor with respect to risk performances. (ii) Certain personality and cognitive-judgemental factors

are associated with choice rationality, perceived risk and risk preferences. (iii) Choice rationality, in the portfolio-theory sense, is exceptional.

On gleaning the investment scene, Stern\(^7\) has concluded that two broad styles of investing are emerging. They are, firstly, "gunslinger"-- the aggressive investor who feels he can identify change before the next guy and capitalize on it. You can identify him; he is young; he is able; he is arrogant; he deals in concepts, not price-earnings ratios. He is "opportunity-oriented", and he checks out every idea you present to him in a chart book before he acts on it. He wants access to information, and he wants freedom to act quickly. Secondly, we have the "serious long-term investor". He is basically interested in earnings trends, concentrates on areas of long-term growth and fundamental work. He is less concept-oriented and more price-earnings ratio oriented. He wants access to information, but he wants lots of bits and pieces which he puts together into a cumulative apperceptive mass which helps him form long-term judgements. To him, short-term information is not the be-all and

end-all. He can be aggressive on ideas, but on a long-term, not a short-term basis.

Cheney felt that the value of investment advisory services has long been questioned. A twelve year study of the performance of stocks recommended by four top firms revealed that the scepticism has not been justified. The evidence garnered by the study pointed out that the subscription advisory services are able to select stocks which offer better than average return on investment. That is, they offer advice which, if followed by the subscriber, promises to provide him with a return on his investment which is greater than the increase in the Standard and Poor's 500 Composite Stock Index. In the aggregate, the lists of common stocks recommended by the advisory services increased in value by 353.3 per cent compared with an increase in value of 25.7 per cent by the S & P 500. Both percentages include dividend income. The above average performance of the advisory services is also true for their individual lists of growth stocks, income stocks and for their lists which combine the income objective with the capital gains.

objective. The amount of risk inherent in a portfolio of common stocks is a difficult thing to measure, but the information gathered indicates that the lists of recommended stocks also have excellent defensive qualities. The investor is well advised to seek professional help with his investment programme. The subscription advisory services offer improved portfolio performance and reduced risk. The defensive strength of the recommended lists reduces the need for protection in the form of diversification, and the sound nature of the recommended lists gives the investor the opportunity to enjoy the satisfaction of managing his own investment programme to meet his needs, with an expectation of better than average rate of return.

Hatfield and Reilly⁹ in a paper on “New Stock issues” found that all tests showed superior short-run and long-run results for the investor in new stock issues. This very strong, positively skewed characteristic of the distribution accounted for the significantly superior results. Although on the average, the investor experiences as many relative losses as relative gains, his downside risk is relatively small while his potential

relative gains are substantial. These relatively modest losses probably can be explained by the fact that the underwriting syndicate can and will support the market for the stock after the offering, if it experiences price weakness. On the other hand, while stock could be sold if it showed unusual strength, it is unlikely that the underwriter would feel obligated in such a case. These superior results on the average can partially be justified on the basis of the higher risk assumed by the investor is uncertain regarding market acceptance of the stock. The results justify the latter point since in all cases greater dispersion was found in the new-issue distribution of percent changes.

Schienman felt that most investors lose because they try to apply rational measures, fundamental and technical, to an irrational market of human emotions. He demonstrates convincingly the uselessness of most investment advice, or at least its application by the average investor. The published “experts” tend to be consistently wrong since Mutual fund performance is inconsistent.

10. Scheinman William X. - Why most investors are mostly wrong most of the time - Weybright & Talley, New York, 1970
In his book "The Battle for Stock Market Profits", Loeb\textsuperscript{11} states "The best psychologists are the best investors. Successful investing requires a special kind of judgement and flair in analysing market behaviour which is associated more with psychology than with pure fact and formula."

In a study of financial disclosure, investor confidence and corporate credibility, Casey\textsuperscript{12} emphasized that the Securities and Exchange Commission, the accounting profession and corporate executives have no more important job than to make financial reporting more useful, to overcome investor skepticism, and to maintain the credibility of the issuers who use public savings. There are many reasons why this task must be accomplished. The fact that the investor in the American Securities Markets is the most informed and the best served investor in the world attracts investment to American companies from all


over the world. That makes it possible for U.S. Corporations (1) to command more capital for a dollar of earnings than their competitors abroad, (2) to plough back earnings which competitors abroad have to distribute to maintain capital values, and (3) to raise larger amounts of capital more quickly to apply technology more rapidly and, on a larger scale, to bring products to markets around the world. All this is vital to the economic welfare of 200 million Americans. He also added that financial executives have a further concern that strikes closer to home. Investors can have confidence in the economy and in the security markets and still lose confidence in the whole financial reporting process or that of a particular company. When an industry or a company loses credibility, values go down and the cost of financing goes up.

Will financial forecasts really help investors? No one can predict the future with certainty. Yet the management is being asked to publish financial forecasts on which investors will rely in making their investment decisions. Rather than forecasts, management should release more complete information. (Kapnick13). In recent years, however, certain investors may have forgotten the basic fundamentals of investment.

risk and have cried "foul" when they incurred losses. This has now led some of those who have the responsibility for seeing that the public investor has sound information to suggest others assume the responsibility for evaluating the future because, supposedly, the investors who lost money were unable to make proper evaluations. Public forecasts are not the panacea for the investor that some believe them to be, however. Everyone must recognise that the risks in equity securities can result in losses as well as gains, and only the naive could conclude that forecasts will protect over-zealous investors from taking unwarranted risks.

Taking up a study on short selling and financial arbitrage, Renshaw observed the following. The return on the market as a whole is positive about twice as often as it is negative. Why should an investor sell the market short if he cannot distinguish between bull and bear markets in advance? In almost any market situation, however, he can reduce portfolio variance and increase expected return by selling short individual assets. For example, an investor who is unable

to forecast the performance of an industry, but able to anticipate the relative performance of individual companies, can use a hedged position within that industry to improve his portfolio performance. Short selling will generally be more effective, the more positive the correlation between the asset sold short and the asset purchased. An example is classical arbitrage, where two assets are convertible at some future time at a predetermined exchange ratio. Although a detailed understanding of portfolio theory may not be essential for obtaining reasonably good results in classical arbitrage, it can be critical when the correlation is imperfect; faulty hedging can lead to instant disaster.

Cooley\textsuperscript{15} in his study entitled "A Multidimensional Analysis of Institutional Investor Perception of Risk" brought to light the following implications. Proper definition and measurement of risk are the two basic problems in understanding investment risk. Although risk is related to the uncertainty of future events, and more risk implies more uncertainty, risk is a personal concept reflected by the viewpoint of a particular investor. The multidimensional scaling methodology employed in this

study allowed several portfolio managers to define risk as they personally viewed it in return distributions. Moments of the return distributions were then related to the subjectively derived notions of risk.

The results of the above study provide some validating evidence for financial models based on investor variance-aversion. First, nearly all of the 56 portfolio managers viewed variance as synonymous with risk, or at least an important part of risk. This result would suggest variance as a reasonable risk surrogate. However, a substantial number of investors associated an additional dimension with risk, namely, asymmetry of return distributions. Increases in risk, for example, were associated with increase in negative skewness. Kurtosis, although not an independent dimension, was viewed as risk-reducing. Less risk appeared inherent in leptokurtic (more peaked) distributions than in the platykurtic (flatter) distributions. If all investors are confronted with ex ante symmetrical return distributions, perceptions of asymmetry are irrelevant, whether measured by skewness, or some modifications of skewness. Lacking this exogenous condition, the variance-equals-risk assumption appears suspect for a large group of investors responsible for investing billions of dollars. Their concern for downside risk is indicated by association of risk
with higher-order moments. Findings of this study suggest that dispersion and asymmetry capture most of what is perceived as risk.

"Stock Market Outlook: No metamorphosis", an article by Zeikel\textsuperscript{16} highlights, there are two ways to use the past to forecast the future -- (1) extrapolation, which simply assumes that trends will continue, and (2) reliance on the underlying logic of events. The second way requires an insight into how things really work that most investors seem to lack; perhaps this is why they usually assume the future will be like the past. Portfolio strategy is not merely a matter of picking good stocks over bad ones. It is, rather, a continuous effort to identify -- on the basis of the underlying logic of events -- unwarranted extrapolation in conventional expectations. The market consensus, hence prices, will continue to be dominated by the emotions of the crowd, and by the crowd's irrational tendency to extrapolate the future from the past. The dictionary defines "metamorphosis" as a complete change of form, structure or substance: a transformation by magic or witchcraft, complete change in appearance, character or circumstances. No metamorphosis is in prospect for the securities markets.

Coplin\textsuperscript{17} emphasises investor relations programmes must have objectives such as (1) to create greater awareness in the financial community, (2) to establish increased loyalty among existing shareholders, and (3) to attract new shareholders. The use of effective communication -- based on insight and knowledge gained through formal and informal research among current shareholders, registered representatives and other influential groups -- can achieve greater awareness in the financial community, increase loyalty among current shareholders, attract new stockholders and, in the long run, broaden the base for successful equity financing in the years ahead.

Close to the work of Coplin reviewed above, Kennedy and Wilson\textsuperscript{18} in an article entitled "Are Investor Relations Programs Giving Analysts What They Need?"\textsuperscript{9} brought to light the following observations. Despite the importance of investor relations to investors, corporate managers and regulators, theoretical and professional literature

\begin{itemize}
\end{itemize}
on the subject is sparse. The authors surveyed both corporations' own investor relations specialists and sell-side security analysts in regard to their perceptions of the goals of investor relations programs, the degree to which those goals are accomplished, the programs' activity levels and their effects on stock prices. Both groups agreed that corporate investor relations programs should furnish timely and reliable information to the capital markets, and both gave relatively high marks on the accomplishment of this objective. Unlike investor relations specialists, however, analysts did not agree that stock price performance should be one of the primary goals of investor relations.

Both groups rated investor relations programs as "moderately active" in their cultivation of analysts. The groups also agreed that investor relations programs have a favourable impact on market prices. Nevertheless, the overwhelming majority of investor relations specialists believed that the capital market undervalued the common stocks of their corporations. Analysts generally felt the information provided enabled them to understand the nature of the corporations and their operating and financial risks. The investor relations specialists felt, in turn, that analysts were doing a fairly good job of interpreting the information they supplied. The analysts were less convinced, however, that this
information enabled them to estimate future earnings and investment value -- the most crucial elements of the stock valuation process.

In a survey conducted by Reckers and Stagliano the investors were asked to determine the type of data they considered most useful in making investment decisions. The three major conclusions of the survey are:

(i) While 91 percent of the investors indicated a somewhat thorough reading of the annual report, conclusions about the use of these reports must be made cautiously. It must be noted that half the respondents apparently disregard financial statement footnotes. Potentially, the reports may actually be misused. As has been learned from prior surveys, readability of company-produced reports still appears to constitute a major obstacle to more widespread use.

(ii) Forecasts generally were thought to possess some positive use of decision-making. But enthusiasm on the part of stockholders for publication of forecasts was quite guarded. Complexity, unreliability and lack of credibility are among the limitations which deterred more than

50 percent of respondents from agreeing that it would be a good idea to have earnings forecast required in annual reports.

(iii) Quality of management assessments and operational credits appear to be the most inaccessible or unavailable major item of decision-relevant data even though this information is used by investors.

There are unquestioned benefits to a company that has a vibrant investor relations program, says Goldman\textsuperscript{20} in his article entitled "How to Develop an Investor Relations Program". The objectives of the investor relations program are:

(i) Increased Institutional Interest

(ii) Increased Analyst Following

(iii) Increased Number and Geographical Dispersion of Individual Holders

(iv) Assurance of Maximum Appropriate Stock Price

(v) Tangential Positive effects

---

The program should also strive for consistency, credibility, avoiding surprises, analyst assistance and continuity. The article further suggests the following effective techniques for establishing a broad financial relations program. They are monthly meetings, presentations to the Industry, regional meetings, Shareholder meetings and written communication and publicity. In an interview with the journal, Financial Executive, Lazovick\textsuperscript{21} is of the opinion that maintaining a low profile in times of trouble may serve short-term interests, but in the long term it will result in less favourable reception of any messages -- positive and negative. To some extent, management must commiserate with the shareholder, but efforts must also be made to explain the constraints affecting the company's performance. Instead of a bland recap of the year, the Chief Executive Officer's letter (in the annual report) should be substantive, and address issues the company faces in the marketplace. It should express a company philosophy and direction.

Ferguson\textsuperscript{22} has made a study of the mean-variance and long-term return characteristics of three investment strategies. In his analysis

\begin{enumerate}
\item Lazovick, Structure your Investor Relations -- For the good times and the bad, \textit{Financial Executive}, April 1984, P.20
\end{enumerate}
of which is the best strategy -- buy and hold, portfolio insurance or covered writing, he has attempted to find out which offers the most efficient combination of expected return and standard deviation of return and also which offers the highest long-term return. He also tries to find out whether these measures are relevant in choosing one of these strategies over the others. The study concludes that both covered writing and portfolio insurance reduce long-term annual return relative to the stock index. Neither strategy dominates the other when exercise price is a consideration.

Portfolio insurance programs with time horizons of one year and a minimum return of no more than 2 percent have implied exercise prices less than 10 percent above the current price of the stock index. Their long-term annual returns exceed those of covered writes with the same exercise prices. Portfolio insurance programs with time horizons of three years and a minimum annual return of no more than 4.5 percent have implied exercise prices less than 32 percent above the current price of the stock index. Their long-term annual returns exceed those of covered writes with the same exercise prices. Portfolio insurance programs with time horizons of five years and a minimum annual return of no more than 5 percent have implied exercise prices less than 55 percent above the current price of the stock index. Their long-term annual returns
exceed those of covered writes with the same exercise prices. However, if only long-term annual return were important, no investor would consider either portfolio insurance or covered writing. The existence of portfolio insurance and covered writing implies that investors are concerned with more than long-term annual return.

Consider, for example, a portfolio with a long-term annual return of 100 per cent annually. If one were a long-term investor, one would require no other information to conclude that this portfolio is preferred. Suppose this portfolio had a 0.999 probability of losing 10 per cent in a year and a 0.001 probability of making so much that, in the one year in a thousand that money is made, the net result is a compound annual return of 100 per cent. One is truly a long-term investor if one still wants this portfolio. An important implication of this study is that no portfolio should be managed only to maximize long-term return. He also made a few other important observations in this regard. Consider investors who maximize expected utility in markets that are efficient and in equilibrium. Obviously, all securities need to be held, and there must be a buyer for every seller. Define buying portfolio insurance as increasing the portfolio's risky asset position after a small decline. Define selling portfolio insurance as decreasing the portfolio's risky asset position after it has gone up a bit and increasing its risky asset position after a small
decline. Ordinary portfolio insurance fits the definition of buying portfolio insurance and covered writing fits that of selling portfolio insurance. Neither strategy can dominate the other. If it is optimal for one investor to buy portfolio insurance, it must be simultaneously optimal for other investors, perhaps as a group, to sell it to him. The market could not be in equilibrium otherwise.

Note that rebalancing to maximize long-term return (taken in the ordinary sense) corresponds to a strategy of selling insurance. If it is optimal for an investor to maximize long-term return by rebalancing, it must be simultaneously optimal for other investors, perhaps as a group, not to adopt rebalancing. The moral is that no single strategy that requires trading can be optimal for every investor. If it is optimal for one investor to adopt a particular strategy, it must simultaneously be optimal for other investors, perhaps as a group, to adopt the complementary trading strategy. The study emphasizes that there is no optimal investment strategy.

In the article entitled “Security Analysis and Stock Selection: Turning Financial Information into Return Forecasts” Estep\(^2\) presents

the T-model which provides a conceptual framework for turning readily available financial results into return forecasts. The T-model states investment return in three terms — growth, cash-flow yield and valuation change — each of which depends on familiar accounting results — return on equity, growth and change in price/book ratio. When these data are known exactly, that is, with hindsight, the T-model explains over 90 percent of the return on individual stocks or portfolios.

Valentine⁴ is of the view that expert systems may be applied to investment. The key to an expert system is its knowledge base — the set of rules the system applies to the data base of facts. The output from an expert system will be only as good as the rules laid down for it. Construction of a viable system requires both, experts in the knowledge required to develop the rules and expertise in moulding that knowledge into a reasonable number of properly formulated rules. It is important to work from the outset toward a goal that is neither too broad nor too narrow, allowing enough time for design and testing of the system. A rule-based expert system is very easy to understand, as computer

applications go. Everyone is familiar with what rules mean and how they work. When an investment professional builds an expert system, he defines a set of rules that the system must obey. These rules are collectively called the knowledgebase, as opposed to the database of facts that is present in the expert system and in virtually every computer application. The expert system applies the knowledgebase to the database in order to accomplish the task for which the system was designed. While discussing the future of expert systems, Valentine holds the following viewpoint. Whatever the application, the behaviour of the expert system will be controlled by the rules provided by the investment professional. If one professional attacks his problems with an economic orientation, his expert system will "think" in economic terms. If another is a present-value theorist, his expert system will be one too. Capital market theorists will, without even consciously considering it, use rules that automatically result in expert systems oriented toward capital market theory. Expert systems will be applied to the problems that are relevant to the type of thinker who built the system, and the rules used to control the system will result in the system exhibiting a behaviour pattern that simulates the thinking of the system builder.

Obviously, the list of potential applications could go on and on; cycle theorists can always ask themselves what they would do next, and
so can technical types, value theorists and arbitrageurs. And each, after completing one expert system, can always ask once again what he would do next. The progression of applications could define a new relationship between the investment professional and the computer in the 1990s. In the hypothetical world of the not-too-distant future, the computer may run expert systems that contain the professional's current best thinking about some problem, and the professional may define the rules for the next problem, or define the rules already in place for the old problems. The expert systems solve the problems: the professionals define both the problems and the methods by which they are to be solved. As an old saying in the computer world has it, 'Machines should work, people should think'. In the coming world of artificial intelligence, this may be amended to, 'Machines should think, people should create'.

In the paper on 'The Speed of Adjustment of Prices to private information', Lin and Rozeff \(^2\) explore how quickly stock prices adjust to private information. The results of the study indicate that, on an average 85 per cent to 88 per cent of the private information, the

informed trader has at the beginning of each trading day is incorporated into prices by the end of the day. The stock of private information decays quickly; i.e., prices adjust to private information rapidly. Adjustment rates of prices to private information are slightly slower for over-the-counter stocks relative to exchange-listed stocks, and slightly faster for stocks with higher average daily trading volume.

3.3. REVIEW OF INDIAN LITERATURE

In the presence of a dominating rate of return on one asset, how is asset diversification of an individual agent justified? Tobin\textsuperscript{26} developed the analysis of such diversification by superimposing the agent's perception of the riskiness of an asset on that of its rate of return. Subsequently, several problems associated with both the technical as well as the substantive aspect of the formulation have been discussed. Douglas\textsuperscript{27} discussed the stock-flow problem associated with that


formulation while Borch\textsuperscript{28}, Feldstien\textsuperscript{29} and Tobin discussed the problems associated with the nature of the underlying utility function of the agents, and the implications of the normality assumption required to characterise the risk-situation by two parameters.

Amal Sanyal\textsuperscript{30}, in the article 'Portfolio choice with indivisibility', proposed an alternative or perhaps an additional rationalisation of the diversified portfolio both at the micro and at the macro levels, by referring to the fact of substantial indivisibility involved in the typical portfolio choice problems. He set up the arguments in the context of a choice between a financial asset (an interest-bearing deposit) and a physical asset, which is available only in multiples of an indivisible minimal unit rather than in the context of the liquidity preference theory. He postulated the hypothesis, the compounded rate of return on time deposits 'r' is less than the compound rate of return on price of physical asset, and that there exists perfect certainty regarding both of


these rates as well as regarding the marketability of the real asset at any future date. As a result, in terms of the usual calculus of the rate of returns, the real asset is preferred to time deposits. However, to highlight the fact of indivisibility, if we suppose that the amount of saving of an agent in a single period ‘S’ is typically less than the current price ‘P’ of the minimal unit of the real asset, then the latter, though preferred, cannot be immediately purchased. The agent has to accumulate his saving for a number of periods until he can effect the asset purchase. He formalised a context like this into a simple model and examined some of its properties. It should be already clear that after an agent has managed to buy a unit of the real asset, at all subsequent dates he will be generally holding a mixed portfolio, of some real assets, already bought and some financial assets waiting to be converted into real assets when feasible in future. From the context it should be clear that the analysis would be more suited to the description of the portfolio behaviour of households, rather than of corporate bodies, who may not in general be constrained by the said indivisibility because of their large size of savings per period. In the context of the model developed by Amal Sanyal it was found that not only will there be asset diversification, but also two rather curious results could be proved. First is that if ‘r’ is lower, then at the aggregate level, it will induce more rather than less deposit formation as a proportion of total savings. The second is that
if the inflation rate of the real asset price is higher, and provided that saving is growing fast enough, then there will be more and not less deposit formation as a proportion of aggregate savings.

In a study on what determines the prices of Indian stocks Barman\textsuperscript{31} analysed the data on stock prices to find out if the changes in stock prices are determined by fundamentals or bubbles. It has been found that fundamentals are more important in the determination of stock prices in the long run. This augurs well for discerning investors who can expect to gain by holding good quality portfolio, though the study did not go into the short-term fluctuation of stock prices. However, visual analysis of data and the known fact of inadequate transparency in the operations of stock market continues to loom large on likely inefficiency of stock market in the short run. This state gives scope for the smart operators to earn abnormally high returns with excessive volatility. This is a cause for concern for policy makers. In the recent period, Securities Exchange Board of India have initiated certain measures to bring about higher transparency in the operation of stock market. This effort should be continued with more vigour to inject efficiency into the stock

market even in the short-run and ensure better climate for mobilisation of funds for investment, so crucial for economic growth.

3.4 CONCLUSION

In this chapter the various literature over a period of thirty years has been reviewed and presented. From this review one is logically led to believe that a lot of research has been pursued in the field of investment and Stock Markets over the years.

To sum up the review of foreign literature, it may be seen that research has been pursued on various aspects of investment such as investment performance, investment experience, valuation of securities, investor styles, financial forecasts, risk aversion, investor relations program, investment decision factors, statistical tools used for investment strategy etc. Indian literature has shed light on asset diversification portfolio choice, changes in Indian stock prices and so on. A lot of ground is yet to be covered in the direction of individual investor influences and factors motivating their behaviour. Also considering its importance and impact on the development of an economy, there is still need and scope for further research in the area. The present study has been taken up, specifically with this idea in mind. The various changes in technology, media, communication, man's behaviour, growth in the number of
companies and the changing phase of corporate issues have all contributed to changes in the individual investment behaviour and it has provided scope for research in this direction.

The present study has concentrated on the factors influencing individual investor behaviour and the pattern of investor behaviour with a view to aid the management of corporate issues.