CHAPTER ONE
INTRODUCTION

Economists' endeavour to explore the mystery of asset price movement may be traced back from the beginning of the present century (Bachelier, 1900). After a prolong gap of over half a century, the finance literature witnessed a resurgence of interest among scholars on asset market behaviour (Osborne, 1962; Mandelbrot, 1963; Sharpe, 1964; Samuelson, 1965; Lintner, 1965). Summarising all these early ventures, Fama (1970) ultimately developed a comprehensive theoretical framework to explain share price behaviour - popularly known as Efficient Market Hypothesis. The theory which is often acclaimed as the best established fact in all of social sciences (Jensen, 1978), shattered many of our long cherished belief about market behaviour. Ultimately collective effort of modern finance's pioneers was honoured by the Nobel Committee in Economics when it awarded its 1990 prize to Harry Markowitz, Merton Miller, and William Sharpe.

How does the efficient market behave ? Rational Expectation theory holds that a stock's current market value tends to converge to the discounted present value of the rationally expected dividend stream (Smith, Suchanek, and Williams, 1988). If this theory holds good, the share price would always be in equilibrium. Price may, of course, deviate temporarily from the 'fair' value due to presence of irrational investors. Economists, however, feel safe to ignore the role of "noise" traders[1] in their discussion on asset price formation. They argue that irrational investors are met in the market by rational arbitraguers, who trade against them and in the process drive prices close to fundamental values (Friedman, 1953 and Fama, 1965), leaving no further scope of 'poaching' (Zeckhauser, Patel, and Hendricks, 1991). Equilibrium price, of course, will shift instantly and constantly in response to new information that changes investors' expectation. In a market with instantaneous price adjustment, the movement of price is directly related to the rate of arrival of new information. Hence, price volatility simply equals information volatility (Ross, 1989).

The truly efficient market in the strict sense of the term, is an ideal institution that every society dreams of. An obvious reason is that the more quickly and accurately prices reflect new information, the more efficient would be the pricing of securities and thereby the allocation of resources. The situation would no doubt yield maximum benefit

for the welfare of the society. If asset prices do not reflect fundamentals well, then the confidence of economists in the efficiency of market allocations of investment resources is, to say the least, weakened (Stiglitz, 1990).

Are financial markets efficient ? Do their participants behave rationally ? Does this paradigm capture most financial market behaviour ? These questions still remain open despite decades of effort by economists and numerous claims that the issues have been resolved.

Surprisingly the pursuit of academic researchers to develop an alternative explanation of investors' behaviour appears to have more or less died out in the 1950's at about the time when the rational expectation theory was born. The world market crash of 1987 proved that market decision makers are not as rational as the rational expectation theorists believe (Shiller, 1987; Shiller and Pound, 1988; Shiller, Kon-Ya, and Tsutsui, 1989). If this conjecture is correct, the simple and elegant model of the economists, whatever appealing it might be, proves to be inadequate to describe how the economic actors really behave in the market to form their expectation. It inspired academics once again to search for an alternative explanation of investors' behaviour based on market psychology, the references of which are available in the "Bubble" literature (West, 1988; Stiglitz, 1990; Shleifer and Summers, 1990; Garber, 1990; Shiller, 1990;

Zeckhauser, Patel, and Hendricks, 1991). The jargons which are extensively used in the "Bubble" literature but conspicously absent in the economists' writings, such as "panic", "crash", "financial crisis", "crowd behaviour", "social learnings", "expert and reliance effect","status quo bias" etc., immediately evoke images of frenzied and probably irrational speculative activities. These events hint that the rationality paradigm may not be universally applicable.

A Detour Through History : A Study of Bubble Burst Phenomenon

In this section we would take a brief detour through history of Indian stock market so as to have glimpse of idea, of course, not based on hard facts - how investors really behave in asset market that results movement in share prices. Our trip will not be that of an economic historian as we are not looking for specific dates or facts per se; instead we are trying to gain an insight into the event that results abrupt changes in the demand for an asset and thereby its prices.

Share Mania of 1860-65

American Civil War broke out in 1860-61. It was in fact a blessing for Indian Cotton growers. The War eventuated

unbelievable demand for Indian Cotton by Lancashire mills that led to a boom in cotton prices. Cotton traders in India amassed vast fortune and with the wealth they secured at that time, numerous mushroom companies were started, almost for every imaginable purpose. A part of the wealth also found its way in the stock market, that along with temporal prosperity gave birth to the first-ever speculative fever of Indian stock market at its infancy.

Excessive speculation became hectic and the share prices danced further and further away from all the benchmarks of fundamental values. The frenzy that seized the people at large was indescribable. The people only woke up when the War came to an end. The boom collapsed, the premiums vanished, prices dropped to a discount and the investing public was left holding a huge mass of unsaleable paper. "The nadir of depression was reached on 1 July 1865, popularly known as the 'Black Friday', when hundreds of time bargains matured which no one was in a position to fulfil" (Gupta, 1972).

This scanty description of investor behaviour is difficult to explain by economic model. It seems that the unusual price rise ensued from over-optimism and the abnormal price drop stemmed from panic.

A Replica of Old Story

Following the share mania of 1860-65, Indian stock market remained almost stable throughout the next fifty years. Cloud of panic and pessimism following a series of bank failures in 1914 (Goldsmith, 1983), was abruptly blown away by the magical effect of First World War. In the domestic market, thanks to the War, there was ceasation of foreign competition and in the foreign market new demand was created for Indian product. To satisfy unprecedented demand with prevailing production capacity, factories and workshops in India worked round the clock to reap fabulous profit. Tremendous rise in profit was followed by declaration of unbelievable dividends by some industries to its shareholders.

With exceptionally strong fundamentals, optimism engulfed the stock market. New bubble came enticing both professional and amateur investors into the boiling market with a view to make their fortune. The temporal prosperity was in fact war sponsored (Gadgil, 1929), but the crazy investors had an expectation of the continuation of the prevailing hey-days. They even did not care to pay for some select shares a price equivalent to a delux motor car. For all practical purposes most shares were beyond the reach of many investors having limited funds to spare. It led them to think in terms of co-operative investment - a concept that has a close familiarity with the present day mutual fund. As public appetite whetted, rampant

speculative activities started and soon market was degenerated into an arena of gamble. Thus share price index started mounting up and it shot up to the sky when it reached 295 in 1921 (1914 = 100) (Gupta, 1972). Madness of investors equally infected primary market. Before the issue of the script, shares were often traded at a premium. Market value of share capital of many newly established companies doubled before even the first sod was turned[2].

Eventually the boom burst in October 1921, a replay of 1860-65 drop and thereafter a slump set in[3]. Share prices touched to the bottom and the price index (1914 = 100) plunged downwards from 295 in 1921 to 169 in 1923 (Gupta, 1972). It appears when the crowd began to realize the excess of the boom, there was scramble to escape resulting in panic which carried values far below the point from which the mania started.

Drama Replayed

Hardly twenty years after the First World War boom[4], amidst intense struggle for freedom and bloody Second World War, paradoxically Indian economy took a curious turn for growth and prosperity. Though share price started booming right from the beginning of the devastating war that broke out on 3rd September 1939, the real frenzy began when the Allies were winning. India was fully mobilized as a supply

base that resulted in hectic business activity all around. Enthusiasm and confidence engulfed the stock market too. Price rose steadily upto September 1945, then there was simply a fantastic increase in share prices. The speculative elements of other trades were also attracted to the stock market resulting share price index (1927-28 = 100) to shot up almost vertically from 277.2 in September 1945 to 396.3 in June 1946 and hit the top at 455.2 in August 1946 (Gupta, 1972). Share price indices of many industries almost doubled and it appeared sky is limit.

War-stimulated-demand started disappearing quickly after the restoration of peace and the most delightful dream eventually ended. The crisis that followed was serious both in Calcutta and Bombay where a large number of mushroom banks that had been making liberal advances on shares came to grief and had to close their doors. Share prices crashed like a house of cards and the index plunged down from 452.2 in August to 342 in December, 1946 thus recording an alpine fall of more than 100 points in three months. The fall continued till it reached to its bottom at 131.1 in July 1949 (Gupta, 1972). Loss of faith on share market was total, membership of stock market declined dramatically, a number of markets that emerged during war either went into liquidation or merged with bigger one.

It appears, both in rising and falling markets the notions of intrinsic worth or fairness played insignificant role in the

investors' buy or sell decision. The degree of risk perceived was clearly lowest in the boom markets. Rising prices seemed to have dampened fears, and that fueld the boom. Similarly falling price created panic, and investors overestimated the associated risk. Since one's willingness to pay for an asset depends in part on the perceived degree of risk associated with it, the underestimation and overestimation of risk caused the irrational price movements in boom as well as slump periods (Case and Shiller, 1988).

The Common Characteristics

Though timing and participants differ, there are surprisingly some common characteristics among all the speculative episodes. One such feature is that every boom starts in response to strong fundamentals. When price increases, "trend chasing" investors following the strategy of "riding the winners" (Zechauser, Patel, and Hendricks, 1991), accelerate the rise in price —— which is often described as "price-to-price channel" impact (Shiller, 1987). The tendency to look beyond the simple fact of increasing values to the reasons on which it depends greatly diminishes (Galbraith, 1961), ultimately the index number hits the top.

Following the rules of the market, eclipse follows illumination, panicky investors start deserting market in 'herds' and prices continue to plummet. In fact, people react to

price changes themselves, so that price drop feeds on itself in a vicious circle (Shiller, 1987), and eventually index number touches the bottom.

It appears that rationality becomes the first victim in each bubble-burst phenomenon. Investors in fact care little about 'fair' or 'intrinsic' value of share and their opinion is virtually guided by the whims of the moment. After each boom followed by a slump, people start soal searching but learn little and burn their fingers repeatedly.

Does History Repeat Itself ?

Bidding farewell to "control regime", Indian economy was gradually entering into an era of liberalisation from early eighties. The opening up of the Indian economy as a result of this measure[5] promised an unprecedented growth and prosperity for the private corporate sector. Anticipating good tidings for the private sector, the stock market started booming. The buoyancy of the market can easily be guessed in terms of funds raised from the market, daily turnover of the stock exchanges, expansion of investors population, rate of market capitalisation, the increase in the number of stock exchange and listed companies etc.[6]

Together with all these welcome developments, stock market started witnessing a steady rise in share prices since

the beginning of the decade 80's. The market buoyancy continued over the decade with a few setback and gained momentum since 1990 with the Bombay Stock Exchange Sensitive Index (Sensex) rose from 781.1 in March 1990 to 1270 in April '92 (1978-79 = 100). But what happended after the Union Budget of 1992-93, was a miracle in the Indian capital market. Share prices shot up almost vertically —— attracting many new persons from all walks of life like moths to a candle, who indulged in share trading tempted by the ambition to make a fortune within the twinkling of an eye. The sensex which stood at 1764 in September '91, jumped to 3333.2 in March '92 and finally hit the top at 4387.8 in April '92, thus recording a meteoric rise of 1569 points in a short span of six months and that of 1054 points in less than a month. The spiraling price index arose an instinctive feeling among the investors that the market is behaving irrationally, it is extremely volatile and its future course of action is simply unpredictable[7].

Of course, higher volatility might not be an unmixed curse when it represents the faster incorporation of new information into price. Thus during the days of price rise there was an attempt by academics as well as professionals[8] to justify present movement in terms of arrival of information. It was argued, large scale participation of smart money managers, introduction of venture capital, use of computer, development of communication system, increased awareness of individual investors, flow of information regarding fundamental

factors altogether contributed in the capacities of the market to learn about and to react to information very quickly. Thus the rate at which price changes in response to information has also increased in recent period. This is an essential feature of efficient market, a cherised belief of some of financial economists about stock market behaviour (Fama, 1970).

This academic approach of market behaviour was, however, shattered after unearthing of ever-largest financial scandal in the history of India, popularly known as "security scam". The whole episode of scam unveiled the fact that colossal amount of funds was being illegally diverted from banking sector to finance the speculative activities in the stock market. When the scandal was exposed, the government responded harshly, flow of excess money stopped and panicky investors started deserting stock market en masse. An almost inevitable reaction set in and the crowd became as extreme in its panic as it had been in its euphoria.

With the public in the throes of a panic, the stock continued to plummet. The sensex which stood at 4387.8 in April 1992 descended sharply to 3560.7 in May 1992, recording an alpine fall of 827 points within a month and its downward journey continued thereafter. In less than two months following the discovery of scam, market value of shares vanished to the tune of Rs. 1,00,000 crores. The fate of new economic policy, the very foundation on which the boom was based, suffered a big jolt, and the functioning of market was thrown

in disarray. Whole episode unveiled few naked truth and provoked endless debate on inadequacy and need for capital market reform of our country. The crisis evoked public clamour for an enquiry into the financial scandal and accordingly a large number of agencies[9] was directed by the government to investigate various aspects of the scam.

Most interestingly there was a shift in the investors' opinion. They started believing that the market debacle specially after the scam, makes a mockery of academic claim that stock market is efficient. Because, the present "meltdown" is difficult to explain by the notion of market rationality conceived by efficient market theorists.

Research Questions

In view of the above conflicting assertions regarding the causes of present share price movements, it requires to investigate —— Does the current share market boom and burst replicate old experiences ? Or Does it reflect its own unique feature ? To answer these questions, of course, we have to take resort to objective analysis based on hard facts, giving up subjective evaluation tried so far to explain earlier speculative episodes. Thus the issues directly related to the questions raised above are —— what is the average level of volatility of Indian stock market ? Has it increased in the

current period ? Is it really alarming at least in historical perspective ? All these research questions would help us to investigate the validity of investors belief about increased volatility in the recent time. Further issues that are closely associated with the explanation of market volatility are —— What causes sudden and often dramatic and sustained price movements ? Can the price movement be explained by fundamental economic factors ? If not, what are the other variables that influence share prices ? The answers of the above nagging questions would help us to examine whether history repeats itself or market proves to have been efficient in recent period.

Curiously, whole debate on the present state of share price movement, its plausible explanations and development implications, still now, is simply based on general observation of market behaviour that lacks adequate rigor. Strangely enough, there has not been any modest attempt to measure the stock price volatility in Indian market, neither had there been any serious investigation to justify the price movement in a logical way. Present study aims to put gamut of issues into a proper perspective, to study policy implications of the ongoing debate.

Scope of the Study

To seek appropriate answers of the questions raised above, it becomes imperative to test at least following two hypotheses:

(a) Current (1981-92) share price movement has suppressed all previous records.

It requires measurement of share price fluctuation on an objective basis and to compare the current (1981-92) state of volatility with that of historical standard (1935-92).

And

(b) Present share price movement can be explained by Efficient Market Paradigm.

It needs to prove that only objective variables influenced share price movement.

In fact, present study aims to measure and provide a reasonable explanation of share price movements of Indian stock market. These issues are directly or indirectly related to some major policy implications such as ——

—— Would it be appropriate to ban forward trading to get rid off the ills of overspeculation ?

—— What role should the government controlled financial institutions play in the stock market ?

—— Are the mechanisms to control speculative activities such as imposition of margin money, transfer of shares from specified to cash list, volume restriction, etc. truly effective ?

—— What role should the Security and Exchange Board of India (SEBI) play for smooth functioning of the market ?

—— Is there any need to change the organisational structure of the stock market to improve its efficiency ?

—— Is the present behaviour of the market conducive to the economic development of the country ?

—— Is there any needfor government intervention in the operation of the market to protect the interest of general investors ?

The study, we believe, would help us to grasp pitfalls and suggest remedies for capital market on whose performance success of new economic policy largely depends.

Review of Literature

After publication of Fama's celebrated article on "Efficient Capital Markets" in 1970, it became fashionable for the academics to assume that stock price tends to reflect the fundamental value. This presumption was seriously challenged by Shiller in 1981, and since the publication of a paper by Blanchard and Waston in 1982, there has been a search for speculative bubbles of a rational nature. The ongoing debate gave birth to vast literature but the controversy around the explanation of price movement still remains unresolved. The

literature is now so voluminous that a full review is in fact impossible. Instead, we would only concentrate on the works which are directly related to our studies i.e., the literature concerning the measurement of stock price volatility and those directed to provide plausible explanations behind the price movement.

Different scholars have examined a number of estimators ranging from traditional standard deviation to extreme value methods for the measurement of share price movement. Parkinson (1980) was first to introduce the high-low estimator, otherwise known as extreme value method which is far superior to the traditional measure based on close-to-close standard deviation. It is only after Parkinson (1980), several improved methods of higher efficiency have been proposed for estimating the volatility parameter, by Garman & Klass (1980), Beckers (1981), (1983), Cox and Rubinstein (1985), and Kunitomo (1992). All these writings nicely summed up different models of volatility measurement before proposing an alternative method. Their proposed measures, however, owe much to the idea first developed by Parkinson, who may be considered as one of the most celebrated researchers in this area. While the above methods for estimating volatility parameter are helpful to serve the academic evidence on stock market fluctuation, Kritzman (1991) offers an excellent discussion for practitioners of what they need to know about estimating volatility.

Though the effort to develop scientific approach to estimate market volatility started long ago, the endeavour to measure volatility objectively applying the above tools received considerable attention in the finance literature over the last few years. The issue in true sense has become lowdest especially since the October 19, 1987 stock market crash. The precipitous price drop led regulators, policy makers and the investors to worry whether price volatility is increasing and thus stimulated researchers for the first time to measure stock price volatility in quantitative terms. In this attempt, many researchers in the west have done praiseworthy works, notably, Jones and Wilson (1989), Harries (1989), Schwert (1990). All of them simply measured stock price volatility in historical perspective ignoring the reasons behind this price movement. Another relevant study which deserves special mention is Schwert (1989). The researcher in his study not only measured stock volatility but also analysed related macro economic variables and tried to associate them with stock price movement.

To address the question what causes stock price movement, the finance literature provides divergent views of economists. Though approaches of researchers differ, all the studies, however, may be conveniently categorized into two broad groups. Some trace the price movement back to the fundamental economic factors while others present a great deal of evidences suggesting that market psychology is the dominant cause of price

movement.

Much of the empirical literature on security prices have been directed at the fundamental economic factors to explain day-to-day movement in price. Samuelson (1965) and Mandlebrot (1966), for the first time, argued that 'random' price movements were consistent with a market in which all participants had equal access to information. In such a market, defined to be 'fair market', security price tends to reflect the 'true' or 'fair' value. The extremely quoted study in this area is Fama (1970) who presents an excellent review of empirical and theoretical literature under the rubric of Efficient Market Hypothesis. The Hypothesis together with the empirical tests (Cootner,1962; Fama,1965; Fama and Blume,1966; Niederhoffer and Osborne, 1966; Ball and Brown, 1968) establishing its validity, is considered to be one of the most important achievements in finance theory during the 1970s. Although there were serious questions about the foundations upon which the new theory was built, there was nothing better to give a more rational explanation of how the speculative prices move. As a result a number of researchers contributed to this endeavour that ultimately enriched the rational expectation theory (Fama, Fisher, Jensen, and Roll, 1969; Jensen, 1978; Boldt and Arbit, 1984; Summers, 1986).

During late seventies and early eighties, the empirical literature on market efficiency while passing through the acid

test of scientific usefulness, uncovered a number of phenomena that call for theoretical explanations beyond what can be obtained by traditional rational expectation model under Efficient Market Hypothesis. The concepts of 'informational efficiency', 'arbitrage operation', 'fair value' that may be treated as the basic foundations of efficient market theory, were seriously challenged by a number of researchers and the issues which ultimately emerged were formidable.

The literature on asset markets with asymmetric information began with the development of rational expectations equilibrium models. Sanford Grossman and Joseph E.Stiglitz were the pioneers of and remain leading contributors to this subject. A series of thought provocating writings by them (Grossman, 1976; 1977; 1978; and Grossman and Stiglitz, 1976; 1980) provided a deeper analysis of what it means for security prices fully to reflect available information. They argued that as long as information is costly, capital markets can not be efficient and perfectly arbitraged - in fact "an equilibrium amount of disequilibrium" will exist in the market.

What effect do rational speculators have on asset prices ? The standard answer, dating back to Friedman (1953), Baumol (1957), Telser (1959), Fama (1965), Farrell (1966), and Samuelson (1971), is that rational speculators must stabilize asset prices. The economists simply ignored the importance of the noise traders in the price formation process and argued

that the rational arbitrageurs bit the noise traders and drive the prices towards fundamentals. Many researchers (Figlewski, 1979; Kyle,1985; De Long et al., 1989; 1990a; 1990b; 1991), however, recently challenged above hypothesis and emphasised that with the presence of risk averse arbitrageurs and 'feed-back' traders, market price strays from the theoretical value.

An widely quoted work on noise trading by Black (1986), states that stock price reflects both the 'information' that information traders trade on and the 'noise' that noise traders trade on. So thanks to informational disequilibrium and limited arbitrage that make financial market imperfect but possible. 'Fads' or 'Bubbles' thus becomes the integral part of asset price formation process. Many scholars in their attempt to prove existence of "fads" and "bubbles" in asset prices, resorted to an wide range of methodology such as statistical approach, questionnaire survey, and recourse to economic history and their findings offered serious challenge to "well research" and "elegant models" of Efficient Market Theorists.

In fact, essence of market efficiency lost ground rapidly following the publication of Shiller's (1981a), (1981b) and LeRoy and Porter's (1981) volatility tests that substantiated —— stock prices should fluctuate less than dividends. In contrast, both of them found stock market volatility to be far greater than would be predicted by a present value model where future dividends are capitalised at a constant discount rate.

Kleidon (1986), and Marsh and Merton (1986), however, challenged the statistical validity of Shiller's volatility test and pointed out that excess volatility test is crucially dependent on the assumption of stationarity of dividend series. Shiller (1984) concedes this point to the critics and proposes an alternative method of detrending the data. Excess variability tests applying the detrended data once again result in a rejection of efficiency.

The Efficient Market Hypothesis crashed along with the rest of the market on October 19, 1987. Following the 'meltdown', research on popular models, using questionnaire survey methods (Shiller, 1987; Shiller and Pound, 1989; Shiller, Kon-ya, Tsutsui, 1991; Case and Shiller, 1988) offers glimpses of the thought process that underline speculative price movement. The researchers make it evident that investors psychology plays an important or even the dominating role in driving the prices from fundamental values. Thus existence of "fads" and "bubbles" in stock market is the natural outcome. It clearly captures Keynes's (1936) notion that markets are sometimes driven by animal spirits unrelated to economic realities.

Many Researchers have recoursed to economic history, in their pursuit to substantiate that asset prices do not behave in ways explainable by economic fundamentals. In a stylist analysis, Dreman (1977), takes a detour through economic

history covering all the major speculative events of asset markets of the world and concludes that investors' psychology mostly influences asset prices. Van Horne (1985), accepts the possibility of bubbles and manias in financial market and refers to the Dutch tulipmania (1634-37) where a "single bulb sold for many years' salary". Refering to the tulipmania Shiller (1986) argues that asset markets are driven by capricious investors acting on the basis of fads and bubbles. In related papers, Cutler, Poterba and Summers (1989) refer to the tulipmania, the Mississipi bubble (1719-20) and the South Sea Bubble (1720) to exemplify how trading dynamics may affect asset prices. Finally, in the exchange rate literature, Krugman (1985) and Messe (1986) illustrate the tulipmania and the South Sea Bubble while building a case for a bubble interpretation of the movements of the dual exchange rate during the 1980s.

Obviously, all the above mentioned research works are important and interesting in their own right and any serious researcher in this area will be immensely benefitted by these studies. However, in India neither any serious attempt has been made so far to measure the stock market volatility in quantitative terms, nor any effort has been found to explain the reasons for such price movements. Obviously there are some casual writings in financial papers that deserve little attention of any careful investigator. The study under consideration is an attempt to fill in this gap.

Framework of the Study

The study spans over five chapters including the present one. Chapter Two deals with the different aspects of research methodology such as data sources, the time period of the study and the different statistical tools and techniques to be used.

Chapter Three concerns with the measurement of stock price volatility in quantitative terms. Current level of volatility will be compared to the historical standard for an understanding whether it is increasing or not.

Chapter Four is mainly designed to investigate whether share price fluctuations as measured in Chapter Three can be explained by the hypothesis developed by economists or not. If our study reveals existence of bubbles in stock prices, it requires an understanding of other variables that also influence share price but have been ignored by economists.

Finally Chapter Five presents the summary of the empirical results and conclusions of the study spanning over the earlier chapters. The major policy implications that are directly related to the findings will be highlighted and scope of future research will also be indicated.

Notes

1. Noise trading is trading on noise as if it were information. People who trade on noise are willing to trade even though from an objective point of view they would be better off not trading. Perhaps they think the noise they are trading on is information. Or perhaps they just like to trade. (See Black, F., 1986).

2. The subject matters of this section have been collected from various issues of different national level newspapers, specially Calcutta Commercial Gazette and Investors Guide.

3. During the slump that followed the post-war boom, many companies came to grief, leading to huge waste of public money. This aroused a public clamour for an enquiry into the organisation and working of the Bombay Stock Exchange. Accordingly, the Atlay Enquiry Committee was appointed by the Government of Bombay on 14 September 1923. The Committee submitted its reports in early 1924 disclosing much laxity in the administration of the Bombay Stock Exchange. But the recommendation of the Committee did not materialize and as a result the state of the market in no way was improved.

4. After First World War boom, speculative fires were again building on the Bombay Stock Exchange and led to another kind of collapse in 1925 similar to what we saw earlier. After that the securities contract control Act of 1925 was enacted but failed to improve the market position and crisis occurred rather frequently —— in 1928, 1930, 1935 and 1936 resulting huge losses to the investing public. This again led to public criticism and demanded for enquiry into the organisation and working of the Bombay Stock Exchange. Accordingly, the Morrison Committee was appointed in November 1936 which submitted its reports in March 1937 recommending different steps to curb the unhealthy speculation.

5. Throughout the decade 80's, the government initiated a number of economic measures which include decontrol and delicensing of industries, relaxation of Monopolistic and Restrictive Trade Practices and Foreign Exchange Regulation Acts, import liberalisation of capital goods and export promotion of consumer products, restructuring of fiscal policy, disinvestment of public sector and boost up of private sector, abolition of Controller of Capital Issues etc.

6. The extent of growth can easily be measured by the fact that as against an annual average amount of just Rs. 90 crores raised from the new issue market in the seventees,

a delightful figure of Rs. 6,000 crores has been raised during 1989-90. There was a virtual explosion in the average daily turnover which on the Bombay Stock Exchange alone has shot up from about Rs. 10 crores in 1979-80 to about Rs. 125 crores in 1989-90. Market capitalisation witnessed a massive increase from Rs. 3500 crores to about Rs. 60,000 crores between 1981 and 1990, which was well ahead of other developing countries except Brazil. In terms of number of listed companies which increased from 2265 in 1980 to 6000 in 1990, India was next only to the USA. The number of shareholders has also risen sharply from about a million to about 15 million during the period, catapulting this nation to the position of being the third largest shareholding population nation in the world, next only to the USA and Japan. To accommodate the first growing needs of investing public, number of stock exchanges also increased from 8 in 1978 to as many as 18 in 1990 while that of active stock brokers shot up from 1250 to 3000 during the period.

7. When the share price indices increased, the Cassandras were prophesying : "The boom seems to be unreal and somewhat illogical", "It is a run away boom" etc. The policy makers warned the investors about speculation : "The market is overheated and if it crashes it could hurt the investors", hence "Investors should exercise caution when entering the market". These are the few comments that appeared in the different financial weeklies, namely, Business India (March 16-19, 1992) etc.

8. The professionals of Financial Institutions Opined : "Industry turns the corner and the share market matures", "The present boom in the market is the beginning of an economic miracle in the country", etc. (Widely quoted remarks in different financial weeklies at that time)

9. The government directed a large number of agencies, namely, the Reserve Bank of India (RBI), the Central Bureau of Investigation (CBI), the Income Tax Department, the Directorate of Enforcement, the Joint Parliamentary Committee (JPC) etc., to investigate various aspects of the scam.

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