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Effects of stock market crash on investors behavior

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Abstract

Stock exchanges crises have remained the major dilemma for countries for many years. This study was conducted to identify the various factors of the effects of stock market crash on investors' behavior. The crash occurred in March 2005. The data collected was a five-year w.e.f. 2005, which is the primary data and was collected in Peshawar from brokerage houses. The objective of the study was to investigate the perceptions of investors about the main causes of the crash, to observe the relationship between money losses and the shares invested in high and low rated companies and chi square test was applied to check the difference between before and after crash investment and association among investment in high and low rated companies. During test result it's been vivid that my alternate hypothesis H1 showed significant result reflecting that sentiments are highly influenced by the fluctuations in stock prices. The results declared that there was significant difference between investment before and after the crash. It is recommended that the Government should provide transparency system to give a good image to the country.

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Introduction

According to Wehmier (2005), stock market is the business of buying and selling shares in companies and the places where this happen. Stock market transaction started in the 12th century from France, and large reforms are made in 13th century in this regard. The trading in stock market is mainly effected by internal factors like projected earning per share, timing of the earning stream, riskiness of the project earning, dividend policy, level of debts and external factors like general economic environment, tax law and stock market conditions. Like any other market, stock market runs under the force of demand and supply. The price of shares is determined by the demand and supply force.

This research is an effort to find out the main causes and forward suggestions to avoid such aggravation in future by acquiring information of major events much time is not required to influence the stock prices .the importance of specific events their effect on the stock market is a subject of the study in the financial economic literature since a long time. When the prices of shares fall suddenly and unexpectedly because of unexpected events, political changes or crises with in or out side the country and people lose money; this is known as stock market crash.

Further stock market crash when basis points of the index drastically fall quiet low, due to certain reasons like such as speculative elements sweeping the market and the frenzy of investors to reach new heights in the index. In the result of crash their biggest threat for equity investors because accident brings heavy losses for investors.

In many different ways the month of March was an astonishing in the KSE history whereas the rise shown by KSE 100 index in the first half of the month was followed by the biggest crash in the history .Due to these speculative elements the index crossed the magical figure from 8,260 points to 10,000 points on 14 March 2005.with in few days trading March 25 Karachi Stock Exchange has lost more than 2500 point.

The highest end day record made by index of 10,303.13 points, the next day with a record 10,509 points March 16, and 2005.The first sign of the outbreak of the index closed 10,077.89 points. The collapse of the market started and prevailed throughout the month, resulting in hurting the confidence of the investors. March 31,2005 KSE index fell down to 7770.33 points, with the result that during the month of March the KSE 100 index shed 489.73 points from the previous month ,a month of month change of -5.90%.

In the month of March 2005, on an average, 510.24 million shares changed hands daily as against an average daily turnover of 698.15 million shares[2] in February 2005.

All these fluctuation were taking pace due to the speculative elements affecting the market and the anguish investors trying to achieve new heights of KSE 100 index as they were not changed during that whole crash. By buying the high weighted stocks such as Oil Gas Development Company Limited (OGDCL), Pakistan Telecommunication Company Limited (PTCL), Pakistan State Oil (PSO), major banks and cement stocks the market participants pumped up the index.

The small and medium investors were badly affected when the market crashed, though everything seemed to be right and seemed to be on rise. There seemed to be no cure and hope for the investors. All this occur due to jealousy, poking by the regulators especially State Bank of Pakistan and the Security Exchange Commission of Pakistan (SECP) in the market, due to investors over indulgence. They finally eroded the confidence and stability in the market.

To overcome their own short fall and mistakes the State Bank of Pakistan, SECP and Karachi Stock Exchange management look up some measures with the hope that it would bring some life in the

stock market. Yet the doubt lay about the measures taken whether it is possible to support and return the money of unfortunate investors

Problem Statement

The overall economy of a country depends up on its stock market exchange. Macro economy of a country depends on the stock market .When the foreign countries intend to invest in other countries they first of all try to find out the trend of Stock Market of that particular country. The economic situation of a country is severely affected by the disruption occurred by certain reason. Similarly the behavior of investors also affected, for most of them lose their money and confidence in the security market. Therefore it is need of time is to predict and find out the impact of the collapse of stock market on their behavior and how to restore their confidence

Objectives of the study

The present study was conducted to:

1. Find out the effect of the economic crises on the investors behavior.
2. Check the relationship between money losses and the shares invested by the investors in high and low rated companies
3. Test the average amount of shares before and after the stock market crash
4. Suggest recommendations based upon the findings of the study

Hypotheses

Hypothesis In the study gave the following assumptions have been considered:

(a). H_0: There is no significant association between amount of money lost and number of shares invested in high rated companies; and amount of money lost and investment in low rated companies

H_1: *There exist significant association between amount of money lost and number of shares invested in high rated companies; and amount of money lost and investment in low rated companies*

(b). H_0: There is no significant difference between the average number of shares invested before and after the stock market crash i.e.

$$\mu_{\text{before crash}} - \mu_{\text{after crash}} = 0$$

H_1: *There is significant different between the average numbers of shares invested before and after the stock market crash i.e.*

$$\mu_{\text{before crash}} - \mu_{\text{after crash}} \neq 0$$

Scope of the study

The study oriented around the stock market crash of March 2005 and its effects on investors. The scope of this study was extended mainly to Karachi stock exchange crash for the mentioned period. As the study is concerned with stock market crash so the case of Karachi stock exchange crash March 2005 was undertaken and its effects on Peshawar's investors were focused.

Review of literature

This chapter indicates various research studies conducted regarding the stock markets and investor behavior. Some of these research studies are given as follow. Irving (1930) explained that in the light of those discussion of crash that lay blame on different persons and groups for the 1929 debacle, Fisher's study looks back at the preceding month of crash and came to know the reason for the immediate decline and why many investors did not see the crash coming. He has taken the data of 5 year and by using the unit test summarized that variables like badla financing and change in government policies affect the stock prices which in return change the customer behavior. Lawrence (1970) stated in his book pp-90-115 that in 1970 the decline was not only called a crash but a number of investors lost their money. The Author wrote this book to give a picture of what was behind the scene in the stock market of 1980s, which raised the stock prices to height of artificial and to take steps so that they are not allowed to do it again. He argued that the market ups and down caused by the huge rumors of bid speculations. He just done the qualitative methodology and suggested that hoarding and speculation could be the best determinants of the stock prices, and often caused huge bubbling in prices index.

Aharony and Swary, (1980) have studied about the dividend changes and stakeholder behavior. In which they found a significant positive relationship between announcement of dividend changes and the stock return, by using the dividend announcement made in isolation of other firm news report. They used regression model to check the relation between the dividend policy and the market stock prices .they were on the view that the changes in dividend rate has positive effect on stock prices return and stake holder were likely to have invest more which yielded positive increase in stock prices return. By applying regression on dividend change and prices index he obtained .5 present that reveals no difference between the variables. So it could be summarized that bond liquidity could cause the big change in prices index.

Chen *et al.*, (1986) examined equity returns relative to a set of macroeconomic variables and found that all the macroeconomic variables that may explain a significant yields sock includes growth of industrial production, changes the risk premium, the change in the yield curve, measures of unexpected inflation and changes in expected inflation during periods of volatility inflation. The co-relation test model between macroeconomic variables i.e. inflation, badla and change in bond prices between stock index showed that these variables are highly co-related with each other and change in one factor could affect the other value.

Garcia, (1987) proposed that investment in high portfolio companies is the major obstacle towards the volatility of the stock market prices. There were concerns that the use of portfolio insurance could lead many investors to sell stocks for future" .he present the model by using index arbitrage in which he took the two value current stock prices rates and future rates. It is been shown that future speculating of shares is the main cause to fluctuate the equilibrium of arbitrage mode. Major historical crash accident NYS I989, and studies of literature, it is essential that shown that too much attention has been paid in the past on customer behavior due to a collision of impact.

Katzenbach (1987), through modeling of qualitative research found that there was strong tendency to invest in bubble and lose hope in the future. This is negative tendency occurred in the investor and this is caused by huge manipulators of the firms. He got an association between the shares of the huge manipulators and prices index and declared that any further crash estimation could be easily measured by the manipulators attitudes.

Pagano, (1993) revealed that the investor's confidence were inspired by the predictors of stock market development regulatory market and institutional factors with the result that the brokers should be encouraged and show interest for investment and trading in stock market. By applying unit linkage test he summarized that market stability has linkage with the consistency in stock prices. Dhillon and Johnson, (1994) reported that the stock and interest rate react to dividend changes .the responses of positive stock market to dividend increases have many potential explanations. The information content and wealth redistribution between stockholders and bondholders were discussed. He performed survey analysis and based on cohesions summed up that all the investors were agreed to avoid negative speculation within and after trading session.

Cambell, (1996) Showed that stock movements during his persistent prices were study as there were no significant changes in any of variable change and prices Greenspan stock in its December 5, 1996 speech when he raised the possibility that the stock market showed "irrational exuberance". To understand the implications of asset bubbles could be monetary policy. The analytical analysis between the data of 10 years and two variables i.e. prices change and monetary changes showed that stock prices changes could be effected by the monetary changes. The monetary variables could be inflation, industry production, export etc. He took the inflation as monetary change variables. Michael (1996) in his paper tested the proposition that the sentiments of the investors added to the stock market crash of 1987.making weekly data during 1986-88 it was noted that changes in fundamentals have a significant influence on the movement of stock

prices. The measure of investor sentiments is applied to test the preposition that the investors sentiments index suggest that either the recently proposed sentiments index is faulty or the sentiments of investors did not influence or effect the stock prices during the time surrounding the 1987 crash. In T distribution analysis he found that majority customer's sentiments were changed during this crash. Most shown negative attitudes and drawn their shares. That further led towards the instability in stock market.

Eugene, (1998) studied the bubble a "mode" or "farming" behavior by studying individual stock returns from Indonesian 1998. Often advanced story for the boom of 1928 and 1929, he was driven by the entry of uninformed investors largely following the fortune and invested in "favorites" stocks. In his survey report he argued that mostly low profited firms suffered by the partners and large firms. Investment tendency went toward large firms that at the result could destroy their expectations. There is often monopoly in the market and the monopolist after their interest led investors to their own mercy.

Belgrami, (1998) suggested that stock prices are co integrated with two measures of the money supply rate and inflation. By using and regression testing they found that the two are co-related to each other. However, stock prices and exchange rates do not have a long-term outcome relationship. His test indicates the direction of the causality of changes in stock prices to changes in consumer spending. In addition, he found a causal relationship between stock prices to investment. Garcia and Liu, (1999) revealed that the new determinants of stock market development were factors such as saving rate, financial intermediary development, real income and stock market liquidity in order to determine the relationship between the variable they used 2 test i.e. t test and ganger causality test.

Bickchandani, (2000) stated in his paper that policymakers like the International Monetary Fund are concerned that herding by financial market participants exacerbates volatility, destabilizes markets and increase the fragility of financial system. by comparing the effect of IMF variability in policies on different countries like Egypt stock exchange, Dhaka stock exchange and Istanbul stock exchange he concluded that many volatility were due to expectancies in policies.

Carigo and Hakkio, (2001) accident marked the (NYS 2001) non-relevance of customer behavior with something of the award, then as fundamental policies, rules and regulations. He obtained association between politics and profit bidding market and concluded that the offer is the major factor in the decline and sudden huge. in his regression model bubbles only seemed when there is huge speculation by the bidders. High bidder's frequency could easily manipulate the prices index. Brahim and Aziz, (2003) examined the relationship between stock prices and industrial production, money supply, the index of consumer prices and the exchange rate in Malaysia. Stock prices are to share positive long-term relationship with industrial production and the CPI. Sorrento (2003) in his scientific study of "WHAT CAUSES CRASH'' .has proposed a simple, powerful, and general theory of how, why, and when stock markets crash, he proposes a radically different view, the under lying cause (speculation) can be sought months and even years before the abrupt, catastrophic event in the build-up of cooperative speculation, which often translates into an accelerating rise of the market price, otherwise known as a bubble. by using regression analysis he found that bubbles are related with hoarding. Whenever there is hoarding attitude in market, it would show ups and down.

Hong, (2004) found that an increase in number of investors in stock shows willingness among broader basis of opinion depicts higher return. Conversely decrease in the number of investors in a stock forecast lower return. A related study found that with in a period of 6 months heavy trading volume in a firm stock signals increase difference in opinion among the firm's investors and presages in stock crash. He estimated by using Gagrian casualty test that there is unit linkage between raise in index and investor's wailings and opinions.

Komaromi, (2004) strongly argued that a stock market bubble burst should be defined as a consequence of investors' behavior. He disregards other possible economic reasons because in stock markets, prices primarily reflect investor's expectations. In fact, investors just take bets on future prospects of listed firms. Expansion and burst of bubbles can be traced back to specific features of investors' behavior, especially overconfidence. Overconfidence means when investors would be better off not trading on the available information, but they trade. When it happens, investors have an illusion of knowledge, which is accompanied by increase in public and private information, and irrelevant information. To put it other way, when stock market bubble occurs, the intensity of noise trading increases too.

In contrast, stock prices are negatively correlated with the money supply and exchange rate Ringgit. Study by another Sarkar, (2005) considered only if no significant relationship between growth and interest exists in the case of India. They used annual data on variables such as share price and actual nominal rate of rotation of market share, the number of companies listed on the stock market, fixed capital formation and the growth of real GDP and industrial production. But they all say the same thing no positive relationship between real variables and stock market either short or long term run.

Sharma, (2005) investigated the effect of conformist behavior on asset pricing could be quite substantial if it would lead to herding, which is considered one of the driving forces behind excessive stock market price movement like hypes, crashes and bubbles. He concluded by using CHI secure association that asset price that in common could be referred as share price volatility have an direct association with rise in index or stock prices. So whenever the continuous changes occur in asset prices, there would be volatility that would ultimately lead toward crash.

Beltratia or Morana, (2006) indicated a double bond between the stock market and volatility. They suggest that discrete changes in dividend policy, which affect the volatility of interest rates and money growth seems to be the best candidate to account for breaks in the volatility of stock returns and thus explain the level and volatility of discrete jumps. Wuyts, (2007) developed an econometric framework to study different sides of liquidity. The framework was to know the prices, depth and duration and wanted to find out about the interaction between them. He also finds how fast best prices, depth and duration recovers to their internal and to find pre shock level of the market being affected by a liquidity and proposal to recover the prices from shock. We come to conclusion that the key to stock return are industrial production and inflation index hence the inflation are directly proportion with the government monetary policies. So his proposed stock index analytical model relied on change in inflation and stock prices index.

Erma, (2009) in her thesis findings studied the stock market causes of the Istanbul Stock Exchange (ISE), the relationship between stock returns and macroeconomic variables and related customer behavior. The findings of the study based on correlation analysis indicate negative significant relations between stock returns and interest rates and dependent variable customer behavior .it is shown by the model that dependent variable i.e. customer behavior have been negatively influenced by the increased interest rate.

The recent theoretical literature on how traders "noise" disrupt financial markets is consistent with this description. The result of this behavior is a tendency for stock prices to Favorites "to be closer than would be predicted by their fundamental shared. Their result suggest that there was excess return even before the boom began, but increased significantly during the boom and was a characteristic signal the boom. He showed that the spirit of investment in market development garbage psychology played a role in the rising market volatility and the crash later. The Fed model implies that stock returns are highly correlated with inflation. In the late 1990s, practitioners have often argued that the decline in stock market returns and rising stock prices were justified by inflation down. As pointed Asness (2000, 2003), the Fed model has been very successful as a description of the course of actions. More specifically, the model describes the higher stock returns with inflation during the 1970s and early 1980s, and lower stock returns over the past 20 years.

Methodology

Use of appropriate methods plays a vital role in conducting any research activity. This section is devoted to present materials and

methods adopted in the given research study. It includes universe of the study, sampling procedure and sample size, data collection methods and data analysis methods for achieving different objectives of the study. All these methods are described in the following sections.

Universe of the study

At present there are three stock exchanges in Pakistan viz Karachi stock exchange (KSE), Lahore stock exchange and Islamabad stock exchange. Karachi stock exchange is the main stock market and also the most active one due to which the KSE was selected for the purpose of study. However, the present study utilized the data of three brokerages that were randomly selected out of five brokerages located in district Peshawar. The randomly selected brokerages are Taurus securities, live securities and Arif Habib investment securities. All the investors associated with these brokerages were considered as universe of the population.

Sampling procedure and sample size

Purposive sampling approach Cochran, (1977) was adopted to select the number of investors. A list of all the investors (before and after the stock market crash 2005) was taken from the selected three brokerages. At present, from the record of the brokerages there are 1700 investors. Keeping in view time and financial constraints, 60 investors were taken from each of the selected brokerages that constituted a sample of size 180.

Data collection

The present study utilized the primary data that was collected directly from the investors having their accounts with in the selected brokerages. All the required information was collected through a well designed questionnaire (Appendix-I).

Data analysis

The collected data was analyzed by using a Statistical Package for Social Sciences (SPSS) v.16. To find out the main causes of the economic (stock market) crises and to study the effect of market crash on the investor's behavior, the results were presented in terms of counts and percentages. To check the association between amount of money lost and number of shares invested in high rated companies; and between amount of money lost and investment in low rated companies a Chi-square test was applied at 5% level of probability. The Chi-square test is defined as:

$$\chi^2 = \sum_{i=1}^{r}\sum_{j=1}^{c}\frac{(O_{ij}-e_{ij})^2}{e_{ij}} \quad \text{----------} \quad (3.1)$$

Where,

O_{ij}= observed frequency of ith row and jth column in $(r\times c)$ contingency table

e_{ij}= expected frequency of ith row and jth column in $(r\times c)$ contingency table

It is important to mention that the test statistics mentioned at equation (3.1) follows a Chi-distribution with $(r-1)(c-1)$ degrees of freedom, if the null hypothesis (H_0) is assumed true.

In order to test the significant difference between the average number of shares before and after the crash of stock market, a paired t-test was applied. The paired t-test is defined as:

$$t = \frac{\bar{d}-\mu_d}{s_d/\sqrt{n}} \qquad (3.2)$$

Where,

$\mu_d = \mu_{\text{before crash}} - \mu_{\text{after crash}}$, d = X $_{\text{before crash}}$ – X $_{\text{After crash,}}$ $\bar{d}$ is the mean of d-values and s_d is the standard deviation of d-values that will be computed as:

$$s_d = \sqrt{\frac{\sum(d-\bar{d})^2}{n-1}}$$

The test statistic in equation (3.2) follows a t-distribution with (n-1) degrees of freedom.

Results and discussion

For the analysis purpose a questionnaire was developed as to know the facts, feelings and the views of the investors of Peshawar .the main purpose of the questionnaire was to see the effects on the investor's behavior.

Questionnaire was given to 179 investors through brokerage houses i.e. Taurus securities, live securities and Arif Habib investment securities. A total of 17 questions regarding different aspects of investment and their experience were asked.

The following tables, depicting the response of the investors are further simplified. Show the response of investors to different questions, these tables is further explained.

Duration of Investors

A group of 179 investors were asked about their entry in the stock market only 85.5 percent answered they had been in to this business since 5 years and the next 14.5 percent said that they were investing in stock market for more than 5 years . This showed that we had got most of the data of those people who had just entered the market in 2005 and a few people who had been in the market for more than 5 years means before the crash. This data shows that at the time of market crash experience investors were less as compared to the newly investors.

Table 4.1: Duration of Investors Dealing in Shares

Duration	Frequency	Percentage
5 years	153	85.5
more than 5 years	26	14.5
Total	179	100

Investment period

Table 4.2 indicated that out of 179, 14.5 percent respondents invested in stock market before crash while 85.5 percent answered in No .this shows that 156 respondents were new to the stock market at the time of crash.it means that we had collected data mostly from those respondents who got entry in the month of crash period.

Table 4.2: Investment Before and After Crash

Response	Frequency	Percent
Yes	26	14.5
No	153	85.5
Total	179	100.0

Investment in shares before crash

Table 4.3 showed that the no of shares each investor had invested before crash period. This depicted that there were 14.5 percent people among the respondents who had not invested in the stock market before the crash period. It is evident that out of the total 179 investors, 18.4 percent invested in purchasing 500 shares, 17.3 percent invested in purchasing 1000 shares, 25.7 percent invested in purchasing 1500 shares and 24 percent invested in purchasing above 1500 shares in different sectors.

From this we analyzed that more investment took place in the stock market due to rise in index which further gave rise to the index

attracting more rational investors and also gave rise to artificial rise in prices of shares.

Table 4.3: Number of Shares Dealt Before Crash By Investors

Shares	Frequency	Percent
No shares	153	14.5
500 shares	2	18.4
1000 shares	9	17.3
1500 shares	5	25.7
above 1500 shares	10	24.0
Total	179	100.0

Investment in shares after crash

Table 4.4 indicated that after crash 46.9 percent people froze their dealing with the brokers,48.6 percent people had invested 500 shares in sector and 4.5 percent people invested with 1000 shares.
This result showed that after the crash the investor had lost their money and restricted themselves to invest more, as they took it as a risk to invest more and again in market.

Table 4.4: Number of Shares Dealt After Crash By Investors

No. of Shares	Frequency	Percent
No shares	84	46.9
500 shares	87	48.6
1000 shares	8	4.5
Total	179	100.0

Company wise investment

The option which was given to the respondents were the names of some popular companies such as PSO, MCB, PTCL and OGDCL,26.3 percent and 12.3 percent people showed that they solely invested in PSO and MCB respectively. and the rest showed that they invested in more than one company.18.9 percent people had invested in MCB and PSO,3.9 percent had invested in PSO, MC Band PTCL,10.1 percent had invested in PSO,PTCL and OGDCL, 26.8 had invested in MCB and PTCl,5 percent people had invested in MCB ,PTCL ,and OGDCL.6.7 percent had invested in PTCL and OGDCL. It is obvious that most of the investment had been done in PSO company, which shows that index of fertilizer ranked high during march, so people showed more interest in investing in PSO just to earn more profit.

Table 4.5: Investments in Different Companies

Type of Company	Frequency	Percent
1	47	26.3
1,2	16	8.9
1,2,3	7	3.9
1,3,4	18	10.1
2	22	12.3
2,3	48	26.8
2,3,4	9	5.0
3,4	12	6.7
Total	179	100.0

1= PSO, 2 = MCB, 3 = PTCL, 4=OGDCL

Blue chip

Blue chip is top 5 shareholders companies that determined the raise in stock prices index. All the movement in stock prices index are done by the blue chip, one could say that it is the manipulator on stock exchanges.
There were 7.8 percent investor who purchased 500 shares in blue chips,23.5 percent people purchased 1000 shares in blue chips,7.8 who invested 1500,46.9 percent people who invested 2000 and 14 percent people are those who invested above 2000 in blue-chip.

If we analyze the situation, which shows the unawareness of the investors about, the crash, which was on their heads and their unplanned investment when they asked in this most of them, did not have solid decision making regarding their investment.

Table 4.6: Number of Shares in Blue Chip

No of shares	Frequency	Percent
500 shares	14	7.8
1000 shares	42	23.5
1500 shares	14	7.8
2000 shares	84	46.9
above 2000 shares	25	14.0
Total	179	100.0

Low rated

The below table indicates the investment in low rated sectors so we had got 7.8 percent people among 179 who had invested 500 shares ,23.5percent had invested 1000 shares, 3.9 percent had invested 1500 shares 50.8 percent had invested 2000 shares and there were 14 percent people who had invested more than 2000 shares in low rated companies.
As we compared both above tables for investing in low rated and high rated companies we got almost same result because people invest in high rated sector because they want to earn more and as same most of the investor think that while investing in low rated company there would be little risk involvement while in vesting in high rated

Table 4.7: Number of Shares in Low Rated

No of shares	Frequency	Percent
500 shares	14	7.8
1000 shares	42	23.5
1500 shares	7	3.9
2000 shares	91	50.8
above 2000 shares	25	14.0
Total	179	100.0

Investors reaction

Table 4.8 indicates the reactions of investors to the crash and we got that 5.6 percent people showed very much shocking reaction, 192.2 percent reaction was shocking, 2.2 percent were shocking but diversification.
When we analyze the investors reaction about the crash, for most of them it was shocking, but there were some for whom it was a natural thing and they believed that its part of cycle and they considered it as a good thing because they wanted that the new investors should learn from this and should invest wisely in the coming future

Table 4.8: Reaction of Investors

Different reactions	Frequency	Percent
very much shocking/discourages	10	5.6
Shocking	165	92.2
shocking/diversification	4	2.2
Total	179	100.0

Amount of money lost

The amount of money lost by the investors was one of the striking questions for most of the investors and it was personal to some of them but still they answered it. The below table give us the result that 7.8 percent people lost their money during crash the amount of money was round about 2 lacs,23.5 percent people lost their money ranges from 2 lacs to 4 lacs,45.3 percent respondent said that they have lost money ranges from 4 lac to 6 lacs,21.8 percent respondents lost their money ranging from 6 to 8 lacs and only 1.7 percent respondents who said that they lost more than 8 lacs in crash period

Table 4.9: Amount of Money Lost By Investors

Mount of money	Frequency	Percent
up to 2 lac	14	7.8
above 2 to 4 lac	42	23.5
above 4 to 6 lac	81	45.3
above 6 to 8 lac	39	21.8
above 8 lac	3	1.7
Total	179	100.0

From this, we analyze that most of the people who had lost their money from 4 to 6 lacs were those people who had invested that amount in high rated company it shows those invertors were in large amount who has invested in high rated company.

Recovery of amount

From the below table it is clear that 77.1 percent respondent did not recover their loss at any cost however 2.2 percent respondents said that they had recovered 50% of their amount ,20.7 percent recovered 10%. So we analyze from these results that those investors who had invested in high rated company did not recover their loss .while those who had invested in low rated recovered their loss to 50% by investing in future market as well there loss was less as compared to those who had invested in high rated company. 37 people recovered their 10% loss because their investment in low rated company was not that much to recover their loss.

Table 4.10: Recovery of amount during Crash

Recovery (%)	Frequency	Percent
50% amount	4	2.2
10% amount	37	20.7
not at all	138	77.1
Total	179	100.0

Maximum lost by investors

Table 4.11 indicates the loss of investors in different sectors among all the selected investors 54.2 percent said that the maximum lost they had experienced was in oil sector, 15.1 percent people said that they lost their money in manufacturing and banking industry respectively. While 15.6 percent investors showed that they had maximum loss in OGDCL. If we analyze this thing it shows that the worst sector in which most of the investors had lost their money was oil sector .investors started investing in this sector as it is very well known sector and people thought that there is much profit while investing in oil .it shows that the brokers speculate the oil sector most and investors start investing in this sector but that was artificial rise.

Table 4.11: Maximum lost of Investors through Sector Wise

Sector Types	Frequency	Percent
1	97	54.2
3	27	15.1
4	27	15.1
5	28	15.6
Total	179	100.0

1=oil,3=banking,4 manufacturing,5=OGDCL

Reasons of crash

This question was regarding the cause of the crash and the respondents were asked to give their view about the possible cause of the March crash. There were 3.9 percent considered economic crises to be the cause of the crash. Speculation was considered by 89.9 percent investors as the cause of the crash, 2.2 investors considered political crisis as one of the cause of crash, the remaining 3.9 considered Badla as the cause of the crash.

If we give an analytical view to the response of the investor there are two main reasons of the crash i.e. Speculation and Badla., economic crisis. The government can not stop speculation but to control and get rid of Badla.

Table 4.12: Reasons of crash according to Respondents

Reasons	Frequency	Percent
Economic crisis	7	3.9
Speculation	161	89.9
Political crisis	4	2.2
Any other	7	3.9
Total	179	100.0

Buyback session

The below table shows 65.4 percent investors said that buy back session was being made just to buy shares at lower prices. 29.1 percent said it was because to liquidate the market 5.6 percent investors answered that it was for decreasing the selling pressure.
By analyzing, we come to know that buy session was just to decrease the crash pressure on investors by doing buy back session just to buy shares at low prices.

Table 4.13: Reason of Buyback Session

Reasons	Frequency	Percent
for decreasing selling pressure	10	5.6
buy shares on lower prices	117	65.4
to help liquidate the market	52	29.1
Total	179	100.0

Government policies

Table 4.14 showed whether the government supported the market or not .question was asked amongst the investors in which 97.8 percent respondent said that government did not take any action and did not support the market while only 2.2 percent investors viewed that the government supported the market by doing buy back session while there was no benefit of buy back session.
After analyzing the entire views we come to the conclusion that the small investors were kept in the dark and not shown the clear picture and finally they could not plan and manage their portfolios

Table 4.14: Views on Government policies

Views of investors	Frequency	Percent
Yes	4	2.2
No	175	97.8
Total	179	100.0

Future policies

Table 4.15 indicates that all of the investors were of the same view that there should be transparency system. A question was asked among investors that according to their point of view was there any action plan that would be taken by the government to control crash in future in order to safe people's money and build the trust of domestic as well as foreign investors.

Table 4.15: Future Government Policies

Govt. Policies	Frequency	Percent	Valid Percent	Cumulative Percent
Transparent	179	100.0	100.0	100.0
	0.00	0.00	0.00	

Perception of respondents

There were 59.8 percent investors who considered that investing in low rated shares is a wise decision and there were 40.2 percent investors who did not considered it to be wise act.
The reason for which 107 investors considered to be a good act was that, there is very little amount of loss in this and that the money

invested in these shares is also low as compared to high rated shares or blue chip. There were 72 investors which were of the opinion that it was not a good decision to invest in low rated shares, on asking reason from these 72 respondents they said that there is less dividends in this and the company performs in an uncertain manner which becomes a disturbing factor for the investors and as a result it have negative effect on the overall market

Table 4.16: Perception of Respondents Regarding Investment

Response	Frequency	Percent
Yes	107	59.8
No	72	40.2
Total	179	100.0

Trading in stock market

Table 4.17 indicates that 96.1 percent investors suggested intraday transaction while investing in stock market. 1.7 percent investors suggested weekly while 2.2 percent suggested long term transaction. If we analyze this result, it shows that if people do investment on intraday basis then there would be less risk involved as if they will buy the shares on the same day and will sell it on the same day so there is no risk in the fluctuation of prices of shares.

Table 4.17: Stock Market Trading

Stock Market Transaction	Frequency	Percent
Intra day	172	96.1
Weekly	3	1.7
long term	4	2.2
Total	179	100.0

Association between shares investment before and after crash

Table 4.18 indicates the average number of shares before and after the crash of stock market. It is evident that there exists significant difference ($p < 0.05$) between the average number of shares that were invested before and after the crash of stock market. In addition, it is evident that the average number of shares is significantly higher ($p < 0.05$) before the crash of stock market as compared to the shares invested after the crash. These might be the reason that people lost their money in crash so they restricted their self's from stock market after crash. These results suggest that the crash of stock market has badly affected the investor's attitude to invest in the stock market. Muhammad Azam argued that worth of stocks, where they stand; whether they have gone overdramatize or under-react; facilitates the investors whether their risk has been increasing or decreasing and what is the point where the investors should enter or exit from the stock market.

Table 4.18: Average Amount of Shares Invested Before and After Crash

Variable	N	Mean	SE	t-ratio	P-Value
Before crash	122	1145.2514	51.10770	19.50	0.000
After crash	57	287.7095	21.64893		

SE shows standard error of mean

Association between high rated and low rated companies

Table 4.19 indicates the average number of shares invested in high rated and low rated companies of stock market. Since the P-value is less than 0.05, indicating that the test is significant and conclude that there exist significant difference between the average numbers of shares that were invested in high rated and low rated companies of stock market. In addition, it is evident that the average number of shares invested in high rated company is significantly higher as compared to the shares invested in low rated companies during the crash. These results suggest that when the crash occurred at the time investors who had invested in high rated company affected badly so the investors lost their trust in investing high rated companies as compared to low rated companies of stock market .this results are in line with Akiko Kamesaka (2004). From an investment decision-making point of view, this year-by-year variability may be worth accepting given the client's long time horizon to invest in top rated companies..

Table 4.19: Association between Investment in High rated and Low rated Companies

Company wise share	N	Mean	SE	t-ratio	P-value
High rated	95	1877.0950	50.97631	2.965	0.003
Low rated	84	1740.2235	50.62859		

SE shows standard error of mean

Association between amount of money lost and duration in stock market

Table give us the difference between investors who had been in stock market business since 5 years or more than 5 years and shows the average loss of investors' money before five year and since then five years .it shows that people who had been in stock market since five years incurred more loss as compared to those who has been in this business more than five years and the same goes with high rated and low rated sectors regarding 5 years and more than 5 years .while the p value is less then 0.05 which means that significantly there is a difference between investors lost while they are in business since 5 years or more than 5 years .like the studies of Ahmed (1994) experience investors in long term can face less loss.

Table 4.20: Investment in stock market since 5 years /more than 5 years

Variable	Shares up to 5 years		Shares more than 5 years		t-ratio	P-value
	Mean	SE	Mean	SE		
Money lost (Rs.)	520576.92	27645.18	460169.93	14150.73	1.669	0.003
High rated	1884.62	139.53	1875.82	54.92	0.061	0.001
Low rated	1788.46	136.36	1732.03	54.67	0.392	0.000

SE indicate the standard error of mean

Association between amount of money loss and high rated company

The below table indicate number of shares invested in high rated companies with association to amount of money lost .as 1.7% ,6.1% investors invested 500 shares in high rated companies with amount of money lost was up to 2 lacs and above 2 to 4 lacs respectively.7.8,12.3 and 3.4 percent investors invested 1000 shares in high rated company with loss of money is above 2 to 4 lacs,above 4 to 6 lacks and above 6 to 8 lacks respectively.6.1 and 1.7 invested 1500 shares with amount of money loss is up to 2 lacks and above 6 to 8 lacks respectively.in addition chi square value is 202 with p- value is 0.000. It is evident that p-value is less than the 5% level of probability. It is therefore, concluded that there is significant association between the No of shares invested in high rated companies and amount of money lost.

Table4.21: Association between money loss and the number of shares invested in BLUE chip

Money loss	Number of shares invested in BLUE chips					
	500 shares	1000 shares	1500 shares	2000 shares	above 2000 shares	Total
Up to 2 lac	3 (1.7)	-	11 (6.1)	-	-	14 (7.8)
Above 2 to 4 lac	11(6.1)	14(7.8)	-	4(2.2)	13(7.3)	42(23.5)
Above 4 to 6 lac	-	22(12.3)	-	50(27.9)	9(5.0)	81(45.3)
Above 6 to 8 lac	-	6(3.4)	3(1.7)	30(16.8)	-	39(21.8)

Above 8 lac	-	-	-	-	3(1.7)	3(1.7)
Total	14(7.8)	42(23.5)	14(7.8)	84(46.9)	25(14)	179(100)

The values in parenthesis are the percentages; Chi-square = 202.00 with P-value = 0.000

Association between amounts of money invested in low rated companies

Table 4.22 indicates the association between investment in low rated as compared with amount of money lost .in the table 20.7% of the investors recommended to invest in low rated shares as the money loss result with these 20.7 percent is up to 2 lacs.8.4 recommended investment in low rated while 24.6 answered was no as the money loss with this percentage is above 2 to 4 lacs.7.8 recommended that it is wise to invest in low rated while 24.6 with no reason amount of money loss with this percentage is above 4 to 6 lacks 1.7% result amount of money loss is above 6 and 8 lacks while with this amount of money loss 20.1% investor recommended not to invest in low rated companies. In addition chi-square =43.787 with p-value=0.000. It is evident that p-value is less than the 5% level of probability. It is therefore, concluded that there is significant association between the amount of money lost and investment in low rated companies Randomization in short term dividend prices (stock prices) is common in practice. However, investment in high rated companies exhibit high speculation, and investors are likely to invest more in such rated company, hence it is also proven that such speculation could not last forever due to volatility in stock prices SHARMA 2005.

Table 4.22: Association between Amounts of Money Invested in Low rated Companies

Money losses	Investment in low rated companies		Total
	Yes	No	
Up to 2 lac	37(20.7)	-	37(20.7)
Above 2 to 4 lac	15(8.4)	27(15.1)	42(23.5)
Above 4 to 6 lac	14 (7.8)	44(24.6)	58(32.4)
Above 6 to 8 lac	3(1.7)	36(20.1)	39(21.8)
Above 8 lac	3(1.7)	-	3(1.7)
Total	72(40.2)	107(59.8)	179(100)

The values in parenthesis are the percentages; Chi-square = 43.787 with P-value = 0.000

Conclusion

It is concluded from the study that there were a drastic change investing in shares in stock market after march 2005 crash .investors were so much dishearted from such business because of badla financing and also the unawareness of people cause them to face such big loss in money market . The investigation conducted by Taskforce ordered by the high court it is claimed that there was high conspiracy and crowed psychology existed in major broker that could easily lead towards huge blow in stock prices. The Taskforce mentioned that because each major broker is large enough in the market, his or her individual actions can affect the market sentiment. It was only in arranging the aid package that conspiracy was obviously witnessed among the large brokers, which cannot be denied. Results shown in some cases were carried out on money but had it been in percentage it would had been more effective.

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Appendix-I

Questionnaire

I am student of MS (MS) and conducting a research on KSE crash March 2005 and its effect on the investor's behavior. For this purpose, you need to fill this questionnaire. While filling this questionnaire please consider your March 2005 transactions as well.

Q 1. Since when are you investing in shares?
i) 1 year or less
ii) 1-2 years
iii) 3-4 years
iv) 5 years or more

Q 2. Have you invested in any shares before crash (MARCH 2005)?
i) YES
ii) No

Q 3. How many shares you have invested before crash?
Zero
500
1000
iv) 1500
Any other

Q 4. How many shares you have invested after share
Zero
500
1000
1500
Any others _____

Q 5. The Type of Shares/Sectors you were investing in March 2005?
i).Fertilizer
ii) Banking
iii) Telecommunication
iv) OGDCL
v) Any other _____

Q 6. The Amount/Number of shares you were dealing in?
i) 500
ii) 1000
iii) 1500
iv) 2000
v) Any Other_____

Q 7. The Blue Chips you were investing in are?
i) PTCL
ii) OGDC
ii) MCB
iv) FFBL
v) Any Others_____

Q 8. Number of shares you were investing in Blue Chips(high rated) in March 2005?
i) 500
ii) 1000
iii) 1500
iv) 2000
v) Others_____

Q 9. Number of low rated shares you were investing in March 2005?
i) 500
ii) 1000
iii) 1500
iv) 2000

v) Others_____

Q 10. What was your reaction to the crash?

i) Very much shocking
ii) Shocking
iii) Unnoticed
iv) Slightly shocking
v) Shocking but give guide lines for diversification

Q 11 Which Sector witnessed worst decline?

i) POL
ii) Cement
iii) Banking
iv) Telecommunication
v) Others_____

Q 12. The total amount of money you lost during the crash period in Rs.?

i) Up to Rs 200,000
ii) Above Rs 200,000 and less 400,000
iii) Above Rs 400,000 and less 600,000
iv) Above Rs.600,000 and less 800,000
v) Others_____

Q 13. Did you recover your loss?

i) Yes full amount
ii) Yes 50%
iii) Yes 25%
iv) Yes 10%
v) Not at all

Q 14. In which sector you faced maximum lost.

i) POL
ii) Cement
iii) Banking
iv) Fertilizer
v) Others_____

Q 15. What were the reasons behind this crash?

i) Economic Crises
ii) Speculations
iii) Political Crisis
iv) Others_____

Q 16. Why there were buy back sessions being made after the market timings?

i) For decreasing selling pressure
ii) To buy shares on lower prices
iii) To help liquidate the market
iv) Others_____

Q 17. Did government support the market?

i) Yes
ii) No

Q 18 What necessary actions should government take to prevent such threats?

Transparency system
Loss recoverable system

Q 20. Is it wise to invest in low rated Shares?

i) Yes
ii) No

Q 21 How do you suggest trading in stock market?

i) Intra day transactions
ii) Weekly
iii) Short Term Delivery (3 to 6 months)
iv) Long Term Delivery (1 year to 2 years)

Name (Optional): _____

Gender
Male
Female

Thank You.