Environmental Violations and Capital Market Nexus:

A Case of Pakistani Stock Exchange

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List of Abbreviation

TNC	Transnational Corporations
EPA	Environmental Protection Agency
GRP	Green Rating Project
EKC	Environment Kuznet Curve
Co_2	Carbon di Oxide
KSE	Karachi Stock Exchange
NASDAQ	New York Stock Exchange
EPF	Environmental policies or Function
ROI	Return on Investment
ISO	International Standardisation of Organisation
CSR	Corporative Social Responsibility
PTR	Pollutant Release and Transfer Register
GRP	Green Rating Project
EPA	Environmental Protection Agency
CSR	Corporative Social Responsibility
EPF	Environmental Policies Function
REPF	Recognition of the Environmental Policies and Environmental Liabilities
ESG	Environmental Social and Governances
EDA	Exploratory Data Analysis
PSE	Pakistan Stock Exchange (Formally Karachi Stock Exchange)

Abstract

The objective of the research study was to assess the impact of the environmental disclosure negative news on company's returns, such as violation of permits, Oil spills, and Environmental pollution Waste water pollution Air and Noise pollution, Allegation under sections (2,4,5 & 16) on the company's profitability (abnormal returns). Different techniques are suitable to measure the impact of the event on the company's profitability for instance Regression Analysis, Simultaneous Equation, Wilcoxon Test, and Event Methodology. But we applied event methodology, due to certain advantages and aptness. As it is for short run analysis. The data was collected from the cluster industry of Faisalabad city. Data was collected from the different resources including Violation list got from the Punjab Environmental Protection Agency and stock daily prices data got from the Pakistan Stock Exchange and from different channels. Data from daily stock prices of companies was used. Overall 30 companies were used from the secondary source. The data I used from the year 2003 to 2015. Panel data was used in which two categories created consisting of "Companies Data" fall under cross sectional sections and "Daily Stock Prices Data" fall under section time series section. As a concluded remarks companies gives the mixed results however most of the companies has experienced the declining trend in its returns when the company violated the environment laws. As a policy recommendation government should make strong enforcement of environmental rules and regulation. Make awareness of environment at community level. Programs like Ecowatch and Prokash which supported by Indian and Philippines Governments. Larger companies like (multinational) that violates the environmental laws should be heavily fined as well as taxed.

Chapter 1

Introduction

1.1 Introduction

Capital markets in the developing countries are not true reflector of company value. But studies have shown that capital markets are reactive to information related to companies. Based on these theoretical foundations, companies react if general public get proper and complete information about a company's environmental violation of set standards. So as a reaction stock value of that company will decrease. To avoid decrease in value, companies avoid green violations and care for environment and societal goal of welfare. Environmental responsibility and protection is achieved by an indirect method instead of government fines/penalties. Communities and capital markets react appropriately if they get proper information about environmental violation. This can be an alternative for government and policy makers to invest in publishing the information regarding violation rather than imposing fines and taxes to pollution causing business organizations. Government can achieve two targets with least cost a) educating general public b) forcing companies to care for environment. The proposed study investigates the impact of environmental violations on stocks of the companies. To overall objective of this study is to find the impact on the abnormal returns (Stock Exchange PSE 100 index) by the negative news of environmental disclosure of the Faisalabad overall industries.

Pakistan is fully aware of its commitment to improve environmental standards and taken various measures in recent years. And its takes several measures to improve its environmental standards. Its reality that industrial emission problem is relatively less serious in Pakistan as compared with many countries. However the fact remains that Pakistan has been relying heavily on chemicals and metal industries for the growth in industrial sector which may worsen its environmental problems. Industrial waste problems in two groups of industries. Namely agro -based industries which discharge mainly water pollutants of agro-based industries and

non- agro based industries water pollutants. Industries such as chemicals, metal and steel and leather tend to produced toxic hazardous waste. Even Pakistan's leading agro-based industries like textile also releases the same toxic materials.

A three split strategies to trickle the problem of industrial pollution and waste may be developed. Firstly, the least pollutant industries may be given priority over others. Secondly the external diseconomies of scale may be adopted by taxing the pollutant industries. Using Polluter Pay Principal. Thirdly in order to contain pollution levels as industrial regulatory policy should be adopted. Based on the three pronged strategies the government has implemented the National Environmental Quality Standard (NEQS) with effect July 1, 1996 and it is revised in 1998. These standards specified the upper and lower permissible limits for industrial effluents and emission. At the time of announcement of these NEQS sample period of three years was given especially to the existing industry to make an effort and comply with these standards. NEQS currently revised and enhanced to include appropriate penal sanctions for obtaining compliance. It is effective protection against environmental hazards as it restricts the level of harmful emissions and effluences. A pollution charges will become payable after revised 1998 for any industry emitting in excess of NEQS (Mahmood Z & Khan H.A 2000).

Study needs to know what is the environmental laws that means the status and regulations of a party, or establishment thereof including any that implements the party responsibilities under a multilateral environmental settlements, the primary purpose of which is the protection of the environment or the prevention of the danger to human life or health or through.

- The prevention abatement or control of: the release, discharge or emission of the pollutants or environmental contaminants.
- The control of environmentally hazardous or toxic chemicals, substances, materials or wastes, and the distribution of information related thereto

- The protection or conservative of wild flora or fauna, including endangered specious, their habitat and specially protected natural areas.

Environmental law violations are act in violation of federal environmental law. In which the criminal acts could include the discharge of a toxic substances in to the air, water, or soil which pose a significant threats of harm to people, property, or the environment including air pollution, water pollution, and illegal dumping. Environmental laws including many statues protecting the air, water, wildlife, endangered species, forests, climate, energy, and oceans. Laws are aimed to curb the illegal use of pesticides and insecticides, dumping of solid and toxic wastes, and to protect established environmental resources policy.

When people violate the environmental rules by not disposed of their waste properly or, sanitary problems arises including in the number of the rats, other pests and noxious odours, with in proper disposal of trash is the loss of the appealing beauty in neighbour and increase potential health hazard. Some of the major environmental violations are sanitary sewer overflow, commercial overflow to the storm drain, blocked storm drain, illegal fill in the floodplain, Grease trap runoff, illegal dumping (Solid or Liquid), and Chemical spills, Industrial waste, Smoking vehicle, Dust pollution, Paint overspray, Noise pollution , Odour pollution. Wildlife, Endangered species, Forests, Climate, Energy, and Oceans. Laws are aimed to curb the illegal use of pesticides and insecticides, dumping of solid and toxic wastes, and to protect established environmental resources policy.

Companies have different beliefs and concerns. Especially small companies are less likely to work to announce agreement, less likely to belongs to organization that promote environmental compliance, less likely to have made recent environmental changes, and less likely to request technical assistance. Although small companies say the pressure of monetary penalties has an unbelievable impact on them, they are less likely to be aware of NEQS

(National Environmental Quality Standard) compliances and enforcement efforts. For this reason, current enforcement efforts to create prevention are likely less effective with small company's adequate personal or time to give to environmental compliance. Finding the most effective mix of regulatory mechanism to simulate small companies to comply will continue to be a challenge. It is clear that both technical assistance and enforcement must be joined. Technical assistance, inspections and penalties have far-reaching effects that motivate compliance at companies that were neither nor penalized. For each two changes can company makes because of direct technical assistance, one other company hears about the assistance and also makes a change. For each change a company makes because of direct inspection, other companies hear about the inspection, and make about one and a half changes.(Carlough L,(2004).,

Compliance with environmental regulations usually requires the expenditure of significantly increased above for businesses. In an attempt to avoid these additional costs, some businesses will refuse to comply with the regulations. Sometimes, businesses openly refuses with complying and will pay governmental fines rather than paying the compliance costs, which exceed the total costs of the fines. Other businesses, however, will try to hide their noncompliance, such as by dumping hazardous waste into rivers, streams, oceans, or otherwise private areas rather than paying to have it taken to a chemical treatment plant. Other common types of environmental law violations include littering; improper waste disposal; the use of illegal pesticides in agriculture; releasing particulates, sulphur dioxide, nitrogen dioxide, carbon monoxide, and ozone in amounts exceeding the regulatory caps; oil spills; the destruction of wetlands; burning garbage; improperly removing and disposing of asbestos; fabricating lab data pertaining to environmental regulations; smuggling illegal chemicals into the country and committing fraud relating to environmental regulations.

Money greed, or the desire to make money or to save money. Proper storage, treatment, and disposal of pollution can be expensive. For example, the cost of legal disposal of hazardous waste can range up to approximately $1,500 per 55-gallon drum, depending on the chemicals involved. Some generators choose to dispose illegally rather than pay the high cost of appropriate disposal. On the other hand, hazardous waste transporters often collect fees to properly dispose of the waste, but choose to illegally dispose of it and increase their profits. The criminal law characterizes an environmental law violation as a form of white-collar crime. If imprisoned, violators face fines, probation, jail time, or some combination thereof. (Rodgers H W., (1994)

Firm may pollute the environment because the technology doesn't exist that allows them to do otherwise, in this situation they are not require by the laws and regulation to achieve the impossible standards when manager of the firm violate the environmental laws, individual within the firms must act. Or fail to act collectively. Finance theory argues that the objective of the firm is to maximum shareholder wealth and for this firm will not be to produce the good and service, contribute to the GNP, and provide the employment. Firm will violate the environmental laws because the financial penalties are too low for doing so are to low are small relative to the profit from falling to the comply with costly pollution standards. Larger company take environment unserious than the smaller firms. (Shastri K & Denning C K (2000).

Coca cola is leading soft drink producer in the world and in India coca cola is dominated 95% of the market soft drink. Coca cola has 56 bottling facilities in India. Often these facilities destroyed the lives, livelihood and the communities. Coca cola was blamed of water shortage, pollution of ground water and soil, and exposure to toxic waste and pesticides. Company produces 2.6 litters of water for every one litter for soft drink it produce. 75% of the freshwater Coca cola extract in India becomes waste water and it's extensively discharge its water in to the adjacent fields, and severely pollutant the scare remained the ground water and soil. And

area in which plant located faces the shortage of water due to the use of water by plant. And significantly vulnerable the ability of local resident to access safe drinking water. And has also found high level of lead, cadmium and chromium in the ground water. So water was not suitable for the human health so they purchased the bottled water. And by emission of toxic gases people suffered from the skin disease and rashes. Coca Cola plant in Argentina is banned shut down due to the allegation of the dumping toxic and potentially carcinogenic waste as this chemical cause's cancer in human beings. Its products are highly consist of chlorine. (khuchemeister T & Roth J., (2012)) there was certain allegation on the Coca cola company in India as

- The plant is extensively dumping its sludge, considered to be industrial hazardous waste, across the plant sites, in complete violation of the laws regarding handling and disposal of industrial hazardous waste in India.
- The Effluent Treatment Plant was non-operational, and the bottling plant was discharging its wastewater into surrounding agricultural fields and a canal that feeds into the river Ganges.
- The plant did not disclose the amount of hazardous waste being used and generated.

The data set of the study like companies of Faisalabad Hina Sana Textile, Thandianwala Sugar Mill, Ideal Spinning Mill, Tri Star Polyster, Mubarik Textile, Dawood Textile, Zahid Jee Textile, United Brand Limited, Umar Fabrics, Crescent Sugar Mill, Ishaq Textile, Khursheed Spinning Mill, Asim Textile, Ibrahim Textile, Ittehad Textile Chenab Textile and Engineering Foundries, Jublee Textile, Fazal Textile, Al Ahmed Dyeing, Ishaq Weaving, Fazal Textile, Taj Rafiq Textile, Shaheen Cloth Processing , Rana Idress Textile, Ahmed Hassan Textile, AA Fabrics, Sargodha Spinning Mill, Diamond Textile, Billal Fabrics, Sitara Chemicals, all these industries violates the environmental laws in different ways, such as some of them committed the

allegations of Environmental pollution, Waste water pollution, Noise and Vibration pollution, Bad Smell, Violation under section of (2,4,16,47…..)Etc. so they all face penalty or their case for the violation of environment is presented before the tribunal court for the allegation.

When a proactive financier undertake environmental expenditure applied the environmental rules. There may be reduced earning, results in lower dividend and the possibility of the market and other stakeholder judging the unnecessary, however if the company judge for the future law correctly it will have benefited from the fact that it has made such expenditure that has at the convenient time rather them being forced to interrupt operation when forced by the legislation to do so. Such expenditure made lower cost of capital, expenditure on the green technology may be depreciate over the period of life of an asset. Such expenditure may act as the tax shield. Backdated spending such as fines, law suit and clean-up cost can be significant. Cleaning contamination land or polluted ground water required large amount of cost. This will negatively and randomly effect on the cash flow. Such cost directly impact on the profits and loss account of the year in which they occur and can effect on dividend, earning as well as share of the stock market. Market sentiment also work against the companies. (Edwards D, p 42, ed 1., (2015)).

Green investor worried about the sustainability development in the society and for the preserving environment but when from the either companies a bad news in term of the violation of the environment came so as he was conscious about the environment so they can decided to sell the dirty stocks of the particular company so this action of the investor is resulting the decrease in the stock returns. but when the investor are neutral means that they have not care about the environment nor about its laws than they buy the environmental violated companies share prices and in this case the particular companies returns increase instead of decreasing. Alternatively when green investor are in long term to decide that it is not buying the stock price of the violated companies than the price effect also remain in long term means its returns

decreases in long term. And its effect is greater for the small companies and immediate effect can be seen in terms of the cash flow news and can face the environmental expenditure as comparison than the larger one company (Vuolreenaho 2000). Finally to explain how change in stock price can put impact on the corporative behaviour. Consider that on the stock prices of the environmental violated company falls. Investor required to be compensated with increase in the returns. Therefore the cost of the capital of the violated firms will increase means they have the pressure to invest in the recycling and green technologies. Than the firms preserve its confidence in the investors and in this way the investor will invest for seeing the corporative social responsibility behaviour. And then its returns increases so it's cost of capital also decrease. The long-term prosperity of a corporation may depend on its environmental performance and stock investors are expected to recognize this. Even though firm released that they may be penalized, the financial benefits of the rising compensate the financial cost of the compliance and government pollution policy here failed in preventing environmentally irresponsible behaviour. Free cash flow is related to the managerial "Slack" the opportunity management might have to employ costly pollution control without reducing dividends or firm growth or increasing firm debt. And firm may chose the potential fine rather than depress their cash flow and stock prices instead of adopting environmental friendly techniques. In short run Company can invest in the environmental friendly techniques and can lose its cash flows but due to heavy investment in environmentally friendly techniques company in future can earn the large profit due to better reputation to seeing this investor invest it and company can earn large profits in long run (Shastri K & Denning C K (2000).

Porter (1990) establishes that one source of competitive advantages for companies is their ability to offer products of superior value that justify a top price. Companies' environmental performance is one such source of superior value (Porter and Linde, 1995). Environmental responsibilities of industrial firms, however, have measurable financial values.

Making environmental policies and the reduction of pollution improves a company's environmental performance but such initiatives are expensive and cash flows of the company can suffer in the short-term. Thus environmental efforts of a company may impact its stock price. On the other hand, lack of environmental awareness may result in accidents and law suits (Law agencies) that involve possible penalties. Environmental regulations also impose financial burdens which can unfavourably affect company stock prices. The negative impact of incidents such as announcements of new regulations, environmental accidents, and law suits, has been examined in Little et al.(1995), Muoghalu et al. (1990), Laplante and Lanoie (1994), Rao (1996), and others. These studies found that law suits resulting from companies' violation of environmental regulations have caused significant stock price declines. By punishing non-complying companies through lower stock prices, the capital markets seem to provide incentive for companies to comply with environmental regulations and disclosures. Examples are the Bhopal disaster in 1984, Union Carbide and other chemical companies suffered significant negative reactions. Such reactions were less severe for companies with more general environmental disclosures.

1.2 Problem Statement

Public disclosure of environmental performance is an incentive for regulators to achieve pollution control with a new tool.

An effective policy for environmental protection can be developed in two ways. To create public awareness so that corporate sector is forced to care for environment. It is effective, if people invest more and buy products from those companies which are going to green and does not violate environmental regulations. Developing countries have become a major place for foreign direct investment not only because of cheap labour but due to weak environmental regulations and ineffective governments. (Dasgupta S et al., (2001)).

Transnational Corporations (TNCs) obey to regulations in their home countries, but abuse the human rights, labour laws and environment in other countries. Union Carbide, Nike, Proctor and Gamble, Shell have proven records in these violations. Many corporations maintain a low standard of environmental regulations in poor countries they operate in. TNCs are major players for carbon emissions, CFCs, timber logging, biodiversity loss, and water/ air pollution. Caring for environment is not only the task of developed countries but also for less developed countries; everyone belongs to same world. (Paul Lanoie and Jerome Foulon, (2000),

Unfortunately there are not many studies available with reference to Pakistan but taking India as our competitor is working on the policy of national public disclosure program. A causal investigation is necessary to understand the behaviour of capital markets in response to the publication of environmental violations. (Hibiki A and Managi S, (2010). By taken another case study from Japan it is found that financial market don't react to release of Information about toxic chemicals but producers invested in pollution reducing technologies. (Gupta S and Goldar B, (2005) by studying the case of Indians stock markets

If a firms showing a negative behaviour in environment it reacts negatively (decline in firms' values). In a study of disclosure program in India found that Green Rating Project (GRP) effectively reduced the pollution level. This encourages the policy makers in South Asian countries to use Public disclosure of information as a mean to reduce pollution in their respective countries. (Powers N et al., 2011).

There exists a long-run relationship among the variables (Co2, GDP and Trade Openness) and the environmental Kuznets Curve (EKC) results taken from. (Shahbaz M et al., 2012) examined the paper "This study also found out that Pakistan is trying to condense the emission for "CO2" and trying to control environmental degradation. EKC20 can only exist in long run in Pakistan with no chance of presence of EKC in short run. These are two latest studies of EKC about Pakistan. Absence of EKC in the short run means that environment will

continue to degrade and there are very little chances practically that environment will improve, as it is practically improve impossible. Best solution for developing countries like Pakistan is to preserve their environment as they would mostly be out of resources to clean harmful effect of pollution from the environment

(Wheeler D et al., (1997) highlights the importance of informal regulation in absence of formal regulations and further stress that as income level rises emissions of country reduce. As behaviour of capital markets on disclosure of environmental violations is understood with an empirical evidence may lead in the formulation of public policy at macro level.

1.2 State of Environment in Pakistan:

Most of the industries in Pakistan ignore the concern for environment and dump their waste without management posing a serious threat to human and the environment. Pakistan framed its first consolidated Environmental Law in the year 1983 named as, 'Pakistan Environmental Protection Ordinance, 1983'. Unfortunately it remained dormant and ineffective due to inherent deficiencies, lack of will for implementation by the authority's concerned and inadequate public awareness. The existing law was then revised and a comprehensively codified statute regulating and channelizing Environmental adjudication was legislated as, 'Pakistan Environmental Protection Act, 1997' (PEPA Act 1997).

Pakistan applied National Environmental Quality Standards (NEQS) (Revised in 1999) to municipal and liquid industrial effluents and industrial gaseous emissions, motor vehicle exhaust, and noise. However, attempts to legislate environmental protection have fallen short, and regulations have not been enforced strongly. Enforcement does not imply effectiveness, though-even if regulations were strictly enforced, many industries would be unable to comply: when new revised environmental regulations were implemented in 1999, only 3% of industries were able to pass the test for compliance. As industry has expanded, factories have emitted more and more toxic effluents into the air. Also, as in other developing countries, the number

of vehicles in Pakistan has swelled in recent years from 680,000 in 1980 to 3.8 million in 1998. 70, 64, 27 million in 2014-15. Pakistan's attempt to raise the living standards of its citizens has meant that economic development has largely taken preference over environmental degradation. Unchecked use of hazardous chemicals, vehicle emissions, and industrial activity has contributed to a number of environmental and health hazards, chief among them being water pollution. (Naureen M., (2009).

1.3 Research Objectives:

To overall objective of this study is to find the impact on the abnormal returns. It's an earnings surprise. It gives increase information due to event. (knif J et al., 2006) it is the future price on the basis of past observation (Wali S et al.,2015) (Stock exchange KSE 100 index) by the negative news of environmental disclosure of the Faisalabad industries. The specific objective of the study are

- To assess the impact of the environmental disclosure negative news such as (violation of permits, spills, court action and complaints etc. on the companies (abnormal) returns.
- To give policy recommendations for the companies to adopt the environmental regulation to increase in its abnormal returns.

1.4 Research Question
This study seeks to answer the following question

What is the effect of the environmental disclosure negative news (Waste pollution, water pollution, oil spills, environmental pollution etc.) on the firm's financial performance?

1.6 Structure of the study:
The structure of the study is divided into five sections. First chapter is introduction of the study and objective of the study. Second chapter is a brief review of literature. In Third chapter consists of methodology structure which shelters the economics model, econometrics model, estimation technique is discussed which comprises of Event methodology. Data collection,

sample size, Strength of the methodology as well as weakness of the methodology. Fourth chapter is about estimation and the results discussion. Whereas the Fifth chapter deals with conclusion and policy suggestion based upon the findings.

Chapter 2

Literature Review

Markets of developing countries do respond to the environmental evaluation of the companies. Due to limited access of the government disclosure can be a good policy in developing countries. This research has shown that market price of the companies who were contributors in the pollution, decrease significantly (Dasgupta S et al., (2001).

(Dasgupta S et al (2006), examined the paper "Disclosure of Environmental violation and Stock Market in the Republic in Korea "has shown that market reaction towards news of environmental violation on price of companies share was significant. This concludes that people care for environment, provided they get proper knowledge. The general public need information form governmental agency about environmental violations by the companies for making their decisions.

(Dasgupta S et al (2001), examined the paper "Pollution and Capital Markets in developing countries" highlights the fact that Capital markets of Argentina, Philippines Chile and the Mexico do react to announcements of environmental events both positive and negative reaction. If a company is involved in superior performance and care for environment there is a positive reaction about valuation of that company in the capital market. On the other hand, reaction is negative if there are complaints and violation of environmental standards.

(Per G Fredriksson.,(1999), (Zaelke D et al., (2005), Shows that Capital markets react to information related to company and also highlight the fact that capital markets in developing countries react appropriately. If a company is involved in superior performance and care for environment there is a positive reaction about valuation of that company in the capital market. On the other hand, reaction is negative if there are complaints and violation of environmental

standards. All these are developing countries, so this study removes a tag line that capital markets are reactive only in the developed countries.

(Konor S & Cohen A M, (1996) empirically found that market value increased ($34 M) for those firms which reduced their emission of toxic wastes (10% Reduction). A motivation for business can be that they should engage themselves in voluntary programs of EPA and get financial reward

(Fei Yu, (2012) to engage themselves as corporate social responsibility rather than waiting for some regulations to be imposed. (David I Stern, (2004) found that some of the developing countries performance for environmental pollution is better from wealthy countries, though this study was mainly done to study the Environmental Kuznets Curve. This approach for preserving the environment is significant and proper working can be done by developing countries even though they don't have proper market established to cater environmental externalities like carbon trading and green accounting. All countries can at least have this model to publicize the information regarding companies "Environmental Care" so that they allow public and investors to react on it. If value of their share decreases with the public announcement, then they will be pushed to adopt for better policies and practices by which they can reduce their negative externalities.(Dasgupta S et al, (2001),Foulon J et al, (2002), Lanoie P et al, (1998), Mamingi N et al, (1998) research work shows how we can achieve the pollution reduction either through incentive or by some kind of policy.

World Bank (Wheeler D & Afsah S, (1996) proposed a newer model for effectively reducing pollution through community control programs, structural learning and adaptive instruments. (Mclaughlin P C & Kalssen D R, (1996) produced a stunning empirical evidence that the companies which work according to environmental standard and have strong environmental management system got higher (positive) return. Results were negative for those

firms which have weak environmental management and face some environmental crisis. The stockholders return was negative for those firms which were involved in environmental violations. (Graddy B D & Strickland H T, (2007). Those companies which are involved in CSR (Corporative Social Responsibility), showing that investors show interest in socially responsible organizations (Krausz J & Pava L M, (1996). According to (Blackman A, (2010), Blackman ed A, (2006), Blackman A and Sisto N, (2006) & Blackman A.(2007) Policy makers in the developing countries can focus on voluntary participation in environmental regulation because of weak institution and regulation mechanism. The institutional way of controlling the environment damage the characteristics of environment (Dietz T et al, (2003) and system mutually agreed by local communities in history served the purpose effectively in history (Randall A Bluff stone, (2003) found that some countries lowered their pollution by introducing environmental taxes, and through these taxes may be obstacle in business but it is very important for protection of environment and efficiency of business organizations.

(Kai Chang, (2015) examined "The Impact of Environmental Performance and Propensity Disclosure on Financial Performance, Empirical evidence from unbalanced panel data of heavy- pollution industries in China" The main objective of the Paper was to check the environmental performance and financial. Corporative environmental performance is estimated in eight heavy pollution Industries in China. The sample size they used are sourced from social responsibility reporting and sustainable development reporting issued by listed firms in heavy-pollution industries from the period 2008 to 2012. They used Regression model Unit root and Cointegration tests and the finding of the study was corporate environmental performance has a significantly negative effects on financial performance.

(Deak Z & Karali B, (2014) examined the paper ' Stock Market Reaction to Environmental News in the Food Industry " The aim of the paper was " To study financial consequences of

environmentally responsible companies behaviour so it focus food industry because food production and consumption have recently been identified as one of the major contribution to resource consumption and waste generation and examine how media coverage and general environmental reputation of the selected companies influences market reaction by use sample size of 526 environmental news items, selected 23 firms from the period 2007 to 2010 by using event study methodology and in the study the sample consists of stock prices (closing price adjusted for dividends) of food industry companies traded on the New York stock exchange and NASDAQ between Jan 2007 and Dec 2010 , 23 firms from 18 primary standard industries classification codes findings environment news impacts on the abnormal returns . Largest effect is found by the two non-financial variables. Media coverage and status the size of the company decrease with the negative news and increase in their stock exchange with positive internal events. Result showed that the stock return increased in response to environmental improvements whereas the responds decrease in response to environmental violations.

(Jose M M & Fernando L, (2010) examined the paper "Environmental Disclosure in the Annual Report of the Large Companies in the Spain "The main objective of the paper was to determine the environmental reporting practices of industrial companies operating in Spain and to consider the relationship between these practices and stakeholder pressure. The sample size they taken from those (160) companies operating in Spain in those sectors that are particularly sensitive in the ecological matters. And the time period they taken from the 1992 to 1994. Wilcoxon non-parametric test they used. The findings of the study was that the situation in which Spain is passing through the period of development and improvement with respect to the disclosure of environmental information that is useful for the users specially on the part of the large companies this represent a significantly advance in the behaviour of the management of the companies with a foreign parent companies disclosed more information companies has negative impact on the environment.

(Canon- de- francia J et al, (2009), examined in the paper "ISO 14001 Environment Certification: A Sign Valued by the Market?" They examined in this paper was the measurement of the impact of ISO 14001 certification in economic performance to gain more objective knowledge of the economic consequences possibly derived from the certification of a firms environmental management system. They used the event study methodology. Sample size they used 36 firms from the period 1996 to 2002. The main findings of the study was that the Spanish market does not identity ISO 14001 certification as a sufficiently clear guarantee of use of resource and capabilities to generate expectation of a competitive advantage. ISO 14001 generates negative abnormal returns in non-multinational firms, and it generates also negative abnormal returns in the share price of certified firms. ISO 14001 certification makes it a sign of reputation which legitimates a firms but fails to distinguish it from its competitor.

(Dejan F, (2009) examined the paper "Environmental Disclosure and the Cost of Equity: The French Case" The main objective of this research efforts consists of evaluating the financial impact derived from environmental disclosure by focusing on the cost of equity and financial impact derived from the environmental and social disclosure. For assess the impact of such disclosure on the stock exchange market prices. They take 119 companies.as a sample size. They used MEDAF Model (CAPM) as a methodology. And they found nothing about the impact of environmental disclosure news on the cost of equity.

(M. Martin Curran & Deminic Moran, (2006) examined the paper "Impact of the FTSE4Good index on firm price: in event study the relationship between the corporate social responsibility by publishing reports with company financial performance and the aim of the study was to gauge the interest of the market in CSR (Corporative Social Responsibility)- related stories and by assessing the change in the share price by using FTSE4Good UK 50 index as the proxy for the CSR investment in the social responsibility.

The data they taken from the time period 31 December 1999 to 27 Nov 2002. And from 50 top UK publically quoted companies and their reports and surveys. The findings of the study was that the positive announcement leads to positive movements in share price of the companies and the negative announcement leads to the negative movements in share price.

(Tuwaijiri Al A S et al, (2004) examined the paper "The Relations among Environmental Disclosure, Environmental Performance, and the Economic Performance A Simultaneous equation approach". The aim/objective of the paper was that this contributed for the environmental effect corporate strategy and ultimately firm's value. The methodology they used 3 SLS Simultaneous equation. Sample size they take by using cross sectional data of 500 firms and time period they taken from the period only 1994. The findings of the study was there is significant relationship between environmental and economic performance and positive relationship between environmental performance and the environmental disclosure news. Also positive relationship between environmental performance and economic performance. Good environmental performance and economics profits are hand in hand. And it's both related to quality of management. Good manager works in the firm's long term interest by accepting the firm's social responsibility and adopt environmental pollution controlling techniques. Results of the study was that the good environmental disclosure news increase the profitability of companies and bad news as decreases the profitability.

(Theo C & Kong C S G , (2001) examined the paper " An analysis of Environmental Disclosure of Small Australian Mining Companies " The main objective of this paper was to analysed the type and extent of voluntary environmental reports particular in mining companies. As a sample size they used the 20 annual reports of the mining companies which was listed on the Australian Stock Exchange. And they categories them in four types of disclosure which was based on natural classification. These are environmental policies or function (EPF) prevention or repair

of environmental damage (PRED), recognition of environmental policies (REP) and environmental liabilities. EL serves as a proxy for the bad NEWS (negative disclosure). Time period they taken only 1994. 366 companies are selected as a sample size.in which random sample of 50% (183 companies) are taken from the 366 population. But it again reduce to 179 companies because among 183 companies. Companies having outstanding liabilities considered as a outlier so they are eliminated from the sample size. F test (Scheffe test) used as methodology. The major findings of the study indicated that the disclosure practices (level of the disclosure) in the small mining companies in Australia is very low. And there is a need of the implementing or environmental reporting regulation in Australia.

(Dasgupta S & Laplante B, (2001) examined the paper "Pollution and Capital markets in Developing Countries" The main objective of this paper was " To analysed the environmental regulation in East Asian countries and assessed whether or not the capital market in Argentina , Chile , Mexico and the Philippines. Reacted to the announcement of firm's specific environmental news and wants to show that capital market reacts negatively (decreased in firms' value) to citizen complaint targeted at specific firms. Also showed that market reacts positively (increase in firm's value) explicit gratitude of superior environmental performance. Select the (as a source) newspaper which are large in circulation in these above countries. Particular interest to the business community. Sample size they used from the period 1990 to 1994. And used the event methodology. The major findings of the study was that in a number of circumstances, market forces even in developing countries have not remained idle upon receiving signals of the environmental performance of firms and have penalized, complaints. Or rewarded recognition of superior environmental performance. The owners of the firm through changes in market values.

(Lorrain J.H.N et al, (2004) examined the paper "An analysis of the Stock Market Impact of the Environmental Performance information" The major aim of this paper was the relationship

among environmental performance information and company share prices they consider both good and bad news. The main objective of the paper was that it consider the environmental accident that have been caused by publically complaints to UK firms and prosecution by EPA (Environmental Protection Agency) and recommendation for the firms which are improving their environmental performance. Data collected for the sample companies was from April 1995 to August 2000, 32 firms was taken as a sample size for the analysis. As the analysis of the share returns showed that on average companies performance poorly with 13 of 32 companies yielding a negative mean returns.

(X.D.XU et al 2011) examined the paper "Stock Markets Reaction to Disclosure of Environmental Violation: Evidence from China the article examined the capital market reaction to information disclosure of EVEs for the Chinese listed companies. The main objective of the paper was to explore that how the stock market responds to the information disclosure of the EVEs in China. Event study used as a methodology, 57 firms are used as a sample size. Firms belong to Petroleum, Chemistry and Plastic industry. The results of the study was firms related to the pollution experienced the negative returns.

(Roberts C M et al., (1999) examined the paper "The Rewards for Environmental Conscientiousness in the US Capital Market" the main objective of this paper was to give attention on those companies with having environmental care and examined the impact of this environmental care score on the companies' values e.g. its stock prices. And taken the environmental obligation such as oil spills, poisonous substance release, and accident or pollution control. They used event study as the methodology to analyse the impact on the companies of the environmental score on its share price. And this event study focused on the short run analysis and used the correlation studies for the long run. The time period they taken for the analysis was from 1987 to spring of 1993. 49 companies was taken as the sample size and they are ranked on the basis of the different positive and negatives of environmental

situations like recycling, energy alternative resource as a positive programs and violation of environmental rules on negative programs. And as a result of this they find the higher environmentally ranked company stock performed better than lower ranked stock. And there is positive relationship between the environmental care and the stock price. And no strong linked between the environmental care score and company size, debt/ asset ratio and earnings growth. However dividend profit and volatility in stock returns have the impact of companies EC scores.

(Videen G (2010)., examined the paper " Effects of Green Business on Firms Value" The purpose of the paper was to examined whether and to what degree there have been financial performance benefits examined by the major corporation in different companies that have applied positive change in their environmental approaches. Study estimated the publically announced positive green business compared to what extent undertaking of financial reporting of large US firms. he used event study methodology for evaluation of how investor of the firm reacts to the firm announcement of positive news and compared it with those announcement that are from absent of these announcement the firm would expect the returns. The time period they taken was from 1999 to over 2008 and the findings of the study was positive environmental event had no statistical relation on the stock prices. However negative news can impact at higher level in its stock prices. Results also showed that there was no strong conclusions how investors prices the announcement.

(Vieria O J R, 2014). Examined the paper "Environmental Disclosure Determinants in Dutch Listed Companies" The study examined the environmental disclosure determinants in the Netherlands. And study included both the large and small firms included and both environmental polluted and non-environmental polluting industries are included. The main purpose of the study was that it want to examine whether the particular environmental actions are disclosed. The paper also examined whether the environmental effect of an organization is

calculated and whether the environmental goals are accomplished. The study examined the influenced of the different variables such as firm size, firm returns, debt ratio, company age, industry, country of firm ownership, CSR committee, investor power and government impact.so the studies examined the relationship between these determinants and the environmental disclosure. The sample size they used was 30 companies listed in the Amsterdam Euronext Index. And time period they used till 2008.Spaerman rank correlation and Pearson's test was used as methodology. As a result of the study was three determinants like profitability, size of company and the returns are significant with disclosure news. Three indicators of the size are used market capitalization, sales and total assets. All are significant with the environmental disclosure news and there is significant relationship between high profile and low profile industries high profile which are sensitive to the industries oil, gas, basic industry and airline has more significant with environmental discloser news than the lower one. And size industries and profitability had no significant relationship with the environmental disclosure news.

(Wehrly W E et al., (2005) examined the paper "The Reputational Penalties For Environmental Violations: Empirical Evidence" The major aim of the study was to analysed the share value impact by the specific different types of negative new such as oil or chemical spill, toxic release of substance etc. and study also examined the response of the stock price as a measurement of present value of the net cost to the firm accused of violating the environmental violations. By using the data from the 478 environmental violation by publically traded companies the time period they taken form the 1980 to 2000. And used the 148 firms as a sample size which had the information about the sanction levied by legally to them.

(Verhoeven P et al., (2000) examined the paper "The Economic Consequences of Voluntary Environmental Information Disclosure" The aim of the study was to analysed the significance of the environmental disclosure news to the value of the companies share prices. By examining

whether there is a relationship between the environmental information disclosed in the annual report. And the company share price. They collected data from the annual reports and selected top 500 Australian companies. Time period they taken from the January 1998 to December 2000.and applied event methodology. And main finding of the study was that companies responds more in increases in demand of environmental disclosure news by stakeholders and provide the environmental related information by the help of annual their reports. Companies with positive environmental news has better market reputation experiences increase in their share price than the negative disclosed news.

(Naila L D., (2013) examined the paper "The Effect of Environmental Regulation in Tanzania: A Survey of Manufacturing Companies Quoted on the Dar Es Salaam Stock Exchange" The aim of the study was to investigated that how environmental law and regulations impacts on financial performance and whether cost resulting from environmental laws progresses or shrink the financial performance of the listed manufacturing companies in Tanzania. They used Regression model as the methodology. Eight year of data set are used till the period 2006. Financial performance is taken as a dependent variable. ROI (Return on Investment) are used to measure financial performance. Study also used two independent variable. Like capital expenditure on pollution control technology can say. Second independent variable is ISO certification. Five companies are taken as a sample size. Results showed that there was high correlation between the Return on investment (ROI) and the age of the firm means positive relationship between them. Implies that as firm got older the ROI goes up remaining other things unchanged. Positive correlation between the ISO 14001 certification and technology which control pollution. There is weak linear relationship between the ages of the companies and certification to the ISO 14001. Older firms higher chance of the getting the ISO 14001 certification. Finding showed that there is no significant relationship found between the

environmental agreements and financial performance (on their returns). Tanzania can neither increase nor decrease it company's returns by the environmental regulations.

(Lansilahti S., (2012) examined the paper "Market Reaction to Environmental, Social, and Governance (ESG) –news: Evidence from European market". The purpose of the study was assessed the public reaction and reactions to reporting of environmental, social, and corporative governess related corporative disobedience as they expressed in change in the investor investing behaviour .The main objective of the paper was to examined the importance of the negative ESG (Environment, Social and governance) news to investor. And see the market reaction of negative news. By using Event methodology. And analysed both short run and long run analysis of the news release on the market value of the listed companies. And taken the time period from 1998 to 2007. The contribution of the study was long run analysis because long run stock price analysis was for the manager. Consumer and employees of the country. The sample size was taken 123 firms. Sample was divided by into sub sample. For one sample time period taken from the 1998 to 2002 and other was taken 2003 to 2007. And divided by the news in to three categories Environmental, social and governance. Event study was used as a methodology. The purpose of the study was to measure the market reaction to different type of news at different time. Studies showed the significant negative returns of the companies in case of the violation of the environmental laws also social and in governance law.

(Flammer C., (2012) examined the paper "Corporative Social Responsibility (CSR) and Stock Prices: The Environmental Awareness of Shareholders". The main objective of the paper was that study derived the hypothetical analysis on the relationship between environmental corporative social responsibilities and stock price and also analysed the whether the shareholder reward or punished companies for their environmental behaviour. And how such reward and punishment have change in last years also examined the reaction of the stock market by the announcement of such a news both environmental friendly and environment harmful

they examined by taking the Regression analysis. He had taken publically traded companies from the time period 1980 to 2009.by conducted the Event methodology and used market model. And performed these analysis on separately by the announcement of Eco-friendly strategies applied by the corporation like recycling and waste management programed. Also the Eco-harmful program (oil spill, wastage of resources) initiative taken by the corporation. The main finding of the study was the announcement of the eco-harmfulness corporative behaviour leads to negative abnormal return and investors also reacts negatively because of the eco-harmfulness behaviour and penalize by the investor due to negative behaviour toward environment. The control variable which used in the Regression based methodology are also insignificant. That means that those firms which were larger in the size are improved able to lessen the negative impact of the negative announcement by the firms in environment. Results showed that company with positive environment initiatives creates new resources for the company

(Uchida T & Ferraro P., (2009) examined the paper "Stock Market Reaction to Information Disclosure: New Evidence from Japans Pollutant Release and Transfer Register" The author conduct the empirical analysis of the investor reaction to the PRTR (pollutant Release and Transfer Register) outside of the United States and check for the Japan by releasing the PRTR data They applied Event study as a methodology using market model for the checking of the investor reaction of the release of these toxic substance from the firms. The theoretical basis of the Event study they used efficient market hypothesis. The data consist of the 4124 facility owned by 1072 publically traded firms.by the Tokyo Stock Exchange. They used the 613 companies as sample size for testing the abnormal return they categorised the firms level emission data. For better analyses of the investor behaviour. As a result of the study was standard deviation of these companies are very large which predict the majority firms had small emissions few had large. The distribution of the companies was large skewed means they are

high polluters and experienced negative abnormal returns. They first estimate top five countries which are chemical industries and judge their abnormal returns.

(Marshall S R et al., 2010) examined the paper "Voluntary Environmental Disclosure Quality and Firm Value: Further Evidence" The author analysed in the paper was about the relationship between the corporate social responsibility (CSR), environmental disclosure and cost of equity capital. By using two proxies a positive and negative environmental enactment measurement how these environmental performance effect the companies return as well as market value. And take US (United States) five firm which are sensitive to the environment problem and also on those which are not sensitive to the environmental issues by using positive and negative issues. They used dependent variable cost of equity and future expected cash flow to capture the firm value. Dependent variable are firm's value. (Ohlson (1995) model applied for the study. Stock prices was independent variable. They used five industries as a sample size. (Oil gas, chemical, petrol, food/beverage, pharmaceutical and electric utility and the time period they taken of six years from 2000-2005, 490 firms used as a sample size.by using panel data. Findings of the study was that they concluded that capital market reacts negatively if the company violate the environmental rules.

(Kawan S S & Kawan H J., 2011) examined the paper "Violation of Listing Requirements and Company value: Evidence from the Bursa Malaysia" The study examined the validated the effects of public admonishment on the corporation stock price performance. Data analysed in the study was consists of a sample of the public admonishment and they take the time period from 2005 to 2009. Data got by the official website of the Malaysian stock exchange. Daily data they used and 41 public admonishment was used a sample size means 41 firms are included for the case study. Event study is used as a methodology. For calculating the abnormal return they used the market model.to predict the revenue of the companies. The finding of the study was that the stock values of the listed companies are departed from their true values that's

means that investors ultimately learn the truth about the firms that the firm is violating laws or not.so in a reaction they remove away their investment from the environmental violating industries for the save of their stock which are affecting by the reputation of the companies. And thus as result of this it stock prices goes downward. The result suggested that the downward price effect around the day of the event happened which was public abolishment here. Result also mentioned that company experienced downward in the stock price of the companies due to the environmental violations derive negative impact of the companies' market values.

(Wherly W E et al., (2005) examined the paper "The Reputation Penalties for Environmental Violations: Empirical Evidence" The main objective of the author was the measurement of the firm for the sanctions imposed on them for the environmental violations in regulations and what cost the firm bears on the behalf of its market reputation and on its legal penalties faced due to these violations. They also examined the size of these legal penalties of the violating firms. They used 478 listed companies as a sample size and time period they taken from the 1980 to 2000. This paper examined the impact on the share price (company's performance) impacts on the adverse environmental news such as oil spills. And measure the net present value of the net costs to the firm. Three types of environmental violations like (air emission, 126 companies involved, 121 case involved in water contamination, 89 cases involved in surface water contaminations, 32 cases are involved in the contamination of drinking water) are included in sample and reported in major newspaper. Event study used as a methodology for calculation of abnormal return they used market model. As a results they finds that the firms experience lose in their stock prices due to bad reputation. Fraud by the environmental violations.

(Marshal S R et al., (2010) analysed the paper 'Voluntary Environmental Disclosure Quality and Firm Value: Further evidence' the main objective of the paper was that they by using two

proxies companies negative news (Spills, Violations of environmental rules and positive news such as (rewards from the EPA for the analysed the company's performance. And finds the environmental disclosure impacts on the firm's value. The main of the paper was also to gain an improved understanding of the how differences in the quality of firms' voluntary environmental disclosure related to the stock prices. Through the cost of capital /or cash flow properties. They applied the dividend discount model for the hypothesis development. This paper they used for the policy analysis by providing the information about the practices related to the protecting environment that reduces the pressure on the government regulations. And also reducing the compliance cost and also pollution cleaning cost. They employed two related sets of the Regression models as a methodology. Dependent variable is the variation in the cost of the equity capital. And future expected cash flows which both are the firm's value. The main conclusion of the study was that there was a significant positive link between environmental disclosure and the cash flow of components of the firm value and introduce a direct measure of future expected cash flow.

The author Galiano (2010), examined the paper "Isolating the Corporate Reputational Risk in Environmental Oil Spill Disasters "In this paper author analysed the study by quantifying the reputational risk incurred by the non-financial risk firms just like the oil and gas producers. After misery from an environmental adversity such as an oil spills.it consider the event which is world most disastrous in which it create massive ecological disastrous impact. It also observed the impact on the investors by turning the serious matter on financial markets. They applies an event methodology to examine the most huge oil spill event impact on the US stock market. They take the sample size from the 2005 to 2011. For the measurement of reputational damage they use the banking industry measurement by loss ratio by transpose it. As a sample size they selected the recent oil spill disastrous five companies. Which are listed in New York Stock Exchange. They also Exploratory Data analysis (EDA) for the operational losses by the

companies. They used the market model for estimation of the normal returns and determine the parameters by the Regression analysis. For the normality test and to check the robustness of the conclusion they used the two parametric test like Sign test and Wilcoxon test. As a result they observed the significantly negative abnormal returns around the event. It reveal the significant negative impact on the stock prices of the companies' abnormal returns. Results also provides the strong evidence of the damage of the reputation of the event of oil spill. By calculation of the loss ratio.

(Dew R S et al., 2012) analysed the paper "Does Environmental Performance Really Matter? A Lesson from the Debate of Environmental Disclosure and Firm Performance "In this paper author was finding the relationship between the financial performance, environmental performance and environmental disclosure he thought that it was the elementary subject of firm's environmental behaviour. They also examined that whether the environmental disclosure is the valid gauged together with the environmental performance. The hypothesis of paper stated that the improvement in the environmental performance leads towards improvement in the firm's financial performance through cost efficiency and sales performance. Thirty three firms they used as sample size. 627 sample size was selected from year 2002 to 2008. They take the environmental performance as independed variable and financial as depended variable. And used ROA (Return on Asset) which is total return on an asset. They used Multivariate Regression test after the checking of normality of data. As a result firms with good environmental performance will had greater financial performance due to its ability to manage its environmental factors well that lead to decrease the environmental related cost and increase in its profits.

Chapter 3

Research Methodology

3.1 Research design

For the research design here we used the panel data in which the companies are cross sectional data and the daily stock prices are the time series data. And the dependent variable here we used the stock prices and the profit we take as the independent variable.

3.2 Theoretical Frame work

This theory started from the 16 century. Fama (1965) defined for the first time the efficient market in his milestone empirical analysis of stock market prices. F. E .Fama assumes that stock prices are converted by the both basic and non-basic information. A liquid stock market is considered by the Fama as capable when it observed very quickly and accurately all important unexpected information.

The price of the stocks on the liquid market is of the correct value, correct prices and usually no under priced.it contained all rate making information. It is randomly behave so continuously analysed the stock market. Because they want to gain the maximum profits. So investor behave rationally stock markets have different notch of expertise. Just like weak form of efficiency means that the current stock priced contain all information that can be obtained from the historical prices of the stocks. So investor cannot predict the future price on the basis of data from past. There are three kind of the market efficient. And the semi strong form of market efficient is the state of efficiency in which present stock prices consist of not only the historical data. But its responds very quickly and accurately to the publication of the new public information.it is impossible for the investor to find incorrectly priced investment instruments on the capital market in the Semi efficient market condition. While the third one kind of the efficient market theory strong efficient market theory stated that both the current price of stock

reflect both public and private price making information. These three hypothesis of the efficient market positions for the explanation of the behaviour of the stock prices. (Fama E F, 1970).

A market is said to be efficient with respect to an information set if all prices 'fully reflects' that information sets (Fama 1970) The Efficient market assert that the financial market are efficient (Malkiel 1992).

Fama concluded that stock prices followed the random walk. Meanwhile the Simuelson (1965) provided by the first formal economics argument for the "Efficient Markets ' he neatly summarized in his article "proof that properly anticipated prices fluctuate randomly " and focused on the concept of martin age rather than random walk. Fama and Blume (1996) concluded that for measuring the direction and degree of dependence in price changes. Serial correlation is probably as powerful as Alexander rulebooks. (Alexander 1961 and 1964), (Mandalbort 1966) both concluded in his first theorem that competitive market with rational risk-neutral investors, returns are unpredictable- security values and stock prices follows a martingales. Harry Robert 1967 than created the term efficient market hypothesis and made the distinction between the weak and strong form of test which became the classic arrangement in Fama (1970).

Michael C Jensen in (1968) analysed the performance of mutual funds and concluded that "on average the fund actually were not quite successful enough in their trading activities to recover even their brokerage costs"

(Jensen 1968) (Ball and brown 1968) were the first to published the "Event Study" Fama et al.,1969 started the first ever the event study (although they were not the first one to published) but their result regarding toward the event study was considerable supportive toward the conclusion that market is efficient.

Eugene F Fama published his conclusive paper on the efficient market hypothesis. His first review of three papers named "Efficient Capital Markets" A review of theory and empirical work. And defined the efficient market by his definition "A market in which prices are always "fully reflects "available information is called "efficient" he was also who first consider the joint hypothesis problem. (Sewell M (2011).

(Scholes (1972) studies the price effects of the secondary offerings and found that the market is efficient except for some sign of the post event price drift. Ball 1978 wrote a survey paper which discovered consistent of excess return after public announcement of the firms earning.

(Jensen 1978) defined the efficiency "A market is efficient with respect to information set Өt if it is impossible to make economic profits by trading on the basis of information set Өt. Robert E locus Jr 1978 build a theoretical model of rational agents which shows that the martingale property need not hold under risk aversion.

(Dimoson 1978) reviewed the problem of risk measurement (estimating beta) when shares are subject to infrequent trading.

The theory of efficient markets (Expected return model). The definition stated that in an efficient market prices "fully reflected "available information All members of the class of such "Expected Return Theories "can however be describe notationally.

$$E(Pj, t + \emptyset t) = [1 + E(rj, t + 1 \quad \theta t)]\text{Pjt}\ldots\ldots (3.1)$$

Where E is the expected value operator ; pjt is the price of the security j at time t ; pj,t+1 is its price at t +1 (with reinvestment of any intermediate cash income from the security); rj t+1 is the one period percentage return (pj, t+1 - p jt) /pjt ; Өt is general symbol for whatever set of information is assumed to be fully reflected in the price at time t ; and the tiles indicate that p j,t+1 and rj , t+1 are random variable at time t. the value of the theory of expected return E(rj,t+1

/Θt projected on the basic information would be determine from the particular expected return theory at hand. The assumption that the condition of the market equilibrium can be stated that in terms of the expected returns and that equilibrium can be stated in term of expected returns and that equilibrium can be stated in term of expected returns are formed on the basis of the "Fully Reflected" the information set Θ has the major empirical application and they rule out the possibility of trading system based only on the information in Θt that have expected profits or return in excess of equilibrium expected profits or returns.

Thus

$$Xj, t + 1 = Pj, t + 1 - E(Pj, t + 1 \ \theta t)\ldots\ldots\ldots(3.2)$$

$$E(X, t + 1 \ \theta t) = 0\Theta\ldots\ldots\ldots (3.4)$$

Which by definition the sequence (Xjt) is a "Fair Game" with respect to the information sequence (Θt). in economics it means Xj,t+1 is the excess market value of the security J at time t+1 ; it is the difference between the observed price and the expected value of the price that was projected at t on the basis of the information Θt.

Let

$\propto (\emptyset t)$ = [(α1 (Θt), α2 (Θt) ,……………………..., αn (Θn)]……..(3.5)

Be any trading based on Θt which tells the investor the amount αj (Θt) of fund available securities. The total excess market value at t +1 that will generated by such a system is

$$Vt + 1 = \sum \alpha j \text{ (Θt) [rj,t+1} - E \text{ (rj,t+1 Θt)]}\ldots\ldots\ldots(3.6)$$

Which from the "Fair Game" property of 5 has expectation,

$$E\left(Vt + 1 - \text{?}t\right) = \sum \ \alpha j \ (\text{?}t) E\left(zj, t + 1\frac{-}{\text{?}t}\right) = 0.......(3.7)$$

The above equation is the "Efficient Market Model"

The Case of Pakistani Stock Exchange

Theoretical frame work has the hypothesis that market is efficient that means where all the information about the security is enclosed in the current price of the security. That means the price of the stock follow randomly. Price of the stocks change randomly. Present stock all fully exhibits all available information about the company. So here we need to evaluate of the efficiency of the Pakistan Stock Exchange. If the stock prices in the Karachi follow the random walk contain all the information? By analysing the monthly data from the Karachi Stock Exchange (now currently known as Pakistan Stock Exchange) because it's a biggest stock Exchange of the Pakistan. In Pakistan the importance of the stock market is increasing with passage of each single day because its reflect the overall picture of economy of the Pakistan. In 2004 it was the finest functioning market of the world. But due to poor law and order condition it's not functioning well. By the result of the literature papers it was concluded that Pakistan Stock Exchange doesn't apply the random walk and thus the past information or prices can be used to predict the future prices. In other words the investor can use the past prices information to predict the future prices and can make the abnormal returns. By doing the run test by the literature the results interpret that the Pakistan Stock Exchange doesn't follow the weak form of the efficiency. Which had same conclusion that Pakistan Stock Exchange market prices reflects all the information so investor can use the previous prices information for analysing the abnormal returns. And future price can be predict. And market can be easily track and can make abnormal profits. By analysing the relationship between the market efficiency of the stock market and the economic development of the country because efficient market is

important for an economically development in the market of the country. (Wali S et al., 2015), (Mustafa K & Ali S S., 2001), (Haroon A M., 2012).

3.2.1 Explanation of the Research theoretical Model:

First of all I got the environmental violation lists in which those companies are committed from the environmental laws violations. And they are notified by their respective Environmental Protection agencies like in this research the main focus was on the Faisalabad clusters companies (Textiles, Sugar Mill, Engineering and work foundries etc). They are committed from the environmental violations like Waste water pollution, Environmental pollution, they violate environmental rules under different sections like (2,3 16, 11 45, 46…etc) which construct under the "Pakistan Environmental Ordinance 1980", Bad smell and similar like these other allegations. And they are notified and fined by the Punjab Environmental Protection Agency (Punj EPA) which is their respective regional provisional agency. Than emphasis on the negative news (Oil spills, Environmental violations, Waste Water Pollution etc.). And then by the help of the "Event Methodology" calculate the normal returns by the help of parameters which are the alpha beta. And then I calculate the abnormal (excess) returns. In which negative deviations is expected that means that the negative occurrence in the stock prices exist by the help of market model. The stock process behave negatively downward trend showed in it. And at last by help of these trends I interpret the results.

3.3 Conceptual Frame work

3.3.1 Theoretical Model:

If environmental rules   violation leads towards negative reaction of public, then company will be forced to have environmental policy (friendly) and reduce its negative externalities so that their value (Sock prices) should increase.

If there exist some relation then we could recommend some policy formation for government institution. Multinational companies, Small and medium size companies, and companies listed in the stock markets this will the focus in this study.
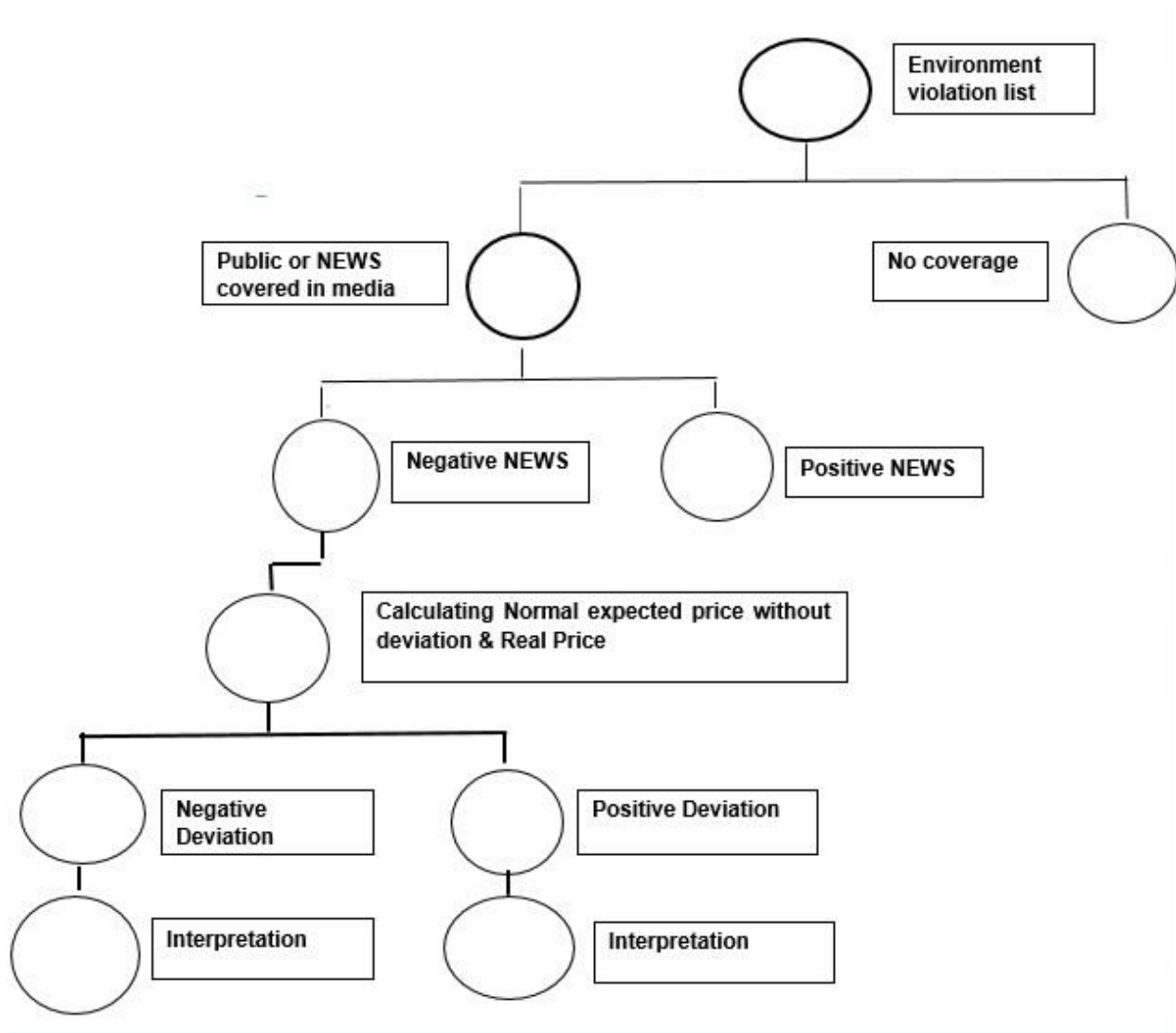
Theoretical Framework (Figure 1)

3.1.3 A Brief Review on Methodology

Event study methodology is designed to investigate the effect of an event on a specific dependent variable. A particular used dependent variable in event study is the stock prices of the company.

By the definition of the Event methodology is "it is the study of the change in the stock price beyond the abnormal return. (Woon,S, W (2004). The usefulness of the Event study

arises from the fact that the magnitude of abnormal performance at the time of the event on the wealth of the firms claimholders. Event study focusing on announcement effects for a short-horizon around an event provide an evidence relevant for understanding corporate policy decisions. (Warner B J and Kothari P S 2006) There are certain positive and negative aspect of the event methodology.

As a strength of the event methodology is that abnormal returns due to a firm specific this study only concentrate on the short-run analysis. It is restricting analysis to a one day event window. Which are straight forward and trouble free. And for results we have more confidence in our results and can put more weight to its results this provide the best comparison of the various methods because the shorter the event window the more exact the results it gives quick effect and gives no overlapping. Event study used the daily data rather than monthly because it gives more accurate results.

And this method used to permit the more precise estimation of the abnormal returns. And regulate their statistical significant have become more sophisticated. (Eckbo E B. (2008).Event study offer a strong econometric relationship between the causality when they are limited to at one or most of the five trading days after the event to ensure that news of the confounding effect of the interest.

Event study is helpful for researcher because it helps in analysing them the quick impact of the event on the firm's stock market performance. Event study is based on the efficient market hypothesis it has benefit because the information received by the investor is continuously evaluating and reflecting in the share prices. Which represent the more accurate estimation of the current value of the future discount cash flow (Fama 1970).

In other words share price reflect the investments expectations regarding a firms long term efficiency and profitability therefore by the analysing the evaluation of the earning per

share of the affecting firm in a brief period of the time around the event date. There are different model for calculating the abnormal returns in Event methodology but we use the market model because the market model assume a stable linear relationship between the market return and the security return.

It is statistically model which relates the return of any given security to the return of the market portfolio. The models linear specification follows from the assumed joint normality of asset returns for any security I the market model.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \qquad (3.8)$$
$$(\varepsilon_{it} = 0) \quad Var\,(\varepsilon_{it}) = \sigma 2 \qquad (3.9)$$

Where R_{it} and R_{mt} are the period returns on security I and market portfolio. E_{it} is the zero mean distribution term, α_i, β_i and σ_i are parameters of the market model. It is simpler model and yields results similar to those of more sophisticated model. And can be attributed that the fact is that the variance of the abnormal return is frequently not decrease much by choosing more sophisticated models.

When using daily prices data than we use this model it calculate the applied nominal returns. With monthly data the model is applied to calculate the real returns or excessive returns. It represent a potential improvement over the constant mean return model. By removing the portion of the return that is related to the variance in the market return to the variance of the abnormal return is reduced. This in turn can lead to increase in ability to detect event effects the benefit from using the market model will depend upon the R_2 of the market model regression. The higher the R_2, higher the variance reduction of the abnormal return and larger the gain. It is also called factor model. As factor model it calculate the

Abnormal return = (Actual return – Expected return).

The gain from other multi fact model for event studies are limited because the marginal explanatory power of additional factors the market factor are small and hence little decrease in variance of abnormal returns.

Table: 3.1 Strengths of Event Methodology

Article	Author/Year	Event study Methodology	Alternative Model
Environmental News and stock markets performance: The need for further evidence in developing countries.	(Ambec and lanoie (2008))	Used event study. Event study is used for the short term because it is easily interpreted	For long run analysis we used Regression analysis that's why they used Regression analysis.
Does it pay to be green " A systematic overview:	(Stefan Ambec and Pail Lanoie (2008))	Event study offer strong econometric result of causality when they are limited to one or having the confounding effects in the event news	(normality test) don't do the Autocorrelation, Heteroscedasticity, Multicollinearity problem regression without outlier
News media as a channel of the environmental information disclosure: Evidence from EGARCH approach	(Rang Zhang ,Kenetheth, L Simons David Stren I(2004))	They used event study analysis this method allowed researchers to analyse the immediate impact of event on the firm's stock market performance. They used OLS with EGARCH model because hetroscedacity in disturbances and volatility cluster are widely present in the stock price data.	
Environmental disclosure quality in large German company: Economic incentive, public pressure or institution condition?	(Denis Cormier, Michel Magnan and Barbara Van Velthoven (2011))		They used The Regression (OLS) since they used many annual observation from the same observation they estimate pooled time series, cross sectional fixed effect regression to control for the problem of the heteroskedastic and the autocorrelation (Kmenta 1981). Diagnostic procedure (Durbin-Watson, White, VIF and normality test) do not do autocorrelation, Heteroscedasticity,

			Multicollinearity, or normality problem. Regressions are estimated without outliers.
Stock market reaction to environmental news in the food industry.	(Zsuzsanna Deak and Berna Karali (2014))	Used event methodology If there is the problem of the heteroscedasticity .parameters are not efficiently estimated and give wrong misleading results So hetro problem must be solved before doing the event study methodology. So use ARCH model. Also used GARCH model. Event study is used for the future return so it gives guidelines for the investors to invest in particular company or not. And using OLS GARCH make it parameter efficient. Because it is more powerful at the small level of the abnormal performance the GARCH (1, 1) with t distribution was reliably the most powerful.	
ISO14001environmental certification: A sign valued by the market.	(Joaquin Canon-deFrancia Concepcion Garces-Ayerbe (2009))	Apply Event study methodology By the assumption of the Fama (1970) paper that it revealed assumption of the efficient market hypothesis. It means that the information received by the investor is continuously assessed and reflected in share prices which represent the most accurate estimation of the current.	

ISO14001 environmental certification:A sign valued by the market		value of the future discount cash flow.That means share price mirror investors' expectations regarding a firms long term efficiency and profitability therefore by the analysing the evaluation of the earning per share of effected firm in short period around the event day.	
The relationship among environmental disclosure environmental performance and economics performance	(Suleiman A. ALTuwajiri,K .E.Hughes ll (2004))		They Used Simultaneous equation The methodology reduce the potential for the removing multicollinearity among the ENVCON Correlated component variable. It gives more clear explanation regarding the relation among the environmental disclosure, environmental performance and economic performance

3.2 Data

For data we need two types of data the time period from 2003 to 2015 for the analysis of the Event methodology. The first one is the company daily stock close prices data and second one is the market stock prices also called the market index returns data. But from the very first we needs the list of companies which violates the environmental rules and regulations and these companies are notified by and is taken from the Provisional Environmental Protection Agency which is Punjab Environmental Protection Agency (Punj EPA).

This list is consist of the name of the companies, their violations nature like Oil spills, Waste water pollution, Air pollution, Bad smell, Environmental pollution, Allegation under

sections of (2, 4,16…..) etc. And their current status which is the disposed of or non-disposed of the waste by the violated companies and also the fined charged by the Punjab Environmental Protection Agency (PEPA)., These Fines consist of from 20,000 to 20, 000, 0 up to so on and also if there is any kind of summons issued on company or any argument or the company had notified in the list also mentioned. That's mean violated companies have to answered the environmental protection agency with 60 days if they failed to comply the rules given by the Environmental Protection Agency than they have to present before of the environmental tribunal court or supreme court for hearing. if any environmental allegation proved on them than the Environmental Tribunal court take any suitable action against them to penalized them in term of tax or fine. It may be even case of shut down the particular violated company.

3.2.1 Source of the data

The data is accumulated by the different kinds of sources. First the violation lists I got from the Punjab Environmental Protection Agency (Punj EPA). And the daily stock prices data of different listed companies in (Pakistan Stock Exchange) are collected by the Business Recorder website, from Opendoors website. From Pakistan Stock Exchange which received through Email. And the market index data are collected from the yahoo finance website. Using daily data has its own importance because daily changes in the stock prices are more volatile where's the monthly data has less volatility and are more sensitive to the interest rate. We use daily data because it gives more powerful analysis than in comparison with using the monthly data. By using daily data rather than the monthly security returns are more appropriate because such data allows more information examination of the event of the interest and gives more precise measurements of abnormal returns. Daily data has benefit that it captures the short run fluctuation in data (Stock Prices of the companies). So changes in the returns of the companies can be predict easily.

3.3 Sample

3.3.1 Sample selection:

Sample selection turns to important which would decide the accuracy of the whole research. We calculate sample size used by the sample calculator as the total population of industries in Faisalabad is 31, 3834, by taking 95 confidence interval at 5% margin of error. After calculation it gives 384 sample size. But due to the certain reason we cannot accumulate the whole sample because of the certain limitations data shrinks to 30 clusters companies. And Major problem was that the number of the companies in the environmental violation list has consist of unregistered companies (Private) which has no share prices in the Formally Karachi Stock Exchange or can say the private companies and I take the overall industries and they are not in differentiate in the sizes (like Small, medium or large) of the company. Like the flour mills, Ice mills, hospitals waste, Poultry farms, Faisalabad municipal committee etc. some of the companies are the delisted by the Pakistan stock exchange due to their violation in rules that are regulate by the Formally Karachi Stock Exchange now it is known as Pakistan Stock Exchange. Some companies are merged with another listed companies. Some changes their respective companies' names in the Stock Exchange. And hide themselves and some have old symbols in the Pakistan Stock Exchange. Majorities of the companies were privates and non-register companies.

3.3.1 Filtrations of the Data and further steps

For this methodology collect the list of the companies which violate the environmental laws. List taken from the Punjab Environmental Protection Agency (Punj EPA). Than from the websites of Business recorder collect the data of the close prices of the companies which are listed in the stock market PSE 100 index from the year 2003 to 2015. In the violation list the medium are public complaints, means the complains of the companies are coming from the

public and there are other allegations in which nature of the violations are under section (2, 11 & 16) etc, Hospital waste, Bad smell, Environmental pollution, Noise pollution, Air smoke and vibration pollution, and Waste water pollution. which are in the sections under the Environmental Protection Agency Ordinance (1983) and their current situation like some companies disposed of their waste and some are not disposed currently these are used as a variable.

And they are facing with fines like some companies are facing the fine from starting from 5000 to 2000000 , some are at evidence stage , some are with admitted argument and some have summon issued. Some companies are presented before the environmental tribunal for their allegation case as we talk about the sample size we take the overall industries which are situated at Faisalabad City. Which are about 339 in which the approximately 30 companies are the registered with the PSE-100 index data The data is shirked due to the companies that are in list are mostly are non-registered companies in which some are delisted companies, some merged into in another registered companies which are in PSE-100 index some are the hospitals in list and departments of the governments like municipal committees which have non-financial market.

Section of 2, 11 & 16 the section 11 is prevention of various discharge or emission of any sewage or waste or air pollution or noise in any amount, concentration or level which meet in excess of national environmental quality standards. Under section (2) no person shall operate any motor or vehicles or class of motor till under the direction has been obeyed with which are given by the Environmental Protection Act 1997 and under section 16 is environmental protection order in violation of provision of act such as rules and regulations of emission, discharge of any waste, noise pollution, handling of dangerous things etc. If these scenarios is likely to be happened this section gives responsibility of particular person for this violations.

And give order direct of such person to take significant measurements that federal or provincial agency may deliberate with in the period that it may specified in the order

For the estimation I used the MS excel for the Event study in a manual way. First I filter the data by removing the duplicate values in the stock prices of the company by excel formula if the duplicate value of the stock prices are exist in the company's stock. For removal of these duplicate values I used the formula in front of the next cell of data of the stock price of the company {= first value of the companies stock,"duplicate","ok") enter} than sort it from smallest to largest after removal of the duplicate values or filtering this data I start estimation. I estimate the returns of the stock prices of the company by help of the formula which is log of previous value of the stock price divided by the present values of the company's stock prices.

Than identify the event date and highlight with colour and from the event date (Highlighted cell) we take five day before and five day after the event date (Highlighted Cell) and also highlight them with different colour, after doing that I take the 256 working day for the estimation for the normal returns drag with cursor and highlight the cell. After doing it I take the market data from of the PSE-100 index (Pakistan Stock Exchange) from the yahoo finance. I place it in the next cell in front of the highlighted value of the 256 and in the next step I calculate the return of the PSE-100 index. I need for obtaining the normal returns (Expected Returns) with the help of the parameters which are our alpha , betas , R square and the standard error for this it can be done by the excel formula which is the { =intercept(companies calculated returns cell from the highlighted date of the 256th cell till than before the event date PSE-100 calculated returns from the highlighted date of the 256th cell)} and fix it with dollar($) sign and press enter than drag this for the slope ,R-sqaure and Standard error and just write the slope in place of intercept in next cell beneath of the intercept calculated value. Similarly same process for the R square and for the standard error value. After this step in from of the highlighted the event values we write and need the expected returns (ER) in next

cell we calculate the abnormal returns (AR) and then calculate the cumulated abnormal returns (CAR) and then at last the T-value for the test statistics to find the significant of the study. To check the firm is sensitivity analysis its returns (decrease or increase) due to the negative news

For this we need some formula for the expected returns {=(intercept values + slope value* KSE-100 returns value)} enter fix it with dollar($) sign drag it. Than formula for the abnormal return {=(ER value- companies share price value (Highlighted Column in the event date)} enter and for the cumulative return we place the value of the abnormal return as it is in the first cell of the cumulative return enter it in next cell {=(first value of cumulative return+ the second value of the Abnormal return)}enter for the test statistics formula is the {=(abnormal return value divided by the standard error value)} enter fix the standard value with dollar sign enter and drag it. Make the diagram with the help of the t statistics values.

3.4 Faisalabad City and its Historical Review

The Faisalabad is selected for the study purpose because Faisalabad district has been able in both agriculture and the industries and its make a rapid strides in the field of the industry after the independence it is often called the "Manchester of the Asia" for its broad development of textile industry. The literacy rate of the Faisalabad district is 51.9% and it is ranked in the 9th out of the 34 district of Punjab in term of literacy rate. A Price Water House Coopers studies unconfined in 2009. They survey the top cities in the world in the term of the 2008 GDP.

They calculated the GDP in power purchasing parity ranked the Faisalabad as third after Karachi ($78 billion) and Lahore ($40 billion). Faisalabad has strong industrial base which consist of the Textile, light engineering, Agriculture implements and agriculture food and products and have vast expanding transport network which comprises of newly build motor way and highway to Lahore, Multan, Sargodha and Islamabad/Rawalpindi.it is one among of three planned cities. Before Pakistan's independence there were only there were only five

industrial units in the Faisalabad city. But now there are many textile mills, engineering units, and chemical and food processing units.

Additional industries comprise hosiery, carpet and rugs, nawar and lace, printing and publishing, and pharmaceutical products, there are various thousand industries including some 60,000 power loom factories. Indigenous industries including Sitara Group, Manno Group which is also called Refan Foods, Crecent Groups, and Ibrahim Groups. The textile industry contribute more than the 70% in textile export by the Faisalabad city in Pakistani export market. Which is 68% of the total export in the Pakistan's market. So it makes the Faisalabad share in total export of the Pakistan is about more than 45%. It's also contribute in agriculture. Its major export crop is consists of Kharif crops which include Maize,rice, Jawar ,sugarcane and bajara.so long as the Kharif crop which include wheat, barley Gram and Barseen tabacoo it's also famous for the vegetable and fruit production like oranges, bananas, apple, fruiter, mangoes, guava and falsa also sugarcane. Also having dry port it facilitate the direct import and export activities.in this way its boost economic activity. Dry port handle over 60 metric tons of cargo per day.

Table 3 Cluster Industries of Faisalabad
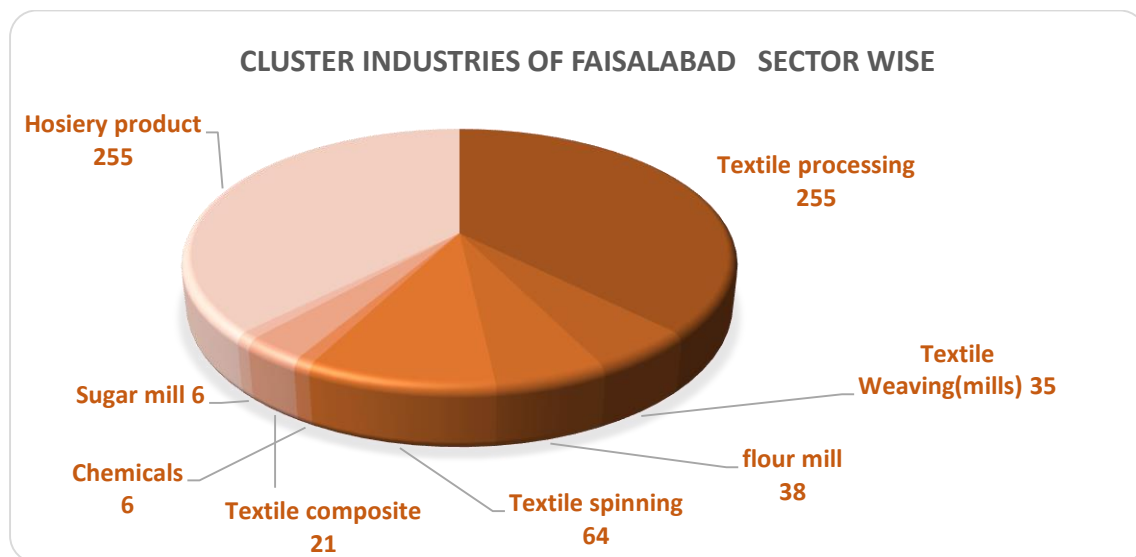
Table 3 Cluster Industries of Faisalabad

Major Cluster Industries in the Faisalabad City

Major cluster industries	Textile Goods Hosiery Products Readymade Garments Mad-ups Light Engineering Agricultural Machinery & Implement Textile Machinery Flour Mills Soap Detergent Fertilizer Chemicals Dairy Product Carpet and Rugs Plywood Board Pipes Vegetable Ghee Poultry Feeds/Animals Watches and Clocks

Core Cluster Actors

Textile Machinery and Industrial Machinery

Manufacturers

Textile Spare Parts Manufacturers

Agricultural Implements

Foundry Products/Auto and tractor parts

Table No 4 (Share of the Cluster Industries in the Faisalabad district)
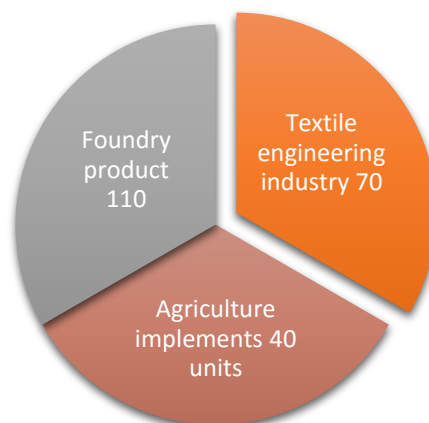
27,000 people employment generated from the Cluster sectors. In which textile engineering sector contribute 930 billion, agriculture implement contribute 440 billion people and foundry products 1330 billion. (Industrial cluster development program).

Map of the Faisalabad District
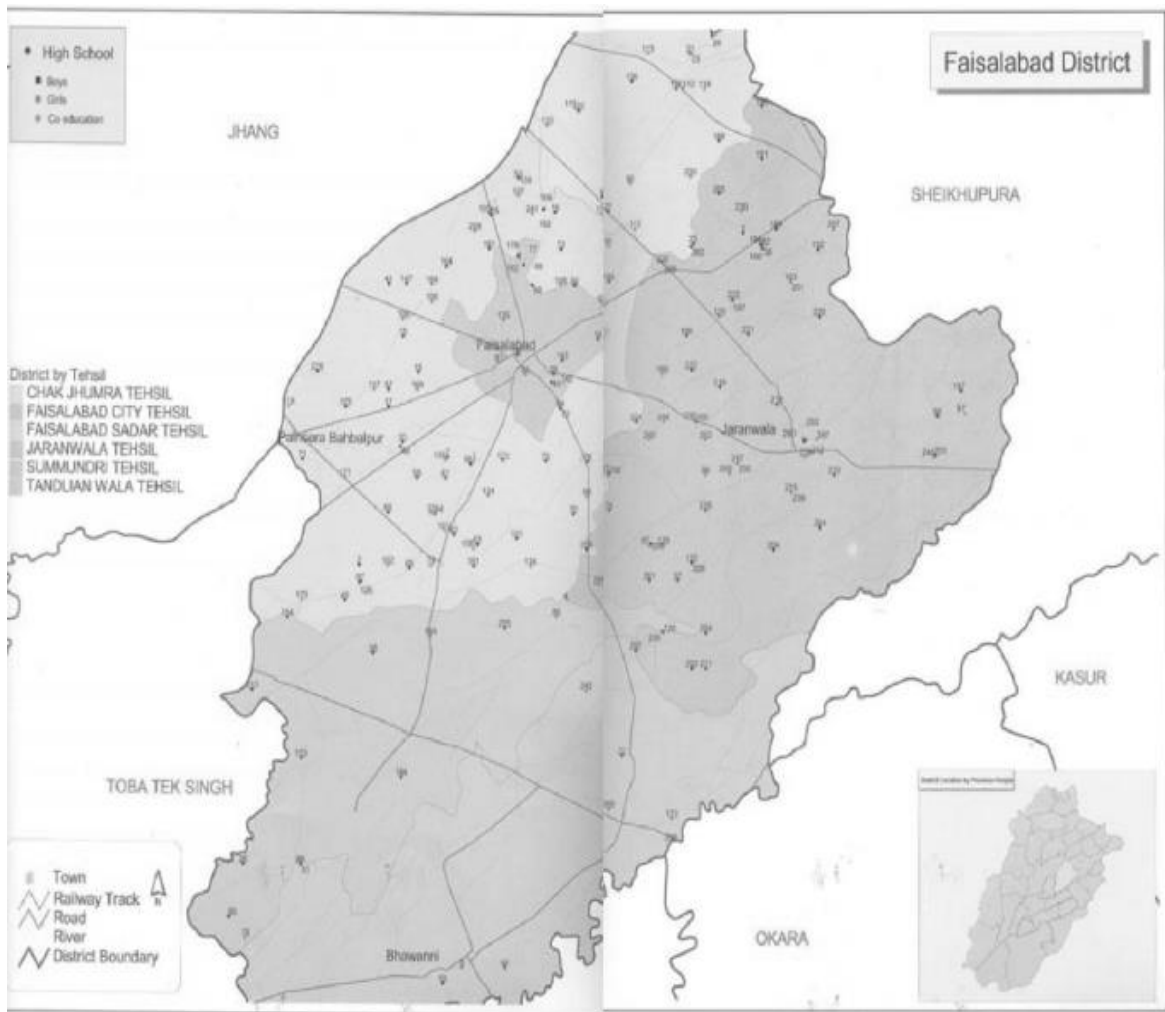
Figure 2

Chapter 4

Results and Discussion

In the study the main objective was to analyse the impact on the stock exchange by the violations of the environment by the cluster industries in the Faisalabad. As we know Faisalabad is major hub for the industries and called the backbone of the economy of the Pakistan. The total population of the industries in Faisalabad is 31,38,34. Sample size I estimated by the help of the sample calculator at 95% confidence interval at 5% margin of error. After calculation it gives 384 sample size after shrinking the data the total number of the industries remain 30 as a sample size due to certain reasons as given above. And we take the list of the environmental violation industry form the Punjab Environmental Protection Agency and their stock prices we got from the different websites like the Business Recorder, From the Pakistan Stock Exchange official website, from Opendoors. We want to know the returns of the companies after the event (negative event) which we analysed by the help of the cumulative abnormal returns so our mainly focus in this research is on the cumulative abnormal returns that what happened to companies return, it increases or decreases after the negative event happened.

Table No 1 (Results of the Hina Sana Textile Mill by calculating Average returns, Cumulative average returns and T-statistics)

S.No	Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
1	Hina Sana Textile Mill	Dated 11/09/2013	AR	-0.0185	-0.036004	0.022293	0.053319	-0.01769	-0.09934	-0.046	0.0750	-0.0025	-0.00035	-0.00805
			CAR	-0.0185	-0.05451	-0.03222	0.021099	0.003408	-0.09593	-0.0504	0.0246	0.0221	0.02179	0.01375
			T-stat	-0.5182	-1.00799	0.624138	1.49276	-0.49529	-2.78122	1.2737	2.1009	-0.0689	-0.00973	-0.22522

Hina Sana Textile Mill CAR_Chart

4.1 Interpretation (Hina Sana Textile Faisalabad)

Main objective is to analysed the abnormal returns after the impact of the negative event happens in the company negative event here means the Environmental pollution, Waste water pollution , Bad smell, Vibrations, Section levied by the Environmental Protection Agency under the (section 2,4,16) etc. The results of the Hina Sana Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event. By focusing on the announcement day which is negative event day called (0 day) when the (Environmental Protection Agency notified them on the basis of their allegation (Under section 12)) numerically. The average return for the negative news by using market model - 0.0455.Which is the return of on the negative event date (charged with notification on the basis of allegation of violation of environmental rules). After happening of the event when we examined the returns of the companies it decreases by (day first) after the negative event date. which is the violation (under section 12) .its returns still decreased and after some days of the event it trend line in the graph increases that's means companies is now at recovering period its returns are increasing after suffering from the loss form the returns. It is because as we examine at their violation list received by the Punj EPA (Punjab Environmental Protection Agency). when negative environmental violation event happened the Environmental Protection Agency which is the (Punjab EPA) after the notifying to the company they issued the letter to this company to solve their environmental issues and an environmental tribunal panel court is set for the hearing of this allegation on the respective company. And in case of the approval of the allegation (section under 12) the Environmental Protection Agency can charges heavy fine on the company and can give other type of penalty according to the act of the Environmental Protection Ordinance (1983). in the current situation they are responsible for the disposed of their waste or pollution so a better image or the investor are experienced

better image of the company that company can take initiative for the adopting environmental policy in future by looking at the cumulative returns situation in the results as well as in the graph. Which is 0.02461 at day Third, 0.021798 at day fourth and 0.013753 at day fifth after the event happened. Looking at the t- statistics which shows our significant of the hypothesis we focus mainly the event day at 0 (day of the allegation under section 12 and notification) by the EPA. For the sensitivity analysis the value at this is -2.78122 (t value) which is matched to the ***2.57 of the t-statistics standard that's means the respective company profits are highly value of significance (three star at 2.57 showed highly significant) and it strongly reacts when the negative event happened. And its profits decrease due to the negative reputation of the company in the market. Investor at this point doesn't make any investment in the company because it didn't make any abnormal profits in future.

Table No 2 (Results of the Tandianwala Sugar Mill by calculating Average return, Cumulative average return and T-statistics)

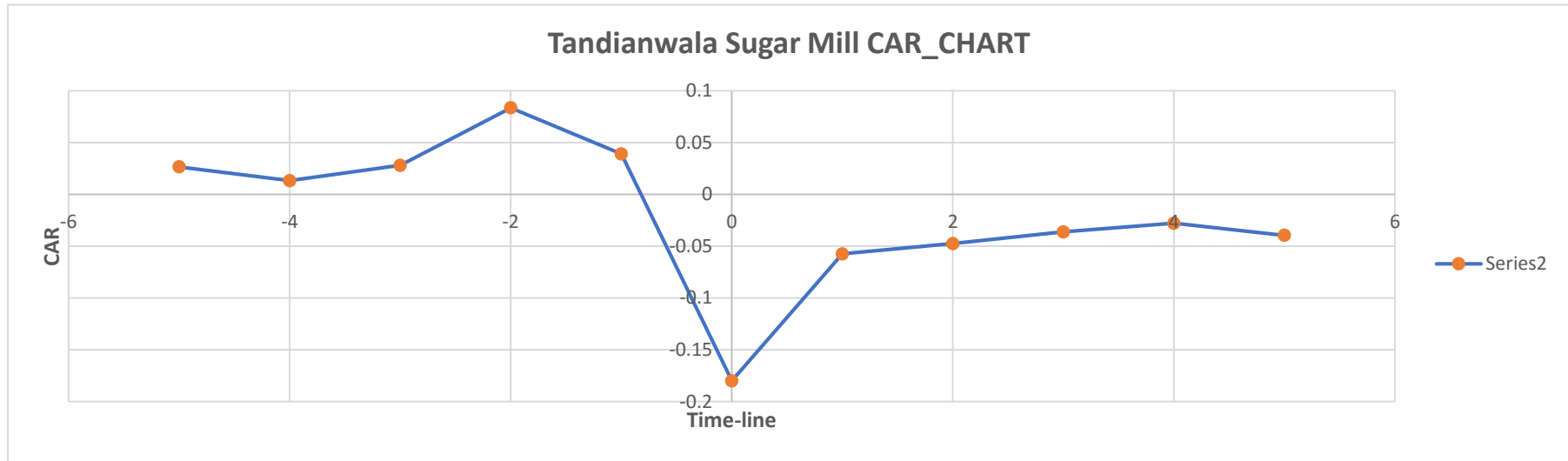| S. No	Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
2	Thandianwala Textile Mill	Dated 10/05/2013	AR	0.00053	0.0352564	0.007429	2.29264	-2.29201	-0.22507	-0.1428	-0.1587	0.5096	0.004138	0.00497
			CAR	0.00053	0.035784	0.043214	2.33585	0.043845	-0.18123	-0.32398	-0.4827	0.0269	0.031126	0.036091
			T-stat	0.02903	1.93821	0.408453	126.037	-126.003	-12.3732	-7.84788	-8.7241	28.018	0.22746	0.272986

Tandianwala Sugar Mill CAR_CHART

4.2 Interpretation (Tandianwala Sugar Mill Faislabad)

Main objective is to analysed the abnormal returns after the impact of the negative event happens in the company negative event here we means the Environmental pollution, Waste water pollution, Bad smell, Vibrations, Section charged by the Environmental Protection Agency under the (Section 2,4,16) etc. The results of the Tandianwala Sugar Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event. By focusing on the announcement day which is our negative event day called the day at which the Environmental Protection Agency notified the company due to its allegation (under Section 11, 12 &16) (0 day) numerically the day. The medium of source of its allegation is public complaint. The average return for the negative news by using market model is -0.225071.Which is the return on our negative event date. After happening of the negative event (notified by the Punjab EPA) when I examine at the returns of the companies it decreases by at (day first) after the negative event which is the violation of rules of the environment under the act of the 1983 Environmental Protection Ordinance. The average return value decreases by the -0.1428 and Cumulative abnormal return also suffered from the negative -0.32398 values at (first day) one day after the notification of the agency it continuous decreased -0.4827 at (day second) but as a recovery period it profit tends to increases when we examine on its current status like whether the company disposed of it waste or reduced in its environmental pollution by installing the environmental friendly technology or fine situation whether the company faces this kind of penalty. So looking at the list provided by the Punjab Environmental protection agency (Punjab EPA). Company has an allegation under the section of the (11, 12 & 16) under the Pak Environmental Act. Companies currently disposed of its waste after the summons issued. So after the action of the Mill that it disposed of its waste as a result of their action the cumulative abnormal returns tends to increase due to good reputation

in the stock market. By looking at sensitivity analysis the t-statistics whether the company react highly or not on when it suffered from negative event happened. T-statistics after the negative event happened is ***-12.3732 which is most highly significant at 2.57 three stars showed that are higher which means that the company react strongly after some negative event happened due to its negative reputation in the market because the investor don't not want to invested in company due to afraid of the decrease in its product demand and due to fear of its declaim in companies   profits. Now company experienced the declining in its profits after the notification of the EPA and when this negative event removed by the environmental policies adopting by the company its returns trend seems in the graph are at increasing rate. Because of the investment of the investor in the company due to the positive strategy adopted by the companies which are environmental friendly.

Table No 3 (Results of the Ideal Spinning Mill by calculating Average return, Cumulative average return and T-statistics)

| S. No	Name of Company	Event date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
3	Ideal Spinning Mill	Dated 1-10-2013	AR	0.10258	0.062126	0.026946	0.083291	0.104023	-0.69444	0.00964	-0.3980	0.94789	-0.06341	-0.05513
			CAR	0.10258	0.164707	0.191653	0.274945	0.378968	-0.31547	-0.30583	-0.7039	0.24402	0.180616	0.125486
			T-stat	1.52661	0.924569	0.401018	1.23955	1.548081	-10.3346	0.143464	-5.9237	14.1066	-0.9436	-0.82045

Ideal Spinning Mill CAR_Chart
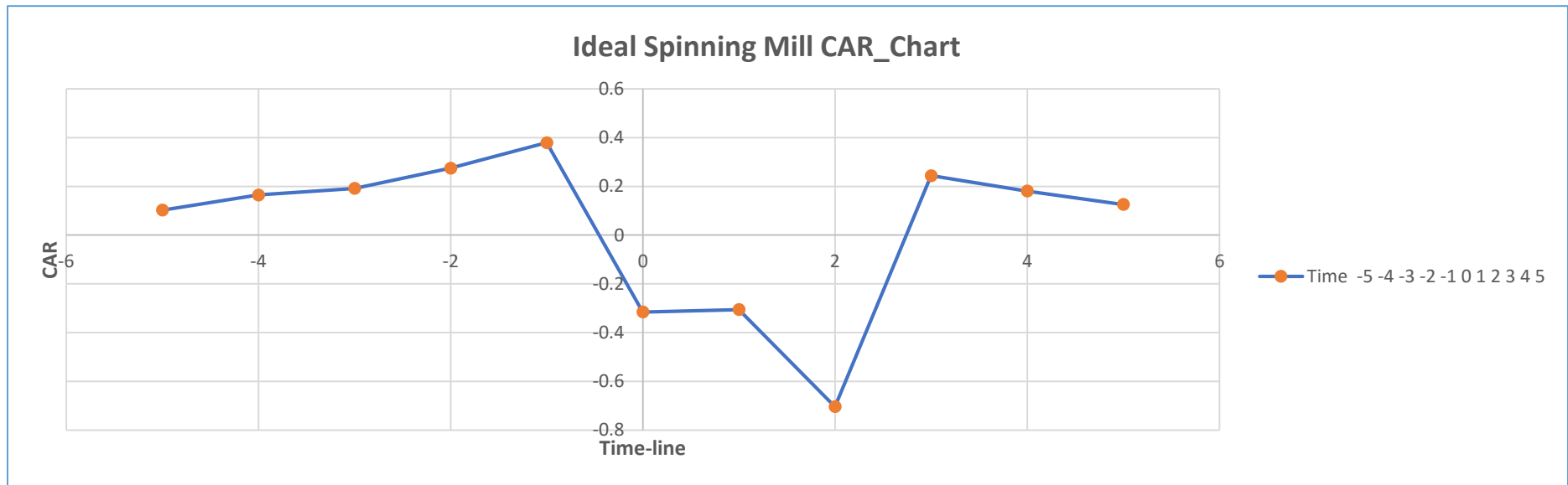
4.3 Interpretation (Ideal Spinning Mill)

The main objective is to analysed the abnormal returns after the impact of the negative event happens in the company negative event here we means the Environmental pollution, Waste water pollution, Bad smell, Vibrations, Section levied by the Protection agency under the (section 2,4,16) etc. The results of the Ideal Spinning Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event. By focusing on the announcement day which is negative event day in the study. The day at which the Punjab Environmental Protection Agency on the basis of public complaints notified the company the allegation was environmental pollution we called (0 day) negative event at date of allegation numerically. The average return for the negative news by using market model is -0.69444.Which is the return of our event date. That means after happening of the negative event (notified by the Punjab EPA on the violation of its standards) when I examine at the returns of the companies it decreases by at (day first) after the event (notifying by the Environmental Protection Agency) which is the environmental violation. At day first after the event happened its average return is 0.00964 and at day two its average return is -0.3980 and then again decreases -0.06341 at day four and at day fifth (-0.05513).by looking at the cumulative abnormal return (AR) in the table which is the main concern of the study. the notification date at day zero is -0.31547 shows decreasing trend in the companies' profits it still experience -0.7039 in day two after notification day and at third day of the event its profits increases means that company now experienced positive returns 0.180616. So by looking at the ground realities. At its current status shows that it did not disposed of its waste and compliances report (action report) is submitted after the expiry of the notifying letter which is 60 day company have to answer to the Environmental Protection Agency that it takes initiative against its violation of environmental standards. Company than failed in answer and waiting

for the environmental tribunal court action in case of the proven of the allegation of environmental pollution it can heavily fine by the Punjab Environmental Protection Agency (Punj EPA). Looking at the t-statistics that shows sensitivity analysis of the company that whether it reacts toward the such situation or whether it have resilience against the negative events or not the t- value at the time of the negative event is *** -10.3346 which is greater and are highly significant than the 2.57 which shows that the company is highly responds and suffered from the losses in its profits when such kind of the negative event happened in the company. And its share prices decrease in the stock market due to the it's bad reputation. At the negative event date no investor invest in it because of it environmental situation.

Table No 4 (Results of the Tri Star Polyester Textile Mill by Calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Tri star Polyster Textile Mill	03/01/2013	AR	-0.02207	-0.0679	-0.0634	-0.05936	-0.05731	-0.13316	0.046785	0.10328	-0.05903	0.018278	0.023347
		CAR	-0.02207	-0.08997	-0.15337	-0.21272	-0.27003	-0.40319	-0.35641	-0.25313	-0.31216	-0.29388	-0.27053
		T-stat	-0.46476	-1.42999	-1.33514	-1.25001	-1.2069	-2.80438	0.985282	2.17507	-1.24321	0.384936	0.49169
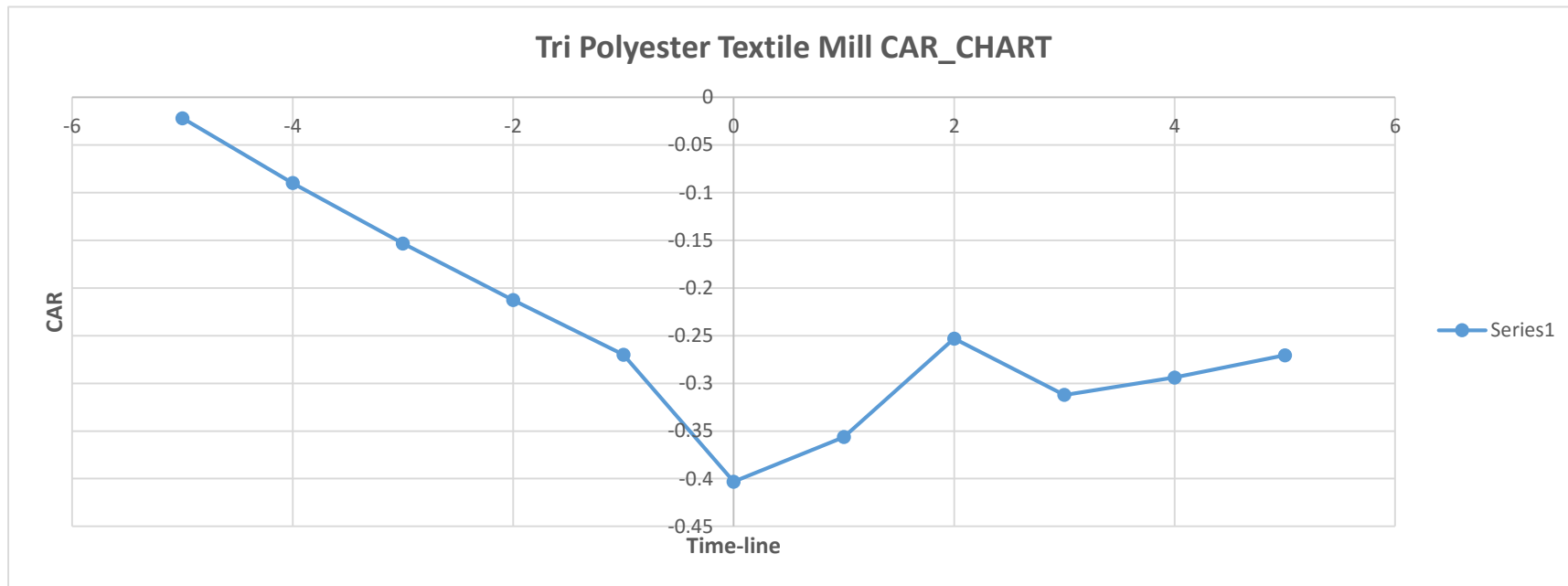
4.4 Interpretation (Tri Star polyester Textile Mill)

Main objective is to analysed the abnormal returns after the impact of the negative event when the Environmental Protection Agency alleged on the company happens in the company negative event here means the Environmental pollution, Waste water pollution, Bad smell, Vibrations, Section levied by the Environmental Protection Agency (under the section 2,4,16) etc. The results of the Tri Polyester Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event section under (11, 12 & 13). By focusing on the announcement day which is our negative event day called (0 day) numerically the day when the Environmental Protection Agency notified on the basis of the source of public complaint. The allegation is under the section (11, 12 & 13). The average return for the negative news by using market model is -0.13316.Which is the return of our event date that means when the event happen it did not react immediately toward the negative news because the value of average return is 0.046785 at day first after the negative event happened and 0.10328 after the event happened but suffered from losses in the profit on the basis point of the -0.05903. By looking at the cumulative abnormal returns of the company. Which actually tells the picture of the negative event when happen and which also main motive of the study. In its values continuously to decreases like at (day 0) -0.40319 and after it at day first after the negative event happened its value is -0.35641 which is at decreasing rate, and at day second it value is -0.31216 at day third -0.29388 so why it happened when examined at the ground realities of the companies by the information provided by the Environmental Protection Agency of the Punjab that's why companies experiences from loses in its profits. In the list the situation was mentioned that companies as in its current status it's disposed of its waste after the allegation which is by the source of the public complaints and also it charged with fined by the amount of the 200000Rs by the Punjab EPA and so on. For looking at the companies'

situation when event happen the study also check the sensitivity analysis by looking at the t statistics value. The t-statistics value at the time of the event is -***2.80438 which is highly significant and is higher from the 2.57 that's means that company is highly respondent toward the negatives event it suffered from great lose for example its share prices reduced highly due to the non-investment by the investor because the reputation is bad in the stock market due to the violation in the environment.

Table No 5 (Results of the Mubarik Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Mubarik Textile	Dated 10-09-2013	AR	0.05569	-0.03875	0.063531	0.025085	0.125871	-0.97936	0.50364	0.22566	0.22334	0.150887	-0.01148
		CAR	0.05569	0.016937	0.080468	0.105553	0.231424	-0.74793	-0.24429	-0.01863	0.20470	0.35559	0.344109
		T-stat	0.206457	0.062788	0.298311	0.391308	0.857942	-2.77275	-0.90564	-0.06907	0.75888	1.318254	1.275688

Mubarik Textile Mill CAR-Chart
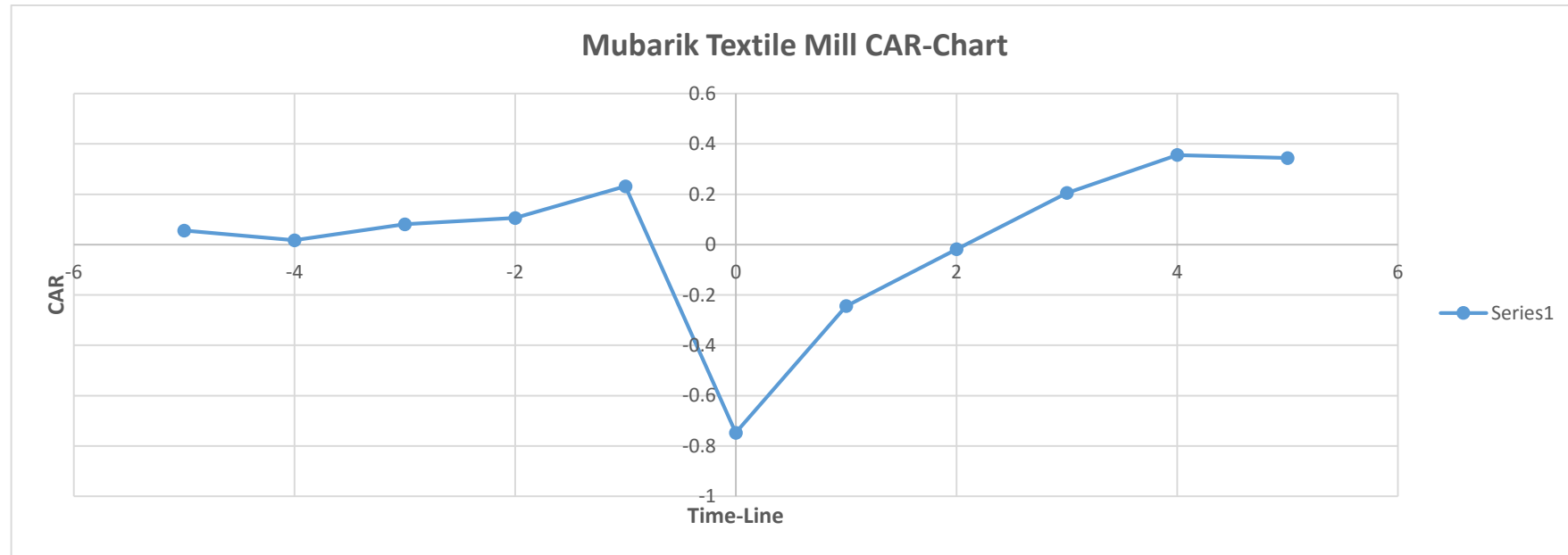
4.5 Interpretation (Mubarik Textile Mill)

The main objective of the study was to analyse the abnormal returns after the impact of the negative event happens in the company. Negative event here means the Environmental pollution, Waste water pollution, Bad smell, Vibrations, Section levied by the environmental law under the sections (2,4,16) etc. The results of the Mubarik Textile Mill also named (Dilpasand textile) Faisalabad are highly stable and match with the current literature. The results of the company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violations event such as environmental pollution. By focusing on the announcement day which is the negative event day called (0 day) in time line the day of the allegation by the Environmental Protection Agency on the basis of source of public complaints numerically. Allegation on company was the environmental pollution. The average return for the negative news by using market model is -0.97936 it doesn't declining after the event happen. But when by looking at the situation of the cumulative abnormal return after the negative event which is the allegation of the environmental pollution charge by the Punjab Environmental Protection Agency the cumulative abnormal return at the day of the event happen is -0.74793 it decreases and at the day First it value -0.24429 and at day second after negatives event happen it decrease with -0.01863 basis point that means they are suffered from the profit loss due to the bad reputation. But at the third day of the event its profit tends to increases with basis points 0.20470 and at 4 day 0.35559 and at fifth day the same positive returns experiences. As we talk about the current situation it didn't disposed of its waste yet but waiting for the tribunal court hearing for the proven of the allegation of the environmental pollution. After that they can charged with fine and have to disposed of their respective waste or reduce environmental pollution by taking initiatives by adopting environmental friendly techniques or others. So for the sensitivity analysis by looking for the t-statistics value that companies whether shows its strong reaction by experiencing in its profits lose or it sustain it

earlier profit level by not experienced in declining in its stock prices. The t-value at the time of negatives event is at the day of allegation ***-2.77275 which show highly significant at 2.57 percent. That means companies shows highly reaction and suffered from the great lose in its profits by experiencing in decline in the stock prices because of the negatives event.

Table No 6 (Results of the Dawood Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Dawood Textile	Dated 07-08-2013	AR	-0.05123	-0.04311	-0.03856	0.019852	0.030151	-0.0951	-0.03467	0.06208	0.03842	0.041082	0.00246
		CAR	-0.05123	-0.09434	-0.1329	-0.11305	-0.0829	-0.178	-0.21267	-0.1506	-0.11218	-0.0711	-0.06864
		T-stat	-1.57535	-1.32546	-1.1857	0.610401	0.927071	-2.92416	-1.066	1.908666	1.18121	1.263175	0.075649

Dawood Textile Mill CAR-Chart

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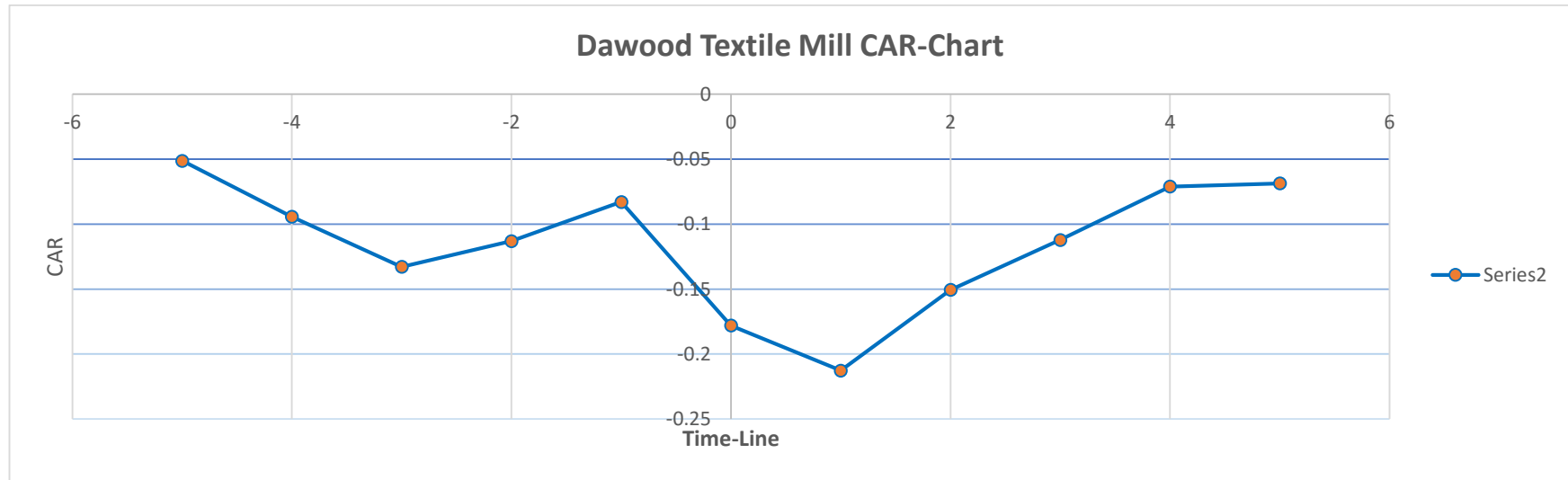
4.6 Interpretation (Dawood Textile Mill (PVT)

The results of the Dawood Textile Mill also named (Dilpasand textile) Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Waste water pollution. Environmental pollution Vibration Sections under (2, 4, 6 & 16) by the Environmental Act 1983 ordinance. By focusing on the announcement day which is the event day called (0 day) numerically the day at which the Punjab Environmental Protection Agency notified the company on the basis on allegation of Environmental pollution by the source of public complaints. The average return for the negative news by using market model is -0.0951 it returns decline after event happen -0.03467 but looking at the cumulative abnormal returns at the day of the event it returns decline on the basis point of -0.178 and it continuously decreases at the day first on the basis point -0.21267 and its continuously decrease at the day Third, fourth and fifth -0.11218, -0.0711 and -0.06864 respectively. It also didn't disposed of its waste and didn't charged with fine yet because of the its environmental violation case is present before the environmental tribunal court and after with proven of allegation of the environmental violation company can charged with fines and present his current status situation. Whether they disposed of their waste or not. For the sensitivity analysis by looking at the t-statistics value to check the resilience against the negatives event the value of the t-statistics at the time of the event is *** -2.92416 is highly significant and the greater than the 2.57 of its standard value that showed that when negatives event happened the company suffered much from the loss in its profits due to bad reputation in the stock market. Investor here finds that it inappropriate to invest in this company because the future demand of its product have to face decline.

Table No 7 (Results of the Zahid Jee Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Zahid Jee Textile Mill	Dated 30/09/2013	AR	-0.03791	-0.00856	0.048653	-0.01738	0.024666	-0.31921	0.191427	0.01630	0.09332	0.0244	-0.00519
		CAR	-0.03791	-0.04647	0.002182	-0.01519	0.009472	-0.30974	-0.11831	-0.10201	-0.0087	0.015708	0.010515
		T-stat	-0.38403	-0.08672	0.492866	-0.17603	0.249876	-3.23363	1.939187	0.16514	0.94529	0.24718	-0.0526

Zahid Jee Textile Mill CAR_Chart
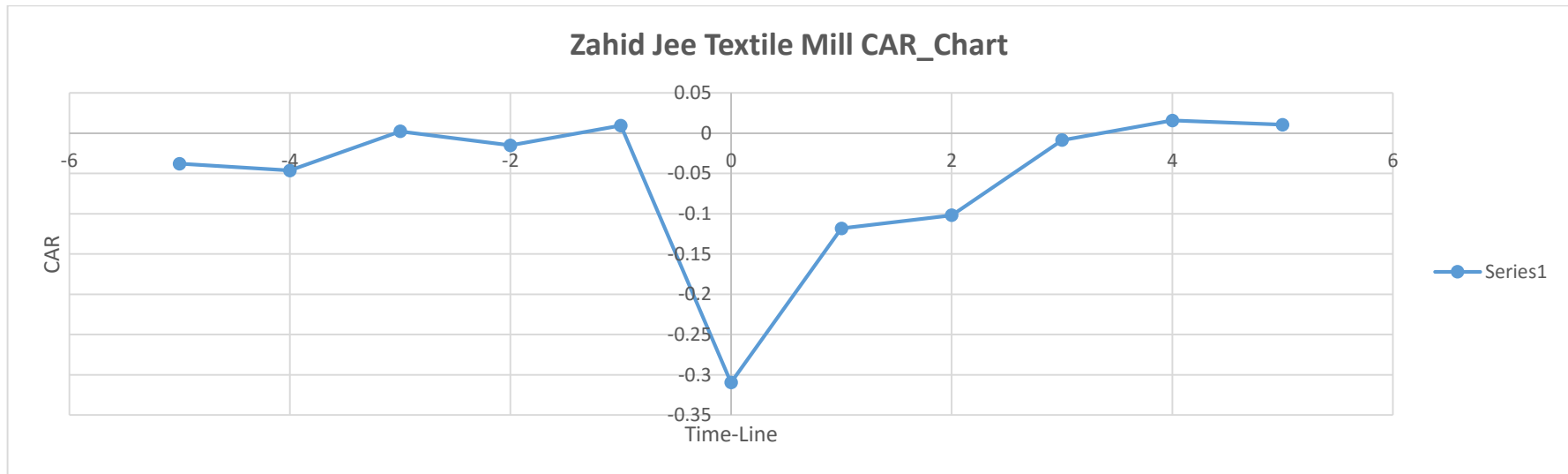
4.7 Interpretation (Zahid Jee Textile)

The results of the Zahid Jee textile Mill also named Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution, Waste water pollution, Section Under (2, 4, 6 &16). By focusing on the announcement day which is our negative event day called (0 day) (day at notified by the Environmental Protection Agency on the basis of allegation of Environmental pollution by public complaints) numerically. The average return for the negative news by using market model is 0.024666 his average returns are normal but by looking at the cumulative abnormal returns they examine declining rate in the profits after the event happened. -0.30974 basis points are the cumulative abnormal returns at the time of the negatives event happen and after the event date the next day at day first it basis points are -0.11831 similarly it experience declining rate at day second which is -0.10201 similarly this kind of results has to examine in day third ,fourth and in fifth. . It also didn't disposed of its waste and do not charge with fine yet because of the case is present before the environmental tribunal and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -3.23363 is highly significant and the greater than the ***2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad reputation in the stock market..

Table No 8 (Results of the United Brand Limited by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
United Brand Limited	Dated 10-09-2013	AR	0.05072	-0.04605	-0.04724	0.011435	-0.04575	-0.07984	0.051825	0.02960	-0.0120	-0.03556	-0.03869
		CAR	0.05072	0.004676	-0.04256	-0.03113	-0.07688	-0.15672	-0.10489	-0.0753	-0.0873	-0.12287	-0.16157
		T-stat	0.98863	0.091149	-0.82964	-0.60676	-1.49851	-3.0546	-2.04446	-1.4674	-1.7018	-2.39498	-3.14911

United Brand Limited CAR_Chart
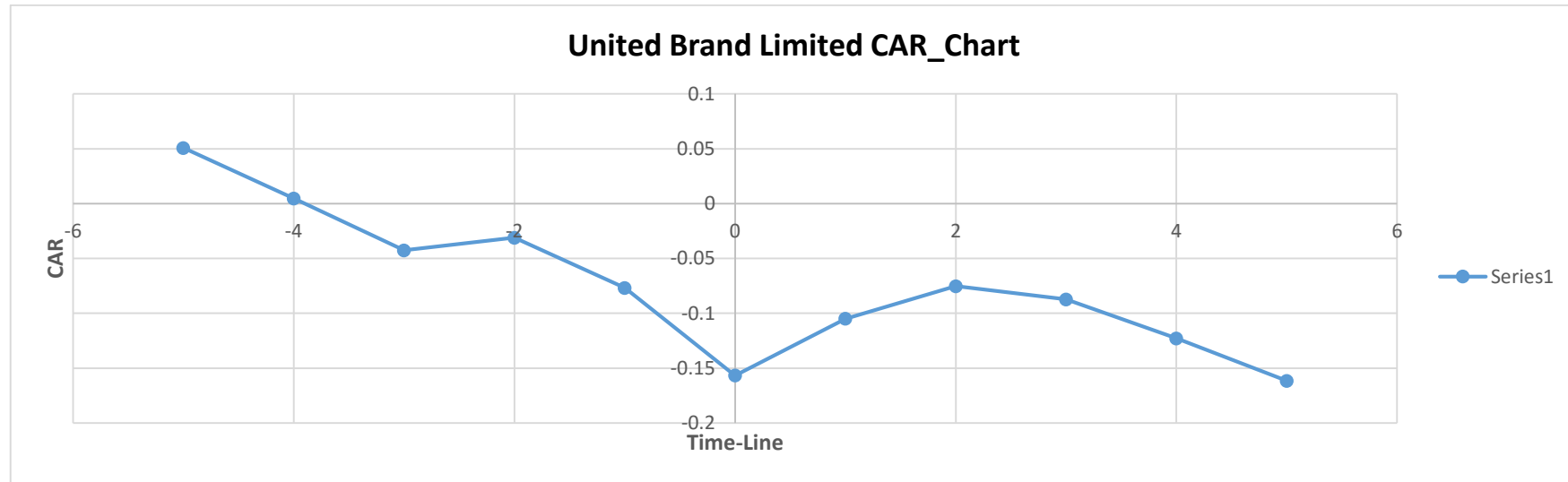
4.8 Interpretation (United Brand Limited)

The results of the United Brand Limited are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution, Waste Water pollution, Air and Noise pollution, Section under (2,4 &16). By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the Environmental Protection Agency notified it on the basis of its allegation of Environmental Pollution by the source of public complaints. The average return for the negative news by using market model is -0.07984 which shows negatives trend when the negative event happened. But it show the positive trend after the negative event days now when we examine the cumulative abnormal returns which is our basic analysis the basis point of the cumulative at the time of the negative event is -0.15672 which shows the decline in its profit. By looking at the next day of event to analysis the consequences of the event it remain and shows negatives profits of the company. -0.10489 basis point CAR at day first, this declining rate of return remain in second day after the negatives event. -0.0753 similar in third, fourth and fifth day. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they can suffered with fines and present his current status situation . Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-3.0546 is highly significant and the greater than the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad reputation.

Table No 9 (Results of the Umar Fabrics by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Umar fabrics	Dated 02/10/2013	AR	0.00135	0.0023510	0.046275	9.96287E	-0.02697	-0.06236	-0.00848	0.02522	-0.00053	-0.04226	0.00353
		CAR	0.00134	0.003698	0.049973	0.050072	0.023105	-0.03926	-0.04774	-0.0225	-0.02304	-0.0653	-0.06177
		T-stat	0.05811	0.101456	1.996935	0.004299	-1.16375	-2.69117	-0.36606	1.08847	-0.02269	-1.82371	0.152398

Umar Fabrics CAR_Chart
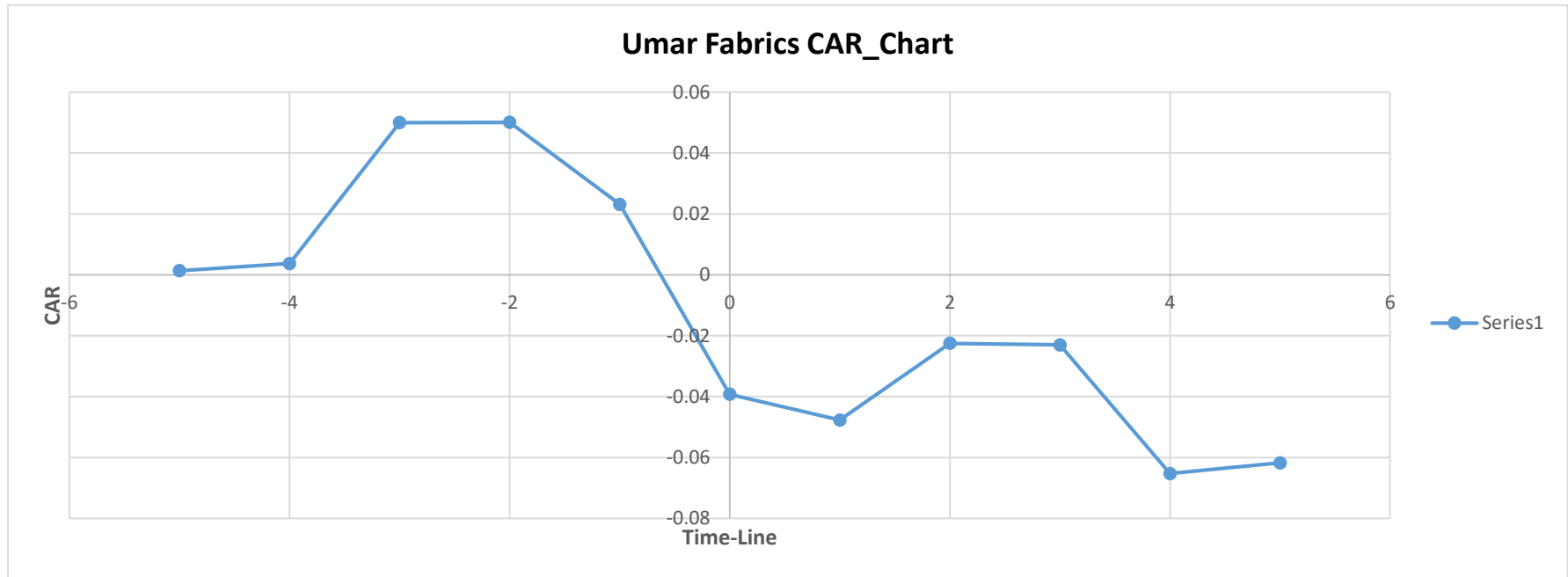
4.9 Interpretation (Umar Fabrics)

The results of the Umar fabrics Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as (under the section 11, 12 &16, Environmental Pollution, Waste water pollution, Air and Noise pollution). By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the Environmental Protection Agency notified it on the basis of the allegation under the section (11, 12 & 16).by the source of the public complaints. The average return for the negative news by using market model is -0.06236 shows the decreasing trend after the event happen. After the event at day first after the notification of the Punjab EPA the average return AR was also negative but by examine the results of the cumulative abnormal return when the negative event happen in company at day 0 it suffers from the basis point -0.03926 means its returns experience decreasing trend. Similar experience we can experience /results can see after the event day at day first -0.04774 and also for the second day -0.0225. as we see the actual situation of the company the current status of the Umar fabrics is that it disposed of its waste after the public complaints by which the Punjab EPA take action against relative company under the section 11,12 & 16 so that summon are issued by the Punjab EPA . by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-2.6911 is highly significant and the greater than the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image.

Table No 10 (Results of the Crescent Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Crescent Textile Mill	Dated 29/07/2007 28/04/2007	AR	0.09437	-0.0332	-0.05123	0.00291	-0.05766	-0.17835	0.26437	-0.1065	0.10392	-0.12396	-0.06881
		CAR	0.09437	0.061175	0.009941	0.01285	-0.04481	-0.22316	0.041208	-0.0653	0.03861	-0.08536	-0.15417
		T-stat	1.98239	-0.69735	-1.07622	0.06117	-1.21131	-3.74645	5.553386	-2.2375	2.18286	-2.60398	-1.44542

Crescent Textile CAR_Chart

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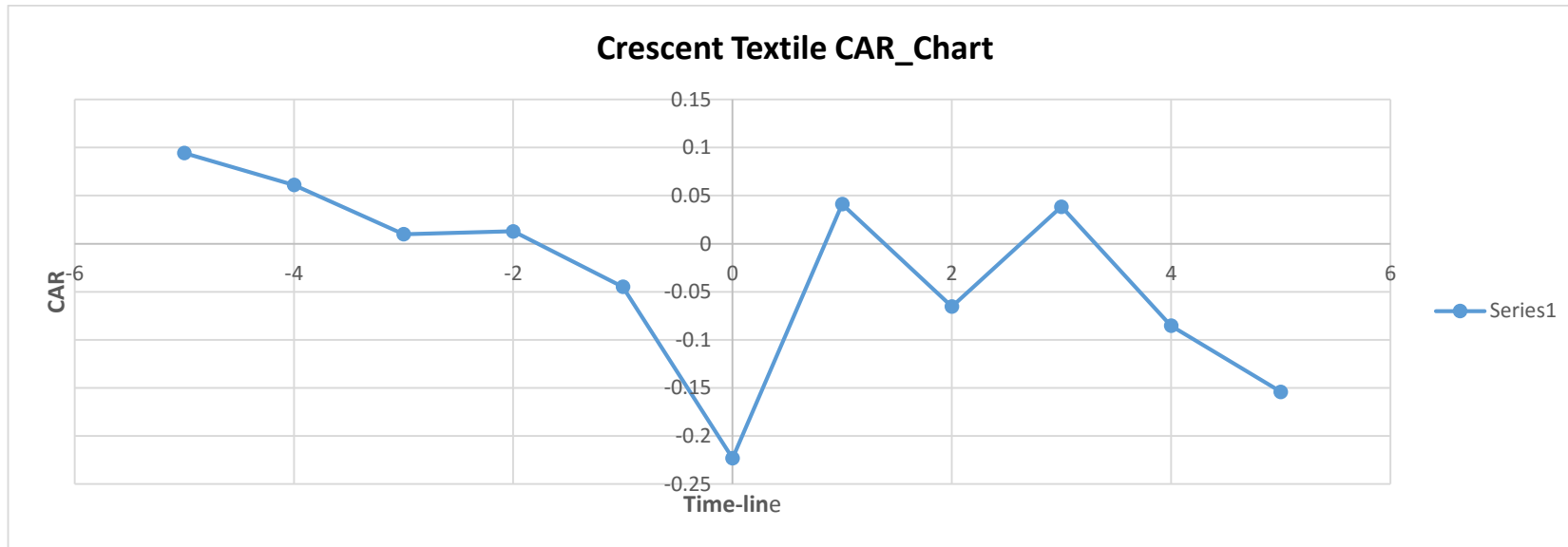
4.10 Interpretation (Crescent Textile Mill)

The results of the Crescent Sugar Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as under the section 2, 11 &16 By focusing on the announcement day which is our event day called (0 day) the day at which the Punjab Environmental Protection Agency (Punj EPA) notified the company on the basis of allegation section (2,11 &16 by the source of the public complaints. numerically. The average return for the negative news by using market model is -0.17835 showed the mixed reaction examined after the day of the negative event which is our first day it show positive 0.26437 and then negative and so on. The cumulative abnormal return -0.22316 is decreasing when the negative event happened but after the negative event at day first 0.041208 and at day second it shows the negative trend -0.0653. Crescent Sugar Mill committed two time public complaint on the violation of the environment rules. And charge by the fine with Fine Rs 20,00,00 and as a current situation it's disposed of it waste. by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-3.74645 is highly significant and the greater than the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad reputation in the stock market.

Table No 11 (Results of the Ishaq Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Ishaq Weaving Textile Mill	Dated 01-10-2013	AR	0.05262	0.068777	0.073192	0.077429	0.06349	-0.44863	0.013179	0.06101	0.20009	0.023941	0.038524
		CAR	0.05262	0.121398	0.19459	0.272019	0.33552	-0.11311	-0.09994	-0.0389	0.16116	0.185102	0.223626
		T-stat	0.89505	1.169856	1.244949	1.317022	1.08007	-7.63094	0.22416	1.03782	3.40327	0.407224	0.655275

Ishaq Weaving Textile CAR-Chart
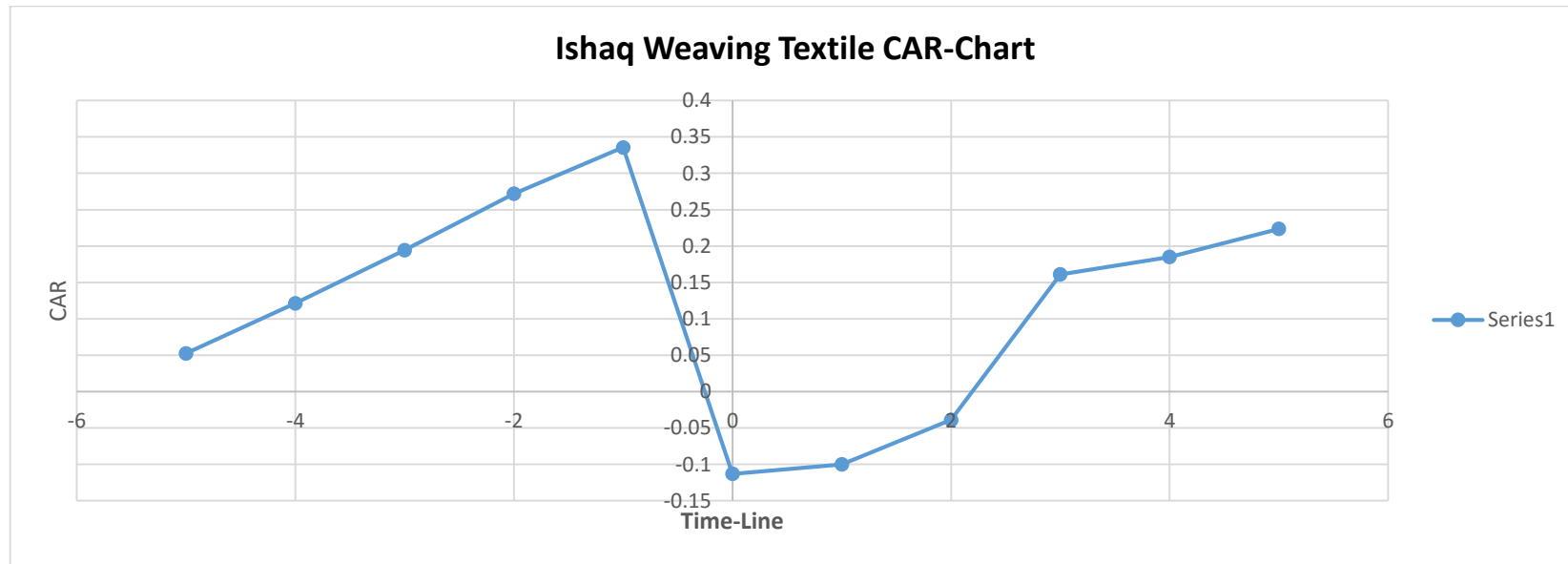
4.11 Interpretation (Ishaq Weaving Textile Mill)

The results of the Ishaq Weaving Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as under the section environmental pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The average return for the negative news by using market model is -0.44863 suffering from negative average return. 0.013179 basis points are after the event day. At day first after the event happen which are positive expected returns and same positive results are the second, third, fourth and fifth days. Cumulative returns at the day of the negative event are -0.11311. At day first after the event the CAR is -0.09994 which is also shows the negative abnormal returns which was cause by the negative event. -0.0389 CAR after the day first. It also didn't disposed of its waste and do not charge with fine yet because of the case of allegation is present before the environmental tribunal court and after proven on them the allegation of the environmental violation that they can suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -7.63094 is highly significant and the greater than the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image

Table No 12 (Results of the Ishaq Textile Mill by calculating Average return, Cumulative average return and T-statistics)

| Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Ishaq Textile Mill	Dated 01-10-2013	AR	0.05262	0.068777	0.073192	0.077429	0.063498	-0.44863	0.013179	0.06101	0.20009	0.023941	0.038524
		CAR	0.05262	0.121398	0.19459	0.272019	0.335517	-0.11311	-0.09994	-0.03892	0.16116	0.185102	0.223626
		T-stat	0.89505	1.169856	1.244949	1.317022	1.080066	-7.63094	0.22416	1.03782	3.40327	0.407224	0.655275

Ishaq Textile CAR_Chart
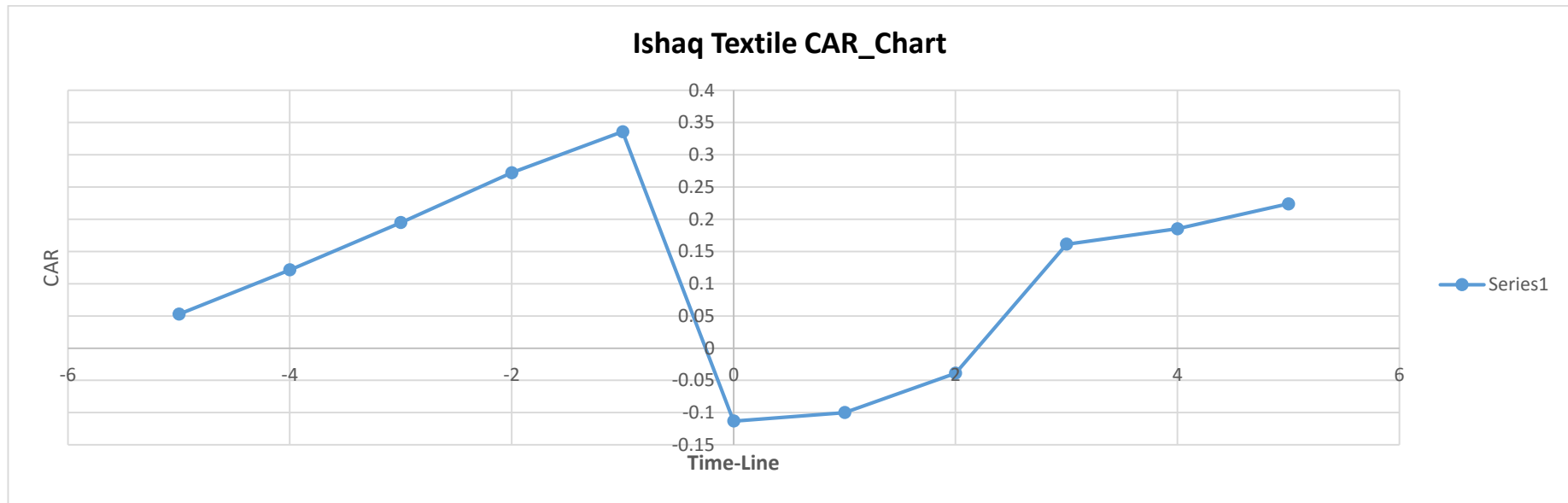
4.12 Interpretation (Ishaq Textile Mill)

The results of the Ishaq Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as under the section environmental pollution. By focusing on the announcement day which is our event day called (0 day) the day at which the Punjab Environmental Protection Agency (Punj EPA) notified this company for the allegation numerically. The average return for the negative news by using market model is -0.44863 suffering from negative average return. 0.013179 basis points are after the event day. At day first which are positive expected returns and same positive results are the second, third, fourth and fifth days. Cumulative abnormal returns at the day of the negative event are -0.11311. that means the company suffered from the decrease in its return due to reduce in investment in it At day 1 after the event the CAR is -0.09994 which is also shows the negative abnormal returns which was cause by the negative event. -0.0389 CAR after the day one. It also didn't disposed of its waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-7.63094 is highly significant and the greater than the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad reputation

Table No 13 (Results of the Khursheed Spinning Mill by calculating Average return, Cumulative Average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Khursheed Spinning Mill	Dated 01-10-2013	AR	0.01655	-0.04169	0.085121	-0.14812	-0.17275	-0.22863	0.150092	0.30236	0.06852	-0.19303	0.085022
		CAR	0.01655	-0.02514	0.059981	-0.08814	-0.2609	-0.48953	-0.33944	-0.0371	0.03144	-0.16159	-0.07657
		T-stat	0.12228	-0.308	0.628831	-1.09426	-1.27622	-1.68902	1.108806	2.23368	0.50619	-1.42604	0.628102

Khursheed Spinning Mill CAR_CHART

4.13 Interpretation (Khursheed Spinning Mill)

The results of the Khursheed Spinning Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as under the Section 2, 4, 11, & 16 under the Environmental Protection Agency Act (1983) Ordinance Environmental Pollution, Waste Water pollution, By focusing on the announcement day which is our event day the day at which the Punjab Environmental Protection Agency notified at its allegation called (0 day) numerically the day at which the Environmental Protection Agency notified the company on its alleged by the environmental pollution by the source of the public complaints.   The average return for the negative news by using market model is -0.22863 after the negative event happened it gives the positive average abnormal return. Like at day first the AR are the 0.150092 same positive returns for the day second, third, fourth and fifth. Talking about the cumulative abnormal returns in it the CAR at the time of the negative event -0.48953 means that at the negative event date the companies' returns decline. And after the day one the CAR is -0.33944 which is decreasing trend and after the second -0.037 and after it the increasing trend in the return of the companies experienced. It also didn't disposed of its waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is *-1.68902 is significant and the greater than the 1.645 that shows that when negatives event happen company has suffered from the loss in its profits due to bad reputation. But it suffered not much more.

Table No 14 (Results of the Asim Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Asim Textile Mill	Dated 12-04-2013	AR	0.01655	-0.04169	0.085121	-0.14812	-0.17275	-0.22863	0.150092	0.30236	0.06852	-0.19303	0.085022
		CAR	0.01655	-0.02514	0.059981	-0.08814	-0.2609	-0.48953	-0.33944	-0.0371	0.03144	-0.16159	-0.07657
		T-stat	0.12228	-0.308	0.628831	-1.09426	-1.27622	-1.68902	1.108806	2.23368	0.50619	-1.42604	0.628102

Asim Textile Mill CAR_Chart

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4.14 Interpretation (Asim Textile Mill)

The results of the Asim Textile Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution. Waste water pollution. Environmental violation under the section 2,3 & 16) By focusing on the announcement day which is our event day called (0 day) the day at which the company is notified by the Punjab Environmental Protection Agency (Punj EPA) on allegation of environmental pollution by the source of the public complaints numerically. The average return for the negative news by using market model is -0.22863 which shows the negative trend in the expected abnormal returns. And after the day 0 (allegation day) day of the next day at day first the AR is 0.150092 shows the positive behaviour. The basis point of the cumulative average abnormal return at the event day is -0.48953 which means after the negative event the returns of the company's decreases and at day first after the event day which is day 0 is -0.33944 and at day second it is -0.37 and so on. It also didn't disposed of it waste and do not charge with any fine yet because of the case is present before the environmental tribunal court and if the allegation proved on them than they are suffered with fines and must have disposed of their waste by looking at the t-statistics to check the resilience of the company against the negatives event the value of the t-statistics at the time of the event is -1.68902 is significant and the greater than the *1.645 that shows that when negatives event happen company has not very suffered from the loss in its profits due to bad reputation in the financial market..

Table No 15 (Results of the Ibrahim Textile Mill by calculating Average return, Cumulative average return and T-statistics)

| Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Ibrahim Textile Mill	Dated 22-11-2013	AR	-0.04549	0.030623	-0.0172	0.02923	0.013604	-0.06817	0.010237	0.03119	0.03181	0.03152	-0.01652
		CAR	-0.04549	-0.01487	-0.03207	-0.00284	0.010765	-0.0574	-0.04717	-0.0159	0.01583	0.047349	0.030828
		T-stat	-1.71613	1.155257	-0.64895	1.102711	0.513234	-2.57166	0.38618	1.17649	1.20001	1.189105	-0.62324

Ibrahim Textile CAR_Chart

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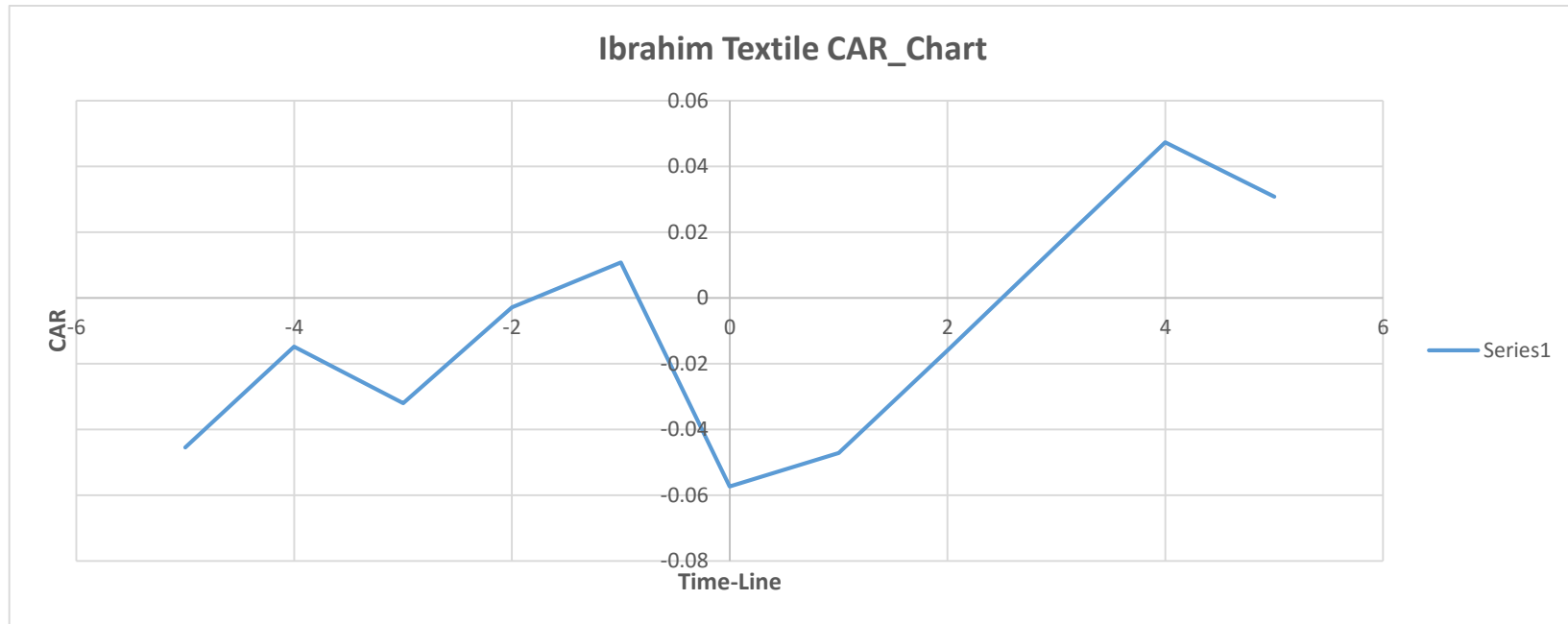
4.15 Interpretation (Ibrahim Textile Mill)

The results of the Ibrahim Textile Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution. Waste Water pollution etc. by focusing on the announcement day which is our event day called (0 day) numerically the day at which the Environmental Protection Agency notified the company on the basis of the allegation of the environmental pollution by the source the public complaints. The average return for the negative news by using market model is -0.06817 which is negative average abnormal return. After the day (0) which is the negative event day by looking at the day first which is after effect AR basis points are 0.010237 positive. by looking at the cumulative average abnormal return at day of event day 0 it basis points are the -0.0574 negative show the decreasing trend in the returns in the company, at the second day same result of the decreasing trend in the returns the basis points are -0.0159 and in third day of the event the positive returns we have to examine 0.01583 and so on. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after proven of allegation on them they can suffered with fines and update the court from its current status .Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -2.57166 is significant and the equal to the ***2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image.

Table No 16 (Results of the Ittehad Textile Mill by calculating Average return, Cumulative average return and T-statistics)

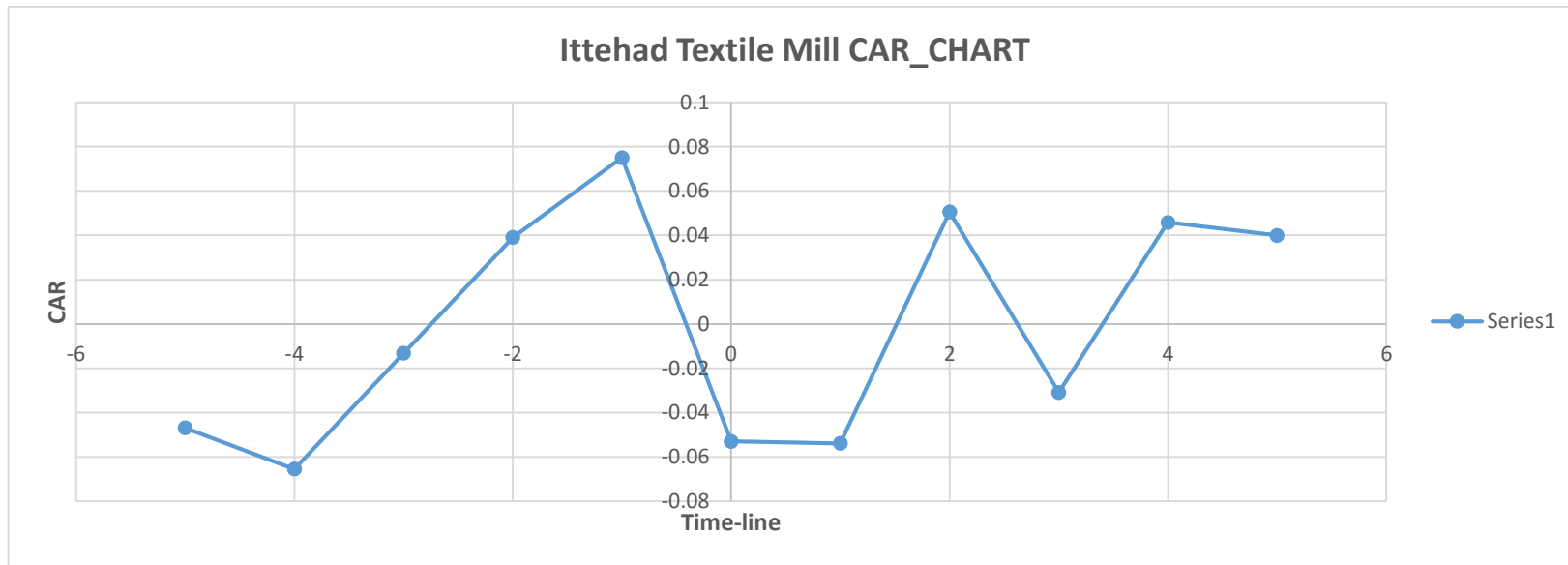| Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Ittehad textile Mill	Dated 23/01/2008	AR	-0.04694	-0.01852	0.052233	0.052254	0.035979	-0.12798	-0.00092	0.10441	-0.0814	0.076674	-0.00583
		CAR	-0.04694	-0.06546	-0.01322	0.039029	0.075008	-0.05297	-0.05389	0.05052	-0.0308	0.045792	0.039965
		T-stat	-1.39709	-0.55134	1.554776	1.555402	1.070961	-3.80937	-0.02743	3.10780	-2.4229	2.282315	-0.17345

Ittehad Textile Mill CAR_CHART

4.16 Interpretation (Ittehad Textile Mill)

The results of the Ittehad textile Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as environmental pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.12798 which is the decreasing negative average return after the negative event happen and after the day (0) the day first has AR -0.00092 decreasing trend than again positive return experienced. As the cumulative abnormal return the basis point at the day 1 is -0.05297 negative in abnormal return experienced after the negative event experienced by the company at day first the basis point of the CAR is -0.05389 decreasing trend in the cumulative abnormal return with the negative trend and at day second the returns are 0.05052 positive experience increases in the returns after recovery. Ittehad textile after the allegation under the section 2,11,& 16 under the ordinance of the Pakistan environmental protection agency by the source of the public complaints are charged against or fined by the fine Rs 200000 when we see the current situation of the company it disposed of it waste by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -3.80937 is significant and the equal to the ***2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image.

Table No 17 (Results of the Chenab Engineering Works and Foundries (PVT) LTD Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Chenab Textile Mill	Dated 14-03-2013	AR	-0.05656	0.032601	0.053132	0.024308	-0.0705	-0.40841	0.269664	0.10982	0.13652	0.040037	0.005126
		CAR	-0.05656	-0.023955	0.029177	0.053485	-0.01701	-0.42543	-0.15576	-0.0459	0.09058	0.130619	0.135746
		T-stat	-0.2325	0.134021	0.218423	0.09993	-0.28981	-1.67898	1.108578	0.45148	0.56122	0.164592	0.021075

Chenab Engineering & Works Foundries CAR-Chart
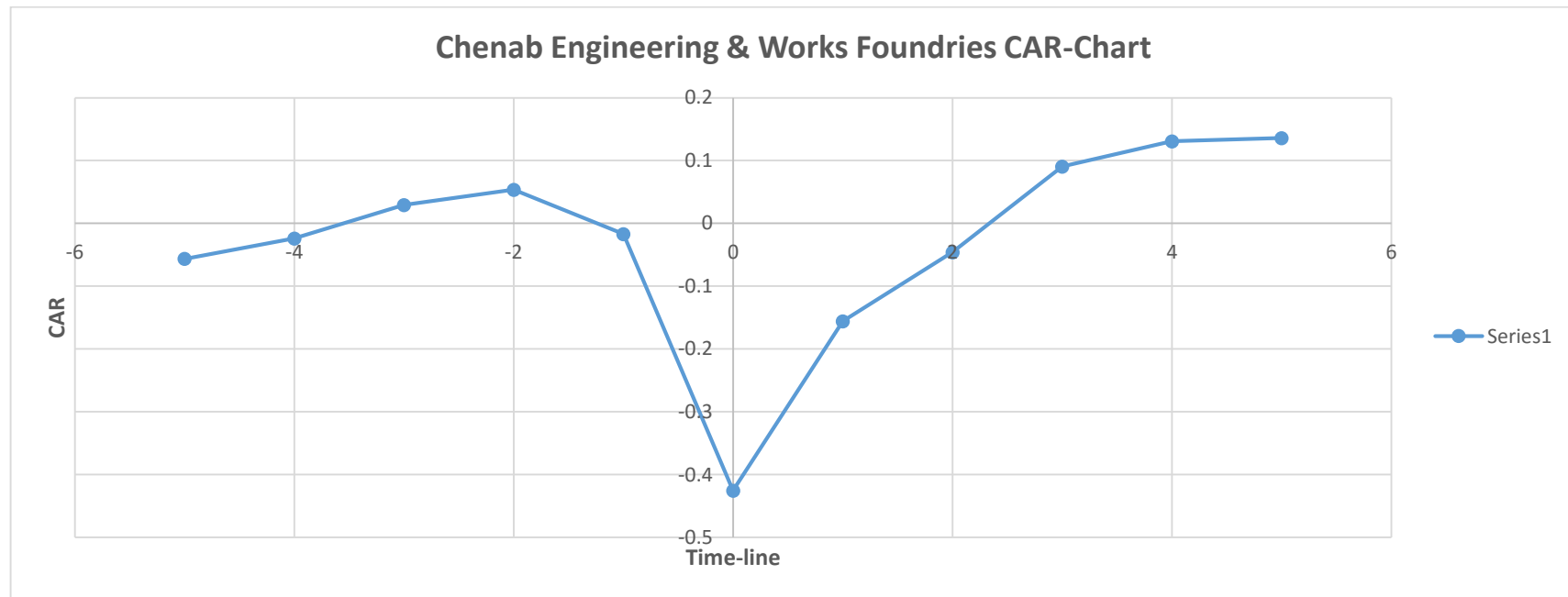
4.17 Interpretation (Chenab Engineering Works & Foundries Mill)

The results of the Chenab Engineering Works & Foundries Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Noise and bad smell. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the environmental protection agency on allegation of environmental pollution by the source of the public complaints the average return for the negative news by using market model is -0.40841 it experienced positive return after the event day. The basis points of the cumulative abnormal return are the -0.42543 at the time of the event day at day 0. After the event day at day 0 the CAR is -0.15576 shows the declining trend in the returns of the company at day first. At day second CAR is -0.0459 and at the third day the CAR is experienced positive 0.09058 and so on the next day. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is * -1.67898 is significant and the equal to the 1.645 that shows that when negatives event happen company not much suffered from the loss in its profits due to bad image reputation in stock market.

Table No 18 (Results of the Al Ahmed Dyeing Mill by Calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Al Ahmed Dyeing Mill.	Dated 30-03-2013	AR	-0.04716	-0.03628	0.0403231	-0.04772	0.001024	-0.112845	0.0939650	0.09462	-0.04022	-0.0402	-0.002133
		CAR	-0.04716	-0.08344	-0.04311	-0.09083	-0.08981	-0.20265	-0.10869	-0.01407	-0.05428	-0.09446	-0.09659
		T-stat	-1.14903	-0.88384	0.982447	-1.16258	0.024944	-2.7494	2.289403	2.30526	-0.98	-0.97882	-0.052

AL AHMED DYEING CAR_CHART
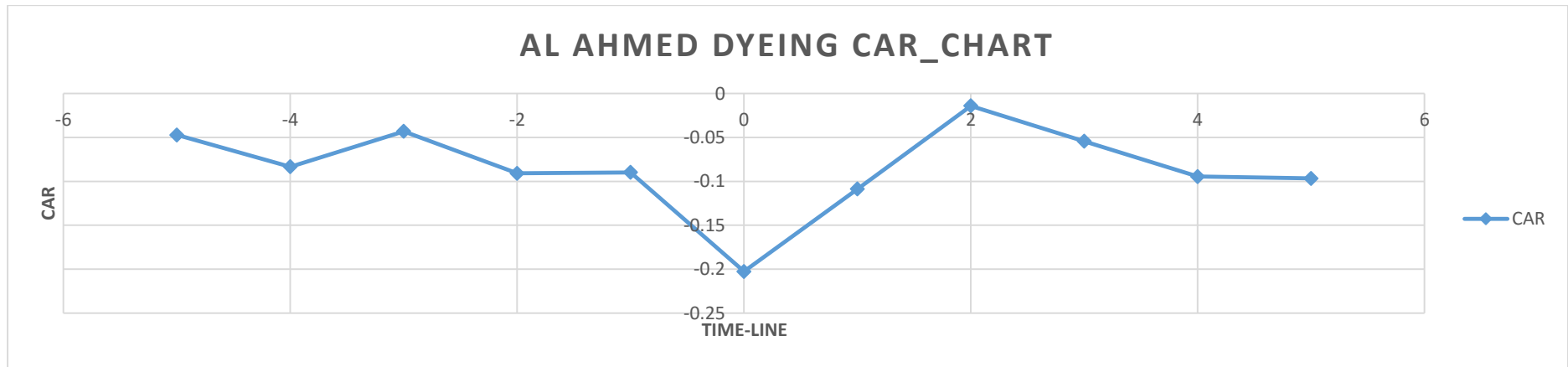
4.18 Interpretation (Al Ahmed Dyeing Mill)

The results of the Al Ahmed Dyeing Mill, Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Noise and bad smell. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.112845. On the next day of the event the value was expected to increase which was 0.093965031, at third day it was 0.094615656 and so on .But by looking at the results of the cumulative abnormal return .at the day of the event when the company is notified by the Punjab EPA for their environmental violations the Cumulative abnormal return was at decreasing trend which was at day (0) -0.20265 and on the next day after the event at first day the CAR was -0.10869,-0.01407 and at the third day that means the returns of the companies is effected by the event happen which is the notification of the companies for their violation As we check the list to see the reality of why the returns of the companies are at decreasing trend for this reality as this company comes under the violation under section (11,12 & 13) which is comes under the Environmental pollution ,Air pollution etc. although its waste is disposed of by we can see on its numerical value it cumulative returns are continuously decrease may be in reality company is trying to installing the environmental friendly technique to improve it status or bad image in front of the investor. Because at the time of the event the green investor didn't invest in the share price of the company due to the violation of the environmental rules. Looking at the sensitivity analysis for the company to see whether the firm is sensitive if they didn't follow the environmental rules for this we check by the looking at the T-statistic at the day of the event

which is (0) at the table -2.7494 which is greater than the ***2.67 which is meant that company

is highly significant and it returns are expected to decrease due to the it bad reputation.

Table No 19 (Results of the Jublee Spinning (Textile) Industries (PVT) LTD by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Jublee Spinning Mill	Dated 30-09-2013	AR	0.01948	-0.03687	0.018707	-0.04536	0.023687	-0.30387	0.205573	0.06277	0.11888	0.033852	-0.00436
		CAR	0.01948	-0.01739	0.001313	-0.04405	-0.02036	-0.32424	-0.11867	-0.0559	0.06299	0.096845	0.09249
		T-stat	0.11343	-0.21473	0.108943	-0.26419	0.137948	-1.76968	1.197204	0.3656	0.69235	0.197145	-0.02536

Jublee Spinning Industries CAR-Chart
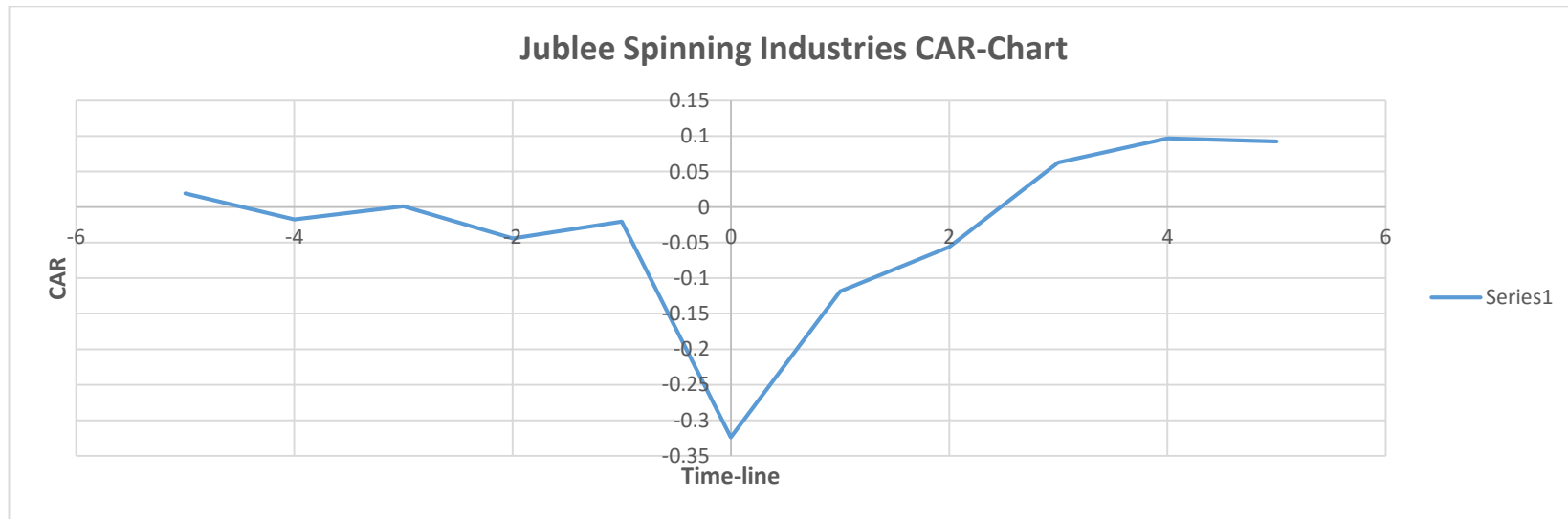
4.19 Interpretation (Jublee Spinning Industries (PVT) LTD

The results of the Jublee Spinning Industries (PVT) LTD Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.30387.The cumulative abnormal return at the time of the event day is -0.32424 shows the negative return after the event happen and after the next day of the event at day 1 the basis points are -0.11867, at day 2 -0.0559 and at day 3 0.06299 and so on. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -1.76968 is highly significant and greater than the to the *1.645 that shows that when negatives event happen company has not much suffered from the loss in its profits due to bad image.

Table No 20 (Results of the Fazal Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Fazal Textile Mill	Date 22-11-2013	AR	0.23056	-0.00484	-0.01268	0.051726	-0.03622	-0.35557	0.078541	-0.2969	0.53495	-0.012	-0.04306
		CAR	0.230561	0.225725	0.213043	0.264768	0.228552	-0.12702	-0.04848	-0.3454	0.18956	0.177563	0.134508
		T-stat	5.46802	-0.1147	-0.30078	1.226738	-0.85892	-8.43278	1.862691	-7.0415	12.6867	-0.28464	-1.0211

Fazal Textile Mill CAR-Chart
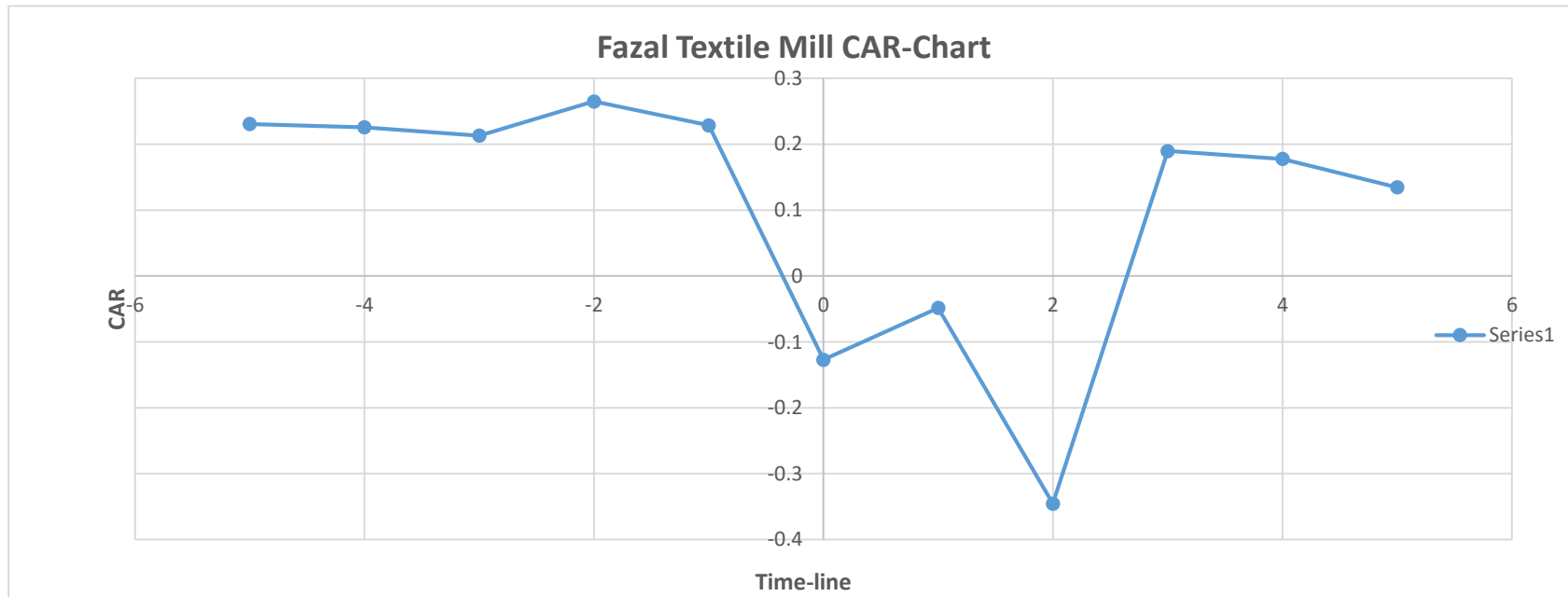
4.20 Interpretation (Fazal Textile Mill)

The results of the Fazal textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution. By focusing on the announcement day which is our negative event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency Punj EPA on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.35557. Which is negative average return and after the event day they experienced the positive AR. The basis point of the cumulative abnormal return CAR -0.12702 at the day 0 it experience the negative abnormal return and at the day first after the negative event day (0) the basis points are -0.04848 and at day second -0.3454 decreasing trend in the returns and at day third the CAR is 0.18956 gives positive returns. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-8.4328 is highly significant and greater than the to the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image.

Table No 21 (Results of the Taj Rafiq weaving Textile Mill by calculating Average return, Cumulative Average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Taj Rafiq Weaving Mill	Dated 01-10-2013	AR	0.57495	-0.07499	-0.30403	-0.40343	-0.16486	-1.05134	-0.10927	0.79629	0.50511	-0.51651	0.340185
		CAR	0.57495	0.499968	0.195933	-0.2075	-0.37235	-1.4237	-1.53297	-0.7367	-0.2316	-0.74808	-0.40789
		T-stat	2.55979	-0.33386	-1.35361	-1.79612	-0.73398	-4.68074	-0.48649	3.54519	2.24883	-2.29957	1.514554

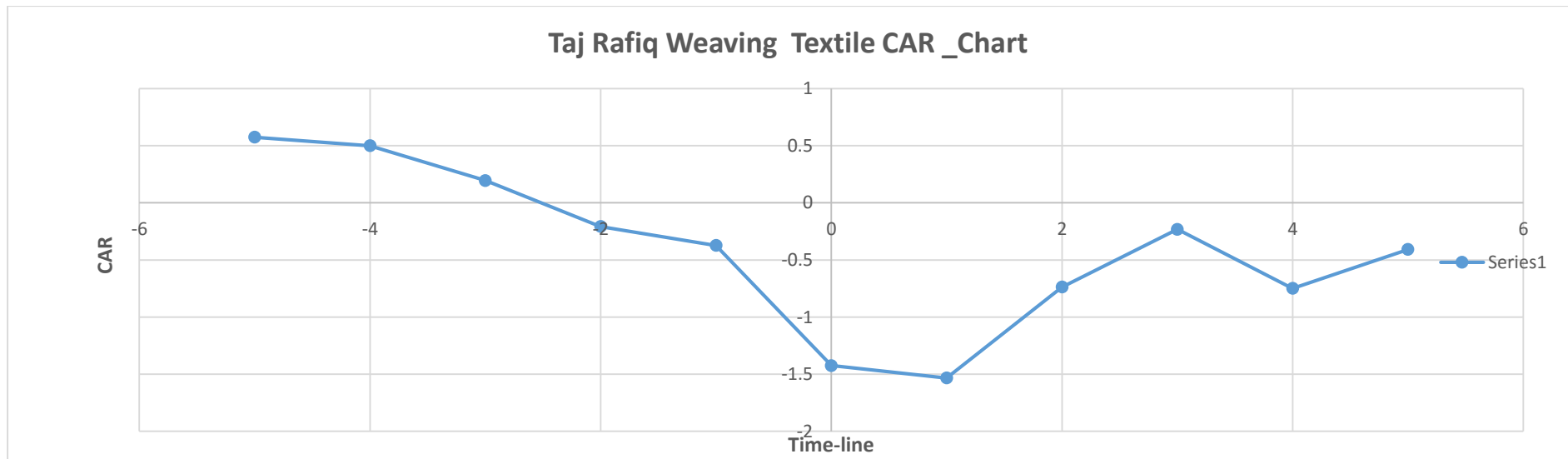Taj Rafiq Weaving Textile CAR _Chart

4.21 Interpretation (Taj Rafiq Weaving Textile Mill)

The results of the Taj Rafiq weaving Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as waste water pollution. By focusing on the announcement day which is our event day called (0 day) numerically. the day at which the company is notified by the Punjab Environmental Protection Agency on allegation of Environmental pollution by the source of the public complaints The average return for the negative news by using market model is -1.05134, AR after the event day 0 -0.10927 basis point at day first suffered from the declining trend The basis point of the cumulative abnormal return are -1.4237 showing the decreasing trend in the returns of the company.at day first the returns are decrease at the basis point -1.53297 and at day 2 the returns are -0.7367 and similar decreasing returns are experiences at day third, fourth and fifth. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-4.68074 is highly significant and greater than the to the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image.

Table No 22 (Results of the Shaheen Cloth Processing Mills by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Shaheen Textile Mill	Dated 07-08-2013	AR	-0.0530	-0.03914	-0.00589	0.054286	-0.05536	-0.2571	0.187933	0.0433	-0.0754	-0.03975	0.098926
		CAR	-0.0530	-0.09215	-0.09804	-0.04375	-0.09912	-0.35621	-0.16828	-0.1250	-0.2004	-0.24018	-0.14125
		T-stat	-0.4325	-0.3193	-0.04806	0.44286	-0.45165	-2.0974	1.533155	0.3529	-0.6152	-0.32425	0.807035

Shaheen Cloth Processing Mills CAR _Chart

4.22 Interpretation (Shaheen Cloth processing Mills)

The results of the Shaheen Cloth Processing Mills Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Environmental pollution, Waste water pollution, Air and noise pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of Waste water pollution by the source of the public complaints. The average return for the negative news by using market model is -0.2571 experienced negative abnormal return in the AR and after the day 0 the AR at day 1 are 0.187933. The basis point of the CAR at the day (0) are the -0.35621 experianced the negative abnormal return at day second CAR -0.16828 returns decrease also in day third -0.2004 and so on. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-2.0974 is highly significant and greater than the to the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image in the stock market.

Table No 23 (Results of the Rana Idress Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Rana Idress Textile	15/08/2013	AR	-0.0032	0.013242	-0.07918	0.070365	-0.01184	-0.00965	-0.0298	0.00032	-0.0116	0.051563	-0.02483
		CAR	-0.00318	0.010066	-0.06911	0.001254	-0.01058	-0.02023	-0.05003	-0.0497	-0.0613	-0.00977	-0.0346
		T-stat	-0.04633	0.193188	-1.15514	1.02658	-0.17268	-0.14075	-0.43472	0.00473	-0.1697	0.752268	-0.36222

Rana Idress Textile CAR _Chart
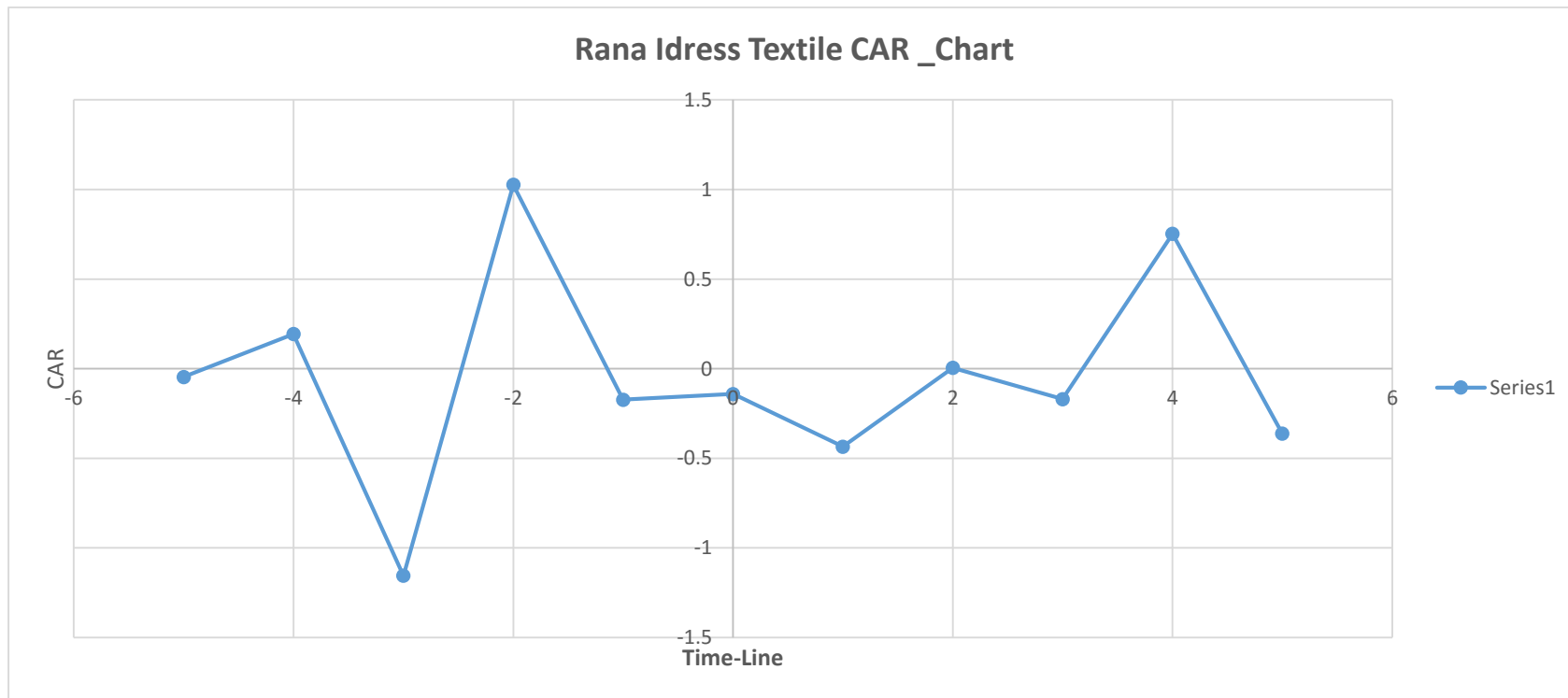
4.23 Interpretation (Rana Idress Textile Mill)

The results of the Rana Idress Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the Environmental violation events such as under (11, 12 & 16), Environmental pollution, Waste water pollution Air and Noise pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.00965 have decreasing trend when the event happen at day 0 after the event at day first -0.0298. It experience AR at decreasing rate. The cumulative return of the company at day -0.02023 at decreasing rate after the event day at day 1 the returns are -0.05003, -0.0497, -0.0613 at day second and third . The current situation of the company is that it disposed of it waste water pollution and suffered with fine. Looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -0.14075 is non-significant and less than the to the 1.96 that shows that when negatives event happen company has resilience against from such negatives event which may cause damages to it profits in the stock market.

Table No 24 (Results of the Ahmed Hassan Textile Mill by calculating Average return, Cumulative average return and T-statistics)

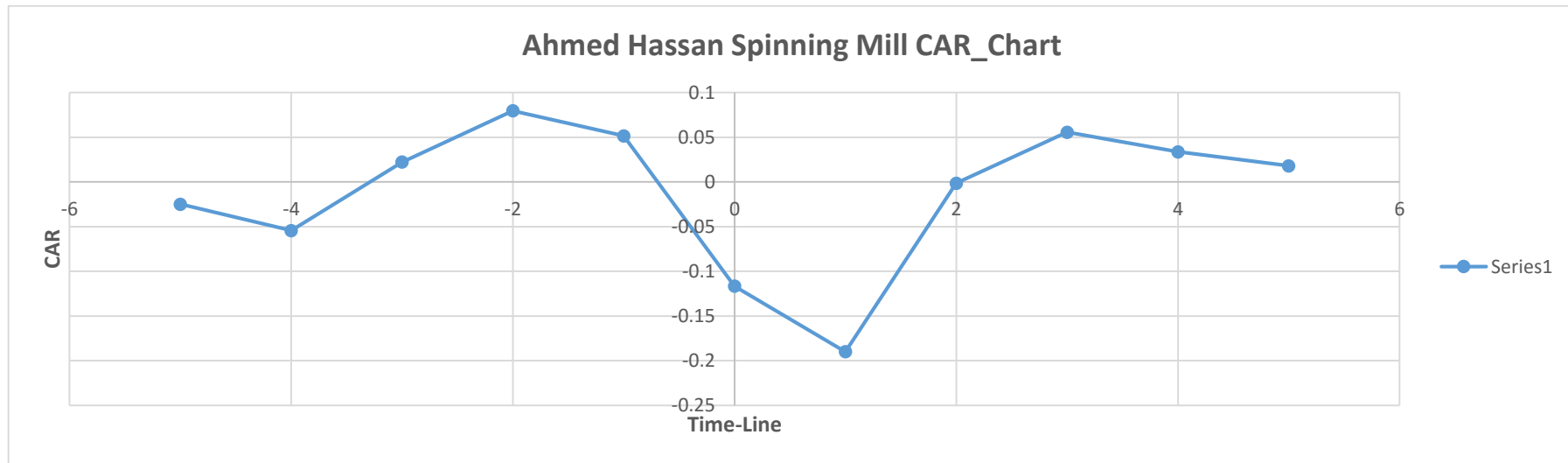| Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Ahmed Hassan Textile Mill	Dated 30-01-2013	AR	-0.0266	-0.02953	0.076687	0.057391	-0.0282	-0.16806	-0.07338	0.18859	0.05700	-0.02199	-0.01565
		CAR	-0.0249	-0.05437	0.022314	0.079705	0.051505	-0.11656	-0.18994	-0.00134	0.05566	0.033672	0.018025
		T-stat	-0.5183	-0.57548	1.494634	1.118546	-0.54963	-3.27549	-1.43017	3.67577	1.11096	-0.42863	-0.30495

Ahmed Hassan Spinning Mill CAR_Chart

4.24 Interpretation (Ahmed Hassan Textile Mill)

The results of the Ahmed Hassan Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as environmental pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.16806 have decreasing trend when the event happen at day 0 after the event at day 1 -0.07338.It experience AR at decreasing rate. The cumulative return of the company at day -0.11656 at decreasing rate after the event day at day first the returns are -0.18994, -0.00134, at day second and third. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-3.27549 is highly significant and greater than the to the 2.57 that shows that when negatives event happen company has suffered much from the loss in its profits due to bad image.

Table No 25 (Results of the AA Fabrics Mill by calculating Average return, Cumulative average return and T-statistics)

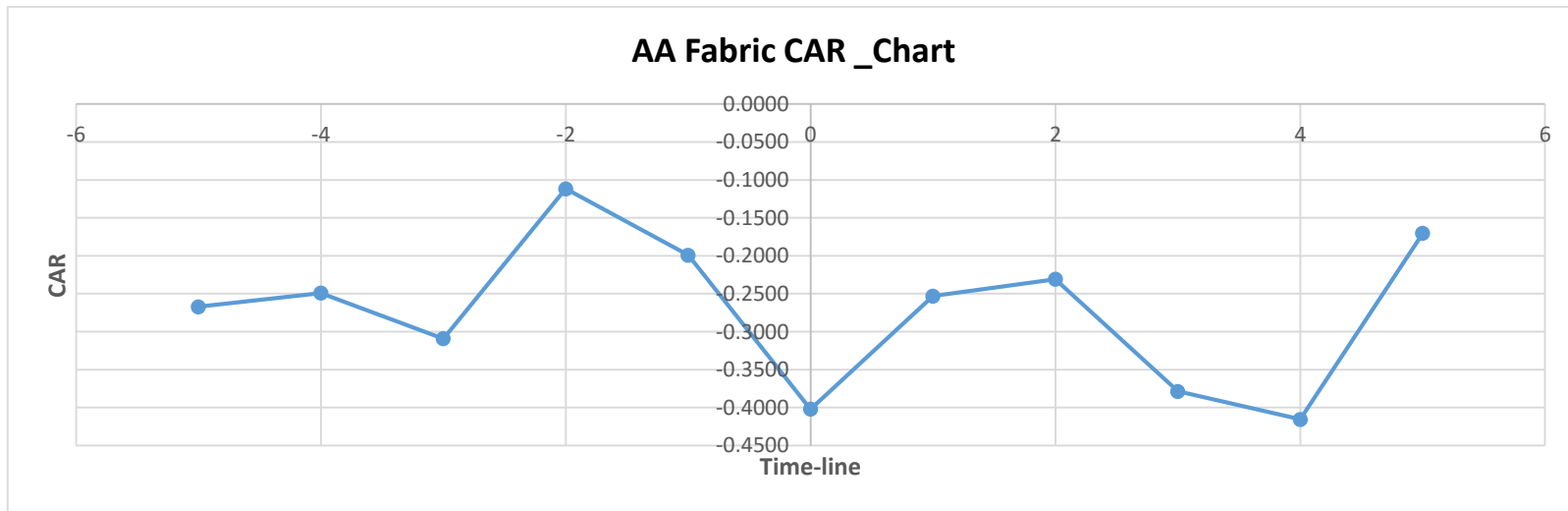| Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
AA Fabrics	Dated 30/09/2013	AR	-0.2672	0.0181	-0.0601	0.1976	-0.0875	-0.2028	0.1489	0.0222	-0.1479	-0.0368	0.2453
		CAR	-0.2672	-0.2491	-0.3092	-0.1117	-0.1992	-0.4020	-0.2531	-0.2308	-0.3787	-0.4156	-0.1702
		T-stat	-1.0806	-1.0075	-1.25057	-0.45154	-0.80558	-1.62587	-1.02352	-0.9336	-1.5316	-1.68066	-0.68849

AA Fabric CAR _Chart

4.25 Interpretation (AA Fabrics Mill)

The results of the AA Fabrics Textile Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as environmental pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is -0.2028 have decreasing trend when the negative event happen at day (0) after the event at day first, 0.1489 similarly for the day second -0.2308 also shows that company experienced negatives return. -0.1479 same for the third day and so on. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is -1.62587 is significant at 95% confidence level and greater than the to the 1.645 that shows that when negatives event happen company have to suffered much from the loss in its profits due to bad image in the stock exchange.

Table No 26 (Results of the Sargodha Spinning Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Sargodha Spinning Mill	Dated 07-08-2013	AR	-0.10542	-0.08344	-0.02248	0.088687	-0.14085	-0.03858	-0.12225	0.10386	0.0655	0.0675	0.042848
		CAR	-0.10542	-0.18886	-0.21135	-0.12266	-0.26351	-0.3021	-0.42435	-0.32049	-0.2550	-0.1875	-0.14466
		T-stat	-0.36994	-0.66275	-0.74165	-0.43043	-0.92472	-1.06012	-1.48912	-1.12465	-0.8949	-0.6580	-0.50766

Sargodha Spinning Mill CAR_Chart

4.26 Interpretation (Sargodha Spinning Mill)

The results of the Sargodha Spinning Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as waste water pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of Waste water pollution by the source of the public complaints. The average return for the negative news by using market model -0.03858 is have decreasing trend when the negative event happen at day (0) after the event at day first -0.42435, Similarly for the day second also shows that company experienced positive return -0.32049 same for the third day and so on. As we talk about the cumulative abnormal return the basis point at the table for the event day 0 allegation day is -0.3021 show that company suffered from loses in it returns when the event happened in the next day of the event day first the basis point is -0.42435 decreasing trend and for the day third, -0.2550 and so on. It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is *-1.06012 is significant at 95% confidence level and greater than the to the 1.645 that shows that when negatives event happen company have to suffered much from the loss in its profits due to bad image.

Table No 27 (Results of the Diamond Textile Mill by calculating Average return, Cumulative average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Diamond Textile Mill	Dated 30-09-2013	AR	-0.0445	0.006816	0.047782	0.048716	-0.02808	-0.18495	0.13974	-0.0024	0.05859	-0.0492	-0.0524
		CAR	-0.0445	-0.03767	0.010109	0.058826	0.030743	-0.15421	-0.01447	-0.01687	0.04172	-0.00749	-0.05988
		T-stat	-0.6887	0.105506	0.739632	0.75409	-0.4347	-2.86293	2.16305	-0.03717	0.90695	-0.76164	-0.81108

Diamond Textile Mill CAR-Chart
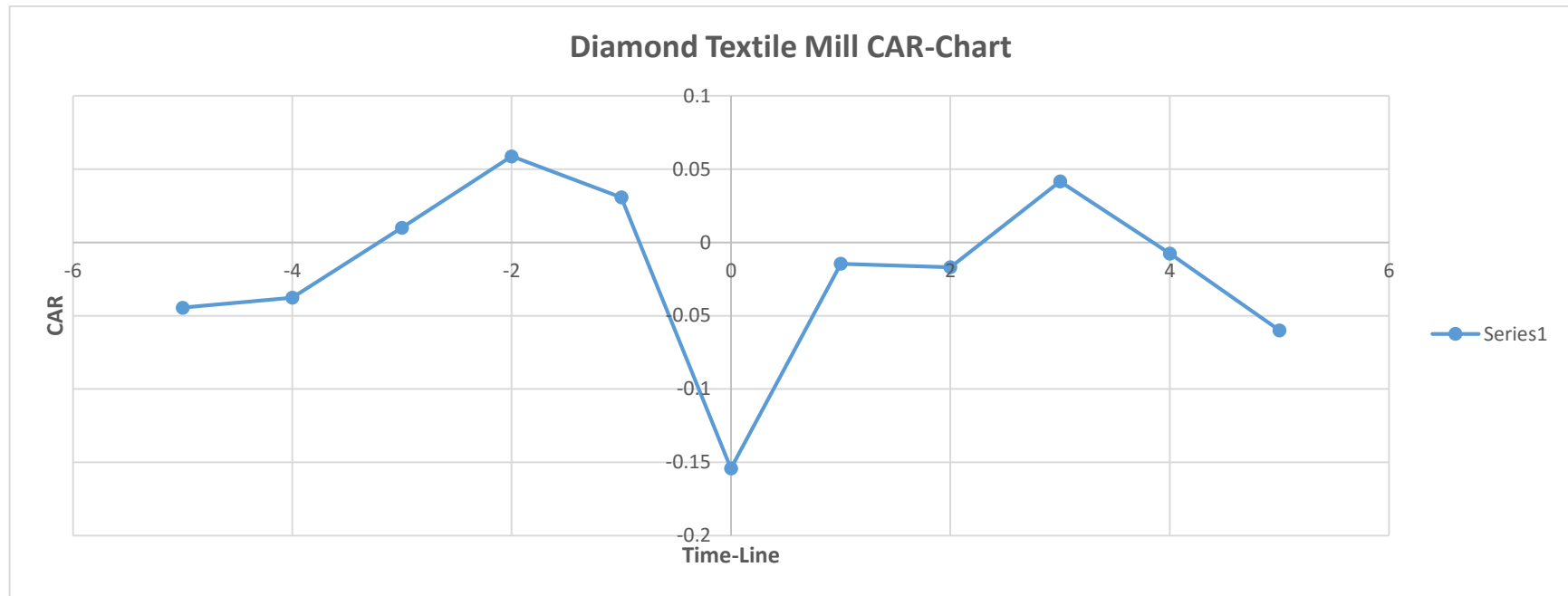
4.27 Interpretation (Diamond Textile Mill)

The results of the Diamond Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as environmental pollution. By focusing on the announcement day which is our event day called (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model is have -0.18495 decreasing trend when the event happen at day 0 after the event at day first, the basis points is 0.13974. By looking at the cumulative abnormal return (CAR) which is the criteria for what happened in the profit of the company. The cumulative abnormal return at the negative event day, Day (0) day of allegation is -0.15421 and in first day of the company when the negative event happen the CAR is -0.01447 and in the third day after the event the CAR is 0.04172 shows the positive returns and then negative it is because It also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal court and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is ***-2.86293 is significant at 95% confidence level and greater than the to the 2.45 that shows that when negatives event happen company have to suffered much from the loss in its profits due to bad image in the stock market.

Table No 28 (Results of the Billal Fibers Textile Mill by calculating Average return, Cumulative average return and T-statistics)

| Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Billal Fibers Textile Mill	Dated 30-09-2013	AR	-0.05599	-0.01434	0.066505	0.06962	0.029935	-0.3316	-0.02764	0.14693	0.13359	-0.00912	0.019068
		CAR	-0.05599	-0.07034	-0.00383	0.06579	0.095724	-0.23588	-0.26352	-0.11658	0.01701	0.00789	0.026958
		T-stat	-0.33158	-0.08495	0.393848	0.41229	0.177274	-1.96377	-0.16369	0.87016	0.79115	-0.05401	0.112921

Billal Fabrics Mill CAR-Chart
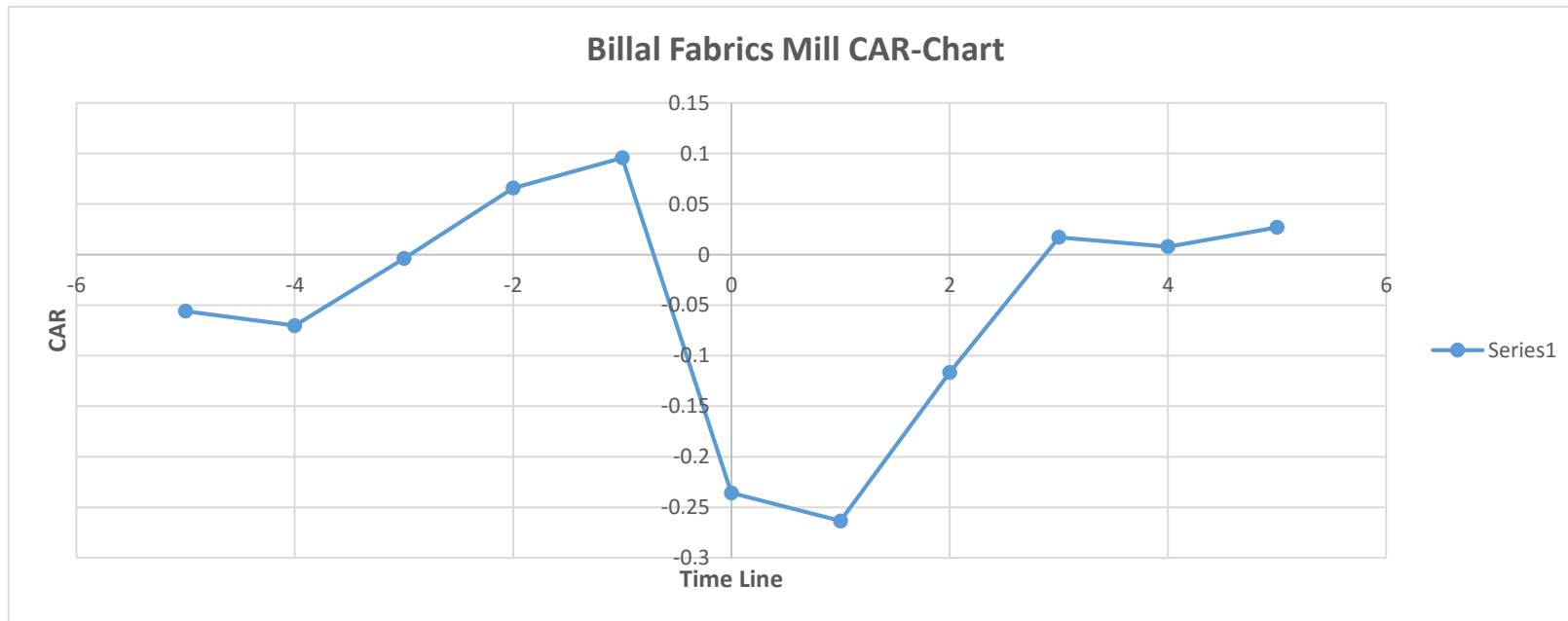
4.28 Interpretation (Billal Fibers Textile Mill)

The results of the Billal Fibers Mill Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as waste water pollution. By focusing on the announcement day which is our event day called day at which Punjab Environmental Protection Agency (Punjab EPA) notified the company due to its allegation (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints the average return for the negative news by using market model -0.3316 shows the negative trend due to the negative event happen. By looking at the cumulative abnormal return when company suffered from the allegation of the environmental pollution at day 0 the allegation day the CAR is -0.23588 at day first after negative event happened -0.26352 showing the decreasing trend in its returns. Same for the second day -0.11658 however the third, 4rth and fifth day showed the positive trends. Because it also didn't disposed of it waste and do not charge with fine yet because of the case is present before the environmental tribunal and after that they are suffered with fines and present his current status situation. Whether they disposed of their waste or not by looking at the t-statistics to check the resilience against the negatives event the value of the t-statistics at the time of the event is *-1.96377 is significant at 95% confidence level and are equal to the 1.96 that shows that when negatives event happen company have to suffered but not very much loss in its profits due to bad reputation in the stock market as compared to the other companies. Because their T-Statistics value are highly significant.

Table No 29 (Results of the Sitara Chemicals Industries by calculating Average return, Cumulative Average return and T-statistics)

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Sitara Chemicals Industries	Dated 30-09-2013	AR	0.00115	0.000143	0.034926	0.008	2.324	-1.1	0.114	0.201	-0.142	0.51	0.0051
		CAR	0.000115	0.0011	0.043	0.04531	2.33632	-0.7	-0.5411	-0.3402	-0.5	0.031	0.032
		T-stat	0.05033	0.0082	1.92031	0.44	126.04	-164.2	6.1	11.05	-7.78799	3.1	0.25324

SITARA CHEMICAL INDUSTRIES CAR_ CHART
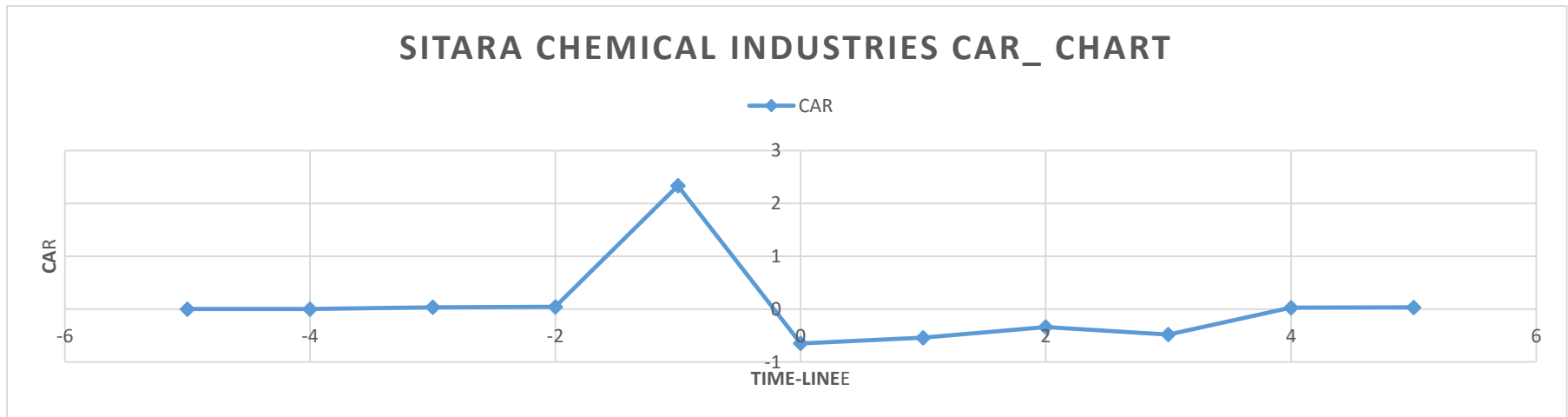
4.28 Interpretation (Sitara Chemicals Textile Mill)

The results of the Sitara Chemicals Industries Faisalabad are highly stable and match with the current literature. The results of this company strongly reject the null hypothesis of the study that stock market didn't react toward such kind of the environmental violation event such as Waste water pollution. By focusing on the announcement day which is our negative event day called day at which Punjab Environmental Protection Agency notified the company due to its allegation Under the section (11, 12 & 45) by the source of the public complaints and had suffered from the fined 20,00,00Rs we called the negative event (0 day) numerically. The day at which the company is notified by the Punjab Environmental Protection Agency on allegation of environmental pollution by the source of the public complaints. The average return for the negative news by using market model -1.1 shows the negative trend due to the negative event happen. Before the event the average return was 2.324 that means the company before the negative event happened earned the normal profit but when the Punjab Environmental Protection Agency (Punj EPA) notified the company its returns goes down at decreasing rate. And after the negative event at day first the average return was 0.114. But By looking at the cumulative abnormal return when company suffered from the allegation of the environmental pollution at day 0 allegation day the CAR is -0.7 at day first after negative event happened showing the decreasing trend in its returns. Same for the second day -0.34 however the fourth and fifth day showed the positive trends which is 0.31 and 0.32 respectively. Because after notification by the Punjab EPA the companies has taken the environmental friendly initiatives and disposed their waste. So the investor invest in this company due to good reputation in the market. So the company's cumulative normal returns seems at increasing trend. Examining at the T-statistics which shows the sensitivity analysis that the company has resilience against the negative event its value is ***-164.166 against the 2.56 which is standard value at the statistic

it showed that company is highly sensitive (its returns decreases at higher rate when the negative event occurs.

CHAPTER 5

Conclusion and Policy Recommendations

5.1 Conclusion

As the start of the conclusion it was reality specially for the developing countries like India , Pakistan, Nepal, Bangladesh ,Malden, that have weak application of the environmental rules and the regulations so it haven't any inducement to invest in them specially in the pollution control techniques. Inability of formal (Government institution) fails to implement environmental rules and regulation and take no serious implementation of the traditional techniques to control these violations such as fines and penalties. So by the help of the Stock Exchange Market if they are properly utilised may provide as special incentives. For this we bear no cost. And in return these incentive may utilised for the pollution control technologies and policies. By reviewing several literature based on the United States of America (USA) NASDAQ and Toronto Stock Exchange (TSX) Canada they experienced negative return after the public disclosure negative news or any kind of the source whether it is voluntary published by company or any Non-government organisation or even by the government institute himself. So to check this analysis for the Pakistani Stock Exchange whether this stock exchange reacts like the others stock markets such as India particularly which is its neighbouring and developing country. Or reacts like a developed countries (USA, Canada etc.) stock exchange which we discussed above.

Based on the market hypothesis theory. This research has been proposed to assess the financial impact (by the help of the public complaints) of the environmental disclosure negative news such as the violation of the Environmental pollution such as Waste water pollution, Air pollution, Noise pollution ,Bad smell etc). To check whether any company returns also react due to the disclosure negative news by examining the trend in the Pakistani Stock Exchange

(PSE 100 index). We take those companies which are listed in the violation list of the Punjab Environmental Protection Agency and they are also registered in the Pakistan Stock Exchange (PSE 100 index).

These are approximately 30 out of the total sample of 384 because of the several institutional and political restrictions and reasons such as the number of non-register companies in violation list of Punjab EPA (Punjab Environmental Protection Agency), The empirical study has focused the 30 listed cluster overall industries companies of the Faisalabad which included (Textile, Sugar, Chemical, Mechanical etc.). these listed companies has several allegations like Environmental pollution, Waste water pollution, Noise and Vibration, Bad smell, section under the act of the Pakistan Environmental Protection Ordinance 1983 (2,12 ,16,45 and so on). In this study the events are dominates so negative impact came due to this negative event date

Which was under the Pakistan ordinance 1983 act. The impacts on the firm of the violation of the environmental on its market value has been empirically verified the result of the analysis which is based on the Event study leads to accept the alternative hypothesis that the stock market react toward the environmental violations such as the environmental pollution, bad smell and noise, vibration, waste water pollution etc. it put the significant relationship with the stock prices in the Pakistan Stock market.

As a concluded remark of this research was that it has mixed results however several companies has experienced the declining trend in its returns which we analysed by looking as it cumulative abnormal returns. So they experienced negative profits after the negative event happen. Such as companies like Hina sana textile suffered from the negative returns CAR value -0.09593. Thandlianwala textile mill Faisalabad CAR value -0.18123. Ideal spinning mill CAR value -0.31547. Tri star polyster CAR value -0.40319. Mubarik Textile CAR value -0.74793.

Dawood Textile CAR value -0.178, Zahid Jee Textile its CAR value -0.30974, United Brand Limited his CAR value -0.15672, Umar Fabrics its CAR value -0.03926, Crescent Sugar Mill CAR value -0.22316, Ishaq Textile Mill its CAR value -0.11311, Khursheed Spinning Mill CAR value -0.48953, Asim Textile Mill CAR value -0.48953, Ibrahim Textile Mill CAR value -0.0574, Ittehad Textile Mill CAR value -0.05297, Chenab Textile and Engineering Foundries Industries CAR value -0.42543, Jublee Textile Mill CAR value -0.32424, Fazal Textile Mill CAR value -0.12702 etc. All these companies' experienced negative abnormal returns at the day of the negative event day of notification by the Punjab EPA and also this trends remain after the event day. So it prove that like the other developing countries Karachi Stock Exchange also reacts, and it decline the stock prices of the companies.

5.2 Limitations of the study

This study is based on the small sample size due to several political institutional barriers and restrictions and non-corporative behaviour of our institutes whether government or Non-government.

Just like the other developing country the Pakistan Stock Exchange also has limited data of the stock prices of listed Companies and has limited number of registered companies There should also can conduct analysis on the positive news such as reward, certification on (environmental friendly like ISO 14001, 9000, 14000, 27001 etc) achieve by the companies. Due to limitation of data we cannot conduct the positive news analysis.

Primary analyses should be done whether the involvement or awareness about the environment in the local community. These type of analyses can helpful for further understanding in the behaviour of the Stock Exchange. Means community based analysis should be done what the reaction of them if there is any kind of negative news publish in any kind of media and their effect on the Stock Exchange Market.

We also can used the other Stock markets for the comparison purpose Just like we can compare our stock market reaction with the Indian stock exchange or with any Asian tigers like Singapore ,South Korea, Malaysia, Japan for their policy recommendations we can also give suitable policy and recommendation for the government of Pakistan and institutions (NGOs).

Study also can conducted for the analysis of to check   the impact of the negative or positive events on the Multinational companies like Shell, Nestle, CoCa Cola beverage etc. in the Pakistan. So see whether large size companies can also have impact of the negative event.

5.3 Policy Recommendation

- ➢ The government should strengthen the Stock Exchange Market and expand them by registering more companies just like (Small size, Medium size, Large size) etc.

- ➢ Make strong enforcement of rules and regulation and focus on the implementation of the environmental rules.

- ➢ By Involving and enhancing awareness about the environment in communities like by the help of the public complaints we can control and preserve environment.

- ➢ Make the program like ECOwatch and Prokash program in Indonesia and in India hence strongly support these programs and supervision should be under the control of high authorities like at Prime Minister Level or at Presidential level.

- ➢ Environment disclosure news (Positive and negative) should be advertised in all most circulated and popular newspapers in the country just like (Dawn, The NEWS)etc . In this way it may helpful also for the investor to carefully investment in respective companies and don't invest in them violates the environmental rules and regulation.

- ➢ Companies (Multinational company or huge sized companies) those violates the environmental rules and regulations should be highly fined and taxed. And forced them to install eco-friendly technology in their plants.

- An operators machines which are environmental friendly should be installed at each company's level to check the situation of the environment. And this should be the policy in their management department.

- Government should take further initiative to gain project from the Green Fund by International organisation so they can made investment in the environmental friendly techniques.

- There should also be a separate department of environmental audit at every provincial level to check and balance.

- There should be also the Environmental Protection Agency (franchised type) even at the district level that should be attached to the each Municipals committees.

- There should be also a separate department of recycling and reuse at every municipal committees because they direct collected the garbage and then can immediately recycled them.

- Private waste management companies should be encourage and provide them technical assistance hence also subsidies them to protect the environment.

5.4 Policy Context

Involving the general public for taking care of environment. This will reduce pressure on the government institution. In the developing countries, municipals and other institutions who are responsible for environmental cleanliness and up-gradation lack in proper funding. It is not feasible for the governments to do everything.

It is likely that share prices of the company show affect due to environmental practices and ultimately companies are forced to care for environment. Government institution related to concerned department may formulate a producer that they at least publish information about company environmental effects, if they are not creating market for trade of market externalities and imposing taxes for polluting the environment.

This concept is based upon idea of collaboration of public and government to care for environment with mutual collaboration. If companies are forced to care for environmental by pressure of general public and investors, then they will improve their environmental policies and production procedures. Companies will invest in environmental conservation as they would know this will return them more with greater profitability. This would be done by two ways: increased share price and greater revenue. So, our objective of preserving the environment for greater benefits will be achieved as a result.

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Appendix I

Research Methodology

Definition of the event study:

Relationship between the event and fluctuation of stock prices by evaluating (monitoring) the change of stock price and occurrence of abnormal profit (AR).

Event study is

    i   A statistical method.

    ii To assess the impact of an event on the value of a firm.

To check the impact of the firms value by the event

All such events see how they affect the

    i   Company's value

    ii React on the company's share price's

Advantage of event study

With the help of the event the financial analyst can refer to the experience of this time to make better prediction for the future about whether a similar event will have positive influence? Or negative influence. In case of confounding effect we use the long window and monthly data plus the non-parametric test i.e wilixon test and rank test.In this sample data has no confounding or non-overlapping. So there is no confounding events.

Why we do conduct event study?

Basic method of doing "Event Study "is to find

Whether there is an abnormal returns caused by event.

As

Abnormal Profit (AR) = (Actual returns – Expected returns)

Data and Methodology:

Major steps for conducting event study:

There are five basic steps for doing event study

1. Define the event date

2. Construct Time line

    a. Estimation window (Before the Event Happen)

    b. Event window (After Event Happen)

3. Select the sample size (Research Sample)

4. Choose mode

5. Estimation of parameters

6. Estimation of the abnormal profit (AR)

7. Analysis and explain the results.

Event definition:

As by defining the event. An event date is defined as the day the NEWS (negative) about the environmental violation appeared in the lists of the Punjab EPA just like at the specific date the Punjab EPA notified the companies over his violation of the environmental rules just like and charged them with fines and instruct them to dispose of its waste etc. There are listed of companies that the data got from the Punjab Environmental Protection Agency that has different allegation like environmental pollution, noise and vibration pollution, obnoxious smell, waste water pollution different environmental law sections under (2,11,16) etc. and that

has compliant by different medium like they are alleged by public complaint or other source. So Punjab EPA notified that companies on specific date so date specific date like become our event date.

Estimation window)		(Event window)		(Post-event window)/testing window
Before (-10 days)		T=0		(+ 10 days) after event
T_0	T_1	0	T_2	T_3
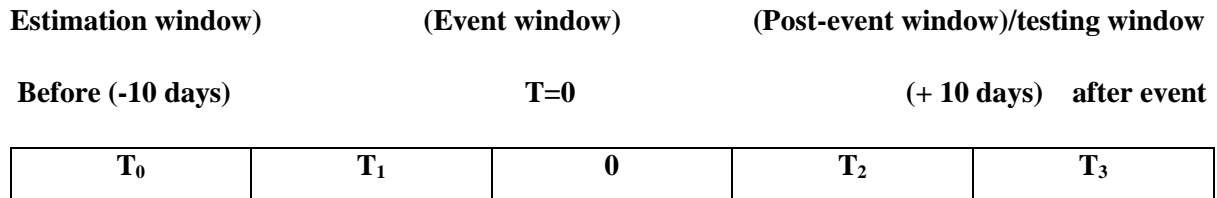
Defining of the time line:

T= O   (Event date allegation on company 20/06/2006)

T= T_1 + 1 to T = T_2 (Estimation Window, normal profit)

T1 to T2 (Event window) (Training period)

To to T1 (Estimation window)

Length of the estimation window.

L1 = T1 – To (Estimation window, normal profit)

L2 = T2 – T1 (Event window)

L3 = T3 – T2 (Post event day, abnormal return.

Sample Selection:

Sample selection turns to important which would decide the accuracy of the whole research. We need two type of data

Stock price of the companies

Stock market index

We calculate sample size used by the sample calculator at the total population of industries of Faisalabad is 31, 3834, we take 95 confidence interval at 5% margin of error. After calculation it gives 384 sample size. The data shrinks to 30 sample size.

Hypothesis

H_0 = Capital markets do not react towards environmental violations

H_A < Value of stock decrease on environmental violations.

Data:

We will be using panel daily data from 2005 to 2015 analysis from multiple sources which include PSE listed companies and Securities and Exchange Commission of Pakistan (SECP) and Punjab Environmental Protection Agency (EPA) Pakistan, Yahoo finance, Business Recorder for the two objective we use primary data for which questionnaire taken from the DR Susmita Dasgupta (The World Bank, Development Researcher) through email for future research s and companies are taken as a cross sectional

Dependent and Independent Variable

The Capital stock prices are used as a dependent variable and the performance of the companies in term of profit or returns due to the event response (Environmental disclosure News which is negative news) are used as an independent variable.

Steps for accumulating data:

Download the history price from the website (**Yahoo finance, PSE100 index, Business Recorder**).

We have different prices in it.

- Open and close (First trading price of stock and last trading stock price

- Low and high (lowest trading price and highest trading price).

The adjusted close price daily data is used because it reflects more accurate and give clear picture than the close price.

2nd step for estimating or calculating normal rate of return:

Normal rate of return means the expected rate of return of the testing period if the event did not occur and the return comes from the training period (pre event) of data.

There are 4 models to calculate (Normal rate of return) for event study:

There are different models by which we can calculate event study. However there are several assumption of these models. Because the alternative models both the bias and accuracy of expected return measures can be different disturbing the properties of the abnormal return calculations.

i   Constant mean (expected) return model

ii   CAPM

iii Market model

iv   Factor Model

Constant mean return model:

Xt is the conditioning information for the normal return mode. There are choices for modelling the normal return. The constant mean of return where Xt is the market return. The model assumed that the mean return of the security is constant trough time. Let ui be the mean return

Market model:

The market model assume a stable linear relationship between the market return and the security return. It is statistically model which relates the return of any given security to the return of the market portfolio. The models linear specification follows from the assumed joint normality of asset returns for any security I the market model

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \ldots \ldots \ldots \ldots \ldots \ldots 1$$

$$E(\varepsilon_{it} = 0) \quad Var(\varepsilon_{it}) = \sigma_2$$

Where Rit and Rmt are the period returns on security I and market portfolio. Eit is the zero mean distribution term, α_i, β_i and σ_i are parameters of the market model. It is simpler model and yields results similar to those of more sophisticated model. And can be attributed that the fact is that the variance of the abnormal return is frequently not decrease much by choosing more sophisticated models. When using daily returns the model is apply to nominal return. With monthly data the model is applied to real returns or excessive returns. For short term studies use the event study methodology. Represent a potential improvement over the constant mean return model. By removing the portion of the return that is related to the variance in the market return to the variance of the abnormal return is reduced. This in turn can lead to increase in ability to detect event effects the benefit from using the market model will depend upon the R^2 of the market model regression. The higher the R^2, higher the variance reduction of the abnormal return and larger the gain. It is also called factor model. (McKinley 1997).As factor model calculate the   Abnormal return = (actual return – predicted return).

The gain from other multi fact model for event studies are limited because the marginal explanatory power of additional factors the market factor are small and hence little decrease in variance of abnormal returns. In market model the value of α (risk adjusted expected returns) can be positive, negative or zero. While CAPM assets value of α has only zero value. With

larger α means higher expected returns as it indicate nonmarket premium and with zero α means excess returns will be zero. (Bodie, Z. 2009) Because it doesn't than interpret what happened if α is greater than or less than one.

Market model simplification vastly reduces the number of parameters that must be estimated while other model use lot of parameters to estimates.

- Simplify the estimation of covariance matrix

- Provide guideline and greatly enhance the analysis of security risk premium.

- Decrease the number of parameters to be estimated.

- Gives simple way to calculate covariance. Comparison b/w two industries.

CAPM (Capital Asset Pricing Model):

These are called economic model. It provides more constraint normal return model. It is in equation theory where the expected return of the given asset is determined by its covariance with market portfolio. The use of the CAPM is common in event studies in the 1970s however deviation from the CAPM have been discovered in it. The result are the sensitive to the specification in CAPM restriction so this sensitivity can be avoided at little cost by using the market model the use of the CAPM has almost ceased. (McKinley 1997).Analyst and investment managers who uses the CAPM model and calculate beta and standard deviation interesting in finding or conducting for different securities that they are stable but only those situation they can use Beta and standard deviation if they both are stable so by I they can deriving beta from future and from historical prices is fine because of constant beta. But if they are not stable or change trough the time than the manger must forecast beta future value before implement it. But previous results show beta are always not remain stable so this indicate the single security betas are also not constant with time.so they are faced the problem of

forecasting future betas to use the CAPM model.(Bhalla, V. 2008).The CAPM can be applied to only in two scenario.

1. Determining the cost of capital.

2. Assessing the riskiness' of project.

3. In real estate problem deciding to lease or buy.

CAPM model is ex ante based on expectation about the future and we cannot observe expectation. And we don't have access to the actual returns. It include all risky investments worldwide. Criticism by the Richard Roll who argued that tests performed with any portfolio other than the true market portfolio. Means CAPM cannot be tested unless the exact composition of the market is known and used in test. (Bhalla, V. 2008).

- Only predict that α value should be zero for all the asset.

- It cannot be exist in real world.

- It central prediction is market (mean variance efficient portfolio).

- In reality it cannot be observable.

- Data reject hypothesis that α value uniformly be 0 at acceptable level of significant.

- Results are sensitive

The market adjusted model:

If the data is in limited than we apply market adjusted return model. So the use of the other model is control by data availability. It can be viewed as a restricted market model with α constraint to zero and β constraint to one

α= 0

β= 1

Because the model coefficient are state in detail.

Estimation period is not required to obtained parameters estimation such model is used in the studies of the under-pricing of initial public offer

Formula for the market model:

$$Rit = \alpha i + \beta i Rmt + \mu i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.2$$

$$E\ (\varepsilon it=0) \qquad Var\ (\varepsilon it) = \sigma\varepsilon 2$$

Rit = Period-t returns on security i

Rmt = Zero mean distribution term

αi, βi, σi = Parameters of the model

Formula for the company rate

$$Rit = \frac{Rlit - Rlit - 1}{Rlit - 1} \qquad\qquad (3)$$

Rlit = rate of return on day t for the stock I which within the estimation window

Rlit = adjusting closing price on day t for stock I which within the estimation window.

RIit-1 = adjusting closing price on day **t-1** for the stock I which within the estimation window.

Formula for the market rate index

$$Rmt = \frac{TRmt - TRmt - 1}{TRmt - 1} \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where

Rmt = rate of return on day **t** for the stock market which within the estimation window.

TRmt =Adjusted closing stock price on day **t** for market stock which within the estimation window.

TRmt-1 =Adjusted closing stock price on day **t-1** for the market stock which within the estimation window.

Estimation for the parameters:

Ordinary least square **(OLS)** is a reliable estimation technique for the market models parameters because it is efficient. For the (i)th firm in event time, the **OLS** estimation for the market model parameters for an estimation window **(training window)** of observation are.

$$\beta i = \frac{\sum(Rit - \mu i)(Rmt - \mu m)}{\sum(Rmt - \mu)2} \dots \dots \dots \dots (5)$$
$$\alpha i = \mu i - \beta i \mu m \dots \dots \dots \dots (b)$$

Rit and Rmt are the return in event period T for the security I and market return respectively.

$$\mu i = \frac{1}{L1\sum Rit}$$

$$\mu m = \frac{1}{L1\sum Rmt}$$

For parameter σ

$$\sigma 2\epsilon i = \frac{1\sum Rit - \alpha i - \beta i Rmt)2}{L1-2} \dots\dots\dots\dots\dots\dots (6)$$

Estimation of the abnormal profit: After calculating the market model parameter estimation, we can measure and analysed the abnormal returns.

Formula:

$$ARit = Rit - \alpha i - \beta i Rmt \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots .1$$

The abnormal return is the disturbance term of the market model.

Under the null hypothesis, conditional on the event window market return.

The abnormal return will be jointly normally distributed with a zero conditional mean and conditional variance σ

Where $\qquad \alpha^2(ARit) = \sigma^2\varepsilon i + 1/L(Rmt - \mu m)2|\sigma^2 m)$ $\qquad$ (7)

Conditional variance has two components

1 Disturbance variance **σ2**

2 Additional variance due to the sampling error in **αi and βi**.

Under the Ho the distribution of the sample abnormal return of a given observation in the event window is

$$ARit \ {\sim}\ N\ (0, \sigma, (ARit))$$

It is built upon to consider the aggregation of the abnormal return.

Aggregation of the abnormal return

The abnormal must be aggregated in order to draw overall inference for the event of interest. The aggregation is along two dimensions trough time and across securities. The concept of cumulative abnormal returns is necessary to apply on a multiple period event window. Mean there should be more than one company's one event window than we used the cumulative aggregate CAR (T1, T2) where

$$T1 < T1 < T2 < T2$$

The CAR from T 1 to T2 is the sum of the included abnormal returns.

$$Car(T1, T2) = \sum ARit \qquad\qquad (8)$$

As length increase the variance of CAR is

$$\sigma i2(T1, T2) = (T2 - T1 + 1)\sigma2\varepsilon$$

The large the sample estimator of the variance can be used for reasonable values of L1.

The distribution of the cumulative abnormal return under Ho is

$$CARi(T1, T2) \sim N(0, \sigma i2(T1, T2))$$

The individual securities AR can be aggregated by using AR_{it}

By equation

$ARit = Rit - \alpha i - \beta iRmt$ ... ... For each event period of company

$T = \boldsymbol{Ti + 1}$ ... ...$\boldsymbol{T2}$ Given N events, the sample aggregate abnormal

return for the period T

$$AR\mathrm{T} = \frac{1}{N}\sum AR i \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots . . (9)$$

And for the large L1, its variance is

$$Var\,(ARt)\ =\ 1/N \sum \sigma 2\varepsilon i$$

Using then estimation, the abnormal return can be aggregate over the event window. By using

same approach as that used to calculate the cumulative abnormal return for each security i.

For any interval in the event window

$$CAR(T1, T2) = \sum ARt$$

$$Var(CAR)(T1, T2)) = \sum VAR(ARi)$$

Aggregate CAR security through time

$$CAAR\,(\mathrm{T1, T2})\ =\ 1/N \sum (CAR\,(\mathrm{T1, T2}) \dots \dots \dots \dots \dots \dots . . . (10)$$

$$VAR\,(CAR\,(\mathrm{T1, T2})\ =\ 1/N \sum \sigma i2\,(\mathrm{T1, T2})$$

For the test

$$Z = \frac{CAAR(T1, T2)}{VAR(CAAR(T1, T2)1/2} \sim N(0,1) \dots \dots \dots \dots \dots (11)$$

Significant test: The result value always need to be tested to see whether it is statistically significant. We use **95% significance level** and accept region from **-1.96 to +1.96**. If the value lies between the **-1.96 to +1.96** the results value will be than called statistically

Appendix II

Name of Company	Event Date	Day	T-5	-4	-3	-2	-1	0	1	2	3	4	5
Billal fibers Mill	Dated 30-09-2013	AR	-0.056	-0.01434	0.067	0.0696	0.029935	-0.332	-0.028	0.15	0.134	-0.00912	0.0191
		CAR	-0.056	-0.07034	-0.004	0.067	0.096	-0.24	-0.264	-0.117	0.0201	0.008	0.027
		T-stat	-0.3316	-0.085	0.394	0.4123	0.18	-1.964	-0.164	0.8702	0.7912	-0.05401	0.113
Hina Sana Textile Mill	Dated 11/09/2013	AR	-0.0185	-0.036004	0.022293	0.053319	-0.01769	-0.09934	- 0.046	0.0750	-0.0025	-0.00035	-0.00805
		CAR	-0.0185	-0.05451	-0.03222	0.021099	0.003408	-0.09593	-0.0504	0.0246	0.0221	0.02179	0.01375
		T-stat	-0.5182	-1.00799	0.624138	1.49276	-0.49529	-2.78122	1.2737	2.1009	-0.0689	-0.00973	-0.22522
Thandianwala Textile Mill	Dated 10/05/2013	AR	0.00053	0.0352564	0.007429	2.29264	-2.29201	-0.22507	-0.1428	-0.1587	0.5096	0.004138	0.00497
		CAR	0.00053	0.035784	0.043214	2.33585	0.043845	-0.18123	-0.32398	-0.4827	0.0269	0.031126	0.036091
		T-stat	0.02903	1.93821	0.408453	126.037	-126.003	-12.3732	-7.84788	-8.7241	28.018	0.22746	0.272986
Ideal Spinning Mill	Dated 1-10-2013	AR	0.10258	0.062126	0.026946	0.08331	0.104023	-0.69444	0.00964	-0.3980	0.948	-0.06341	-0.05513
		CAR	0.10258	0.164707	0.191653	0.27495	0.378968	-0.31547	-0.30583	-0.7039	0.2440	0.180616	0.125486
		T-stat	1.52661	0.924569	0.401018	1.23955	1.548081	-10.3346	0.143464	-5.9237	14.11	-0.9436	-0.82045
Tri star Polyster Textile Mill	Dated 03/01/2013	AR	-0.02207	-0.0679	-0.0634	-0.05936	-0.05731	-0.1332	0.046785	0.10328	-0.203	0.018278	0.023347
		CAR	-0.02207	-0.08997	-0.1534	-0.21272	-0.27003	-0.4032	-0.35641	-0.25313	-0.3122	-0.29388	-0.27053
		T-stat	-0.46476	-1.42999	-1.33514	-1.25001	-1.2069	-2.8044	0.9853	2.17507	-1.2432	0.384936	0.49169
Mubarik Textile Mill	Dated 10-09-2013	AR	0.05569	-0.03875	0.063531	0.025085	0.125871	-0.97936	0.50364	0.22566	0.22334	0.150887	-0.01148
		CAR	0.05569	0.016937	0.080468	0.105553	0.231424	-0.74793	-0.24429	-0.01863	0.20470	0.35559	0.344109
		T-stat	0.206457	0.062788	0.298311	0.391308	0.857942	-2.77275	-0.90564	-0.06907	0.75888	1.318254	1.275688

Dawood Textile Mill	**Dated 07-08-2013**	**AR** **CAR** **T-stat**	-0.05123 -0.05123 -1.57535	-0.04311 -0.09434 -1.32546	-0.03856 -0.1329 -1.1857	0.019852 -0.11305 0.610401	0.030151 -0.0829 0.927071	-0.0951 -0.178 -2.92416	-0.03467 -0.21267 -1.066	0.06208 -0.1506 1.908666	0.03842 -0.1122 1.18121	0.041082 -0.0711 1.263175	0.00246 -0.06864 0.075649
Zahid Jee Textile Mill	**Dated 30/09/2013**	**AR** **CAR** **T-stat**	-0.03791 -0.03791 -0.38403	-0.00856 -0.04647 -0.08672	0.048653 0.002182 0.492866	-0.01738 -0.01519 -0.17603	0.024666 0.009472 0.249876	-0.31921 -0.30974 -3.23363	0.191427 -0.11831 1.939187	0.01630 -0.10201 0.16514	0.09332 -0.0087 0.94529	0.0244 0.015708 0.24718	-0.00519 0.010515 -0.0526
United Brand Limited	**Dated 10-09-2013**	**AR** **CAR** **T-stat**	0.05072 0.05072 0.98863	-0.04605 0.004676 0.091149	-0.04724 -0.04256 -0.82964	0.011435 -0.03113 -0.60676	-0.04575 -0.07688 -1.49851	-0.07984 -0.15672 -3.0546	0.051825 -0.10489 -2.04446	0.02960 -0.0753 -1.4674	-0.0120 -0.0873 -1.7018	-0.03556 -0.12287 -2.39498	-0.03869 -0.16157 -3.14911
Umar fabrics	**Dated 02/10/2013**	**AR** **CAR** **T-stat**	0.00135 0.00134 0.05811	0.0023510 0.003698 0.101456	0.046275 0.049973 1.996935	9.96287E 0.050072 0.004299	-0.02697 0.023105 -1.16375	-0.06236 -0.03926 -2.69117	-0.00848 -0.04774 -0.36606	0.02522 -0.0225 1.08847	-0.0013 -0.0231 -0.023	-0.04226 -0.0653 -1.82371	0.00353 -0.06177 0.152398
Crescent Textile Mill	**Dated 29/07/2007 28/04/2007**	**AR** **CAR** **T-stat**	0.09437 0.09437 1.98239	-0.0332 0.061175 -0.69735	-0.05123 0.009941 -1.07622	0.00291 0.01285 0.06117	-0.05766 -0.04481 -1.21131	-0.17835 -0.22316 -3.74645	0.26437 0.041208 5.553386	-0.1065 -0.0653 -2.2375	0.10392 0.03861 2.18286	-0.12396 -0.08536 -2.60398	-0.06881 -0.15417 -1.44542
Ishaq Textile Mill	**Dated 01-10-2013**	**AR** **CAR** **T-stat**	0.05262 0.05262 0.89505	0.068777 0.121398 1.169856	0.073192 0.19459 1.244949	0.077429 0.272019 1.317022	0.06349 0.33552 1.08007	-0.44863 -0.11311 -7.63094	0.013179 -0.09994 0.22416	0.06101 -0.0389 1.03782	0.20009 0.16116 3.40327	0.023941 0.185102 0.407224	0.038524 0.223626 0.655275
Ishaq Textile Mill	**Dated 01-10-2013**	**AR** **CAR** **T-stat**	0.05262 0.05262 0.89505	0.068777 0.121398 1.169856	0.073192 0.19459 1.244949	0.077429 0.272019 1.317022	0.063498 0.335517 1.080066	-0.44863 -0.11311 -7.63094	0.013179 -0.09994 0.22416	0.06101 -0.03892 1.03782	0.20009 0.16116 3.40327	0.023941 0.185102 0.407224	0.038524 0.223626 0.655275

Company	Date												
Khursheed Spinning Mill	Dated 01-10-2013	AR	0.01655	-0.04169	0.085121	-0.14812	-0.17275	-0.22863	0.150092	0.30236	0.06852	-0.19303	0.085022
		CAR	0.01655	-0.02514	0.059981	-0.08814	-0.2609	-0.48953	-0.33944	-0.0371	0.03144	-0.16159	-0.07657
		T-stat	0.12228	-0.308	0.628831	-1.09426	-1.27622	-1.68902	1.108806	2.23368	0.50619	-1.42604	0.628102
Asim Textile Mill	Dated 12-04-2013	AR	0.01655	-0.04169	0.085121	-0.14812	-0.17275	-0.22863	0.150092	0.30236	0.06852	-0.19303	0.085022
		CAR	0.01655	-0.02514	0.059981	-0.08814	-0.2609	-0.48953	-0.33944	-0.0371	0.03144	-0.16159	-0.07657
		T-stat	0.12228	-0.308	0.628831	-1.09426	-1.27622	-1.68902	1.108806	2.23368	0.50619	-1.42604	0.628102
Ibrahim Textile Mill	Dated 22-11-2013	AR	-0.04549	0.030623	-0.0172	0.02923	0.013604	-0.06817	0.010237	0.03119	0.03181	0.03152	-0.01652
		CAR	-0.04549	-0.01487	-0.03207	-0.00284	0.010765	-0.0574	-0.04717	-0.0159	0.01583	0.047349	0.030828
		T-stat	-1.71613	1.15526	-0.64895	1.102711	0.513234	-2.57166	0.38618	1.17649	1.20001	1.189105	-0.62324
Ittehad Textile Mill	Dated 23/01/2008	AR	-0.04694	-0.01852	0.052233	0.052254	0.035979	-0.12798	-0.00092	0.10441	-0.0814	0.076674	-0.00583
		CAR	-0.04694	-0.06546	-0.01322	0.039029	0.075008	-0.05297	-0.05389	0.05052	-0.0308	0.045792	0.039965
		T-stat	-1.39709	-0.55134	1.554776	1.555402	1.070961	-3.80937	-0.02743	3.10780	-2.4229	2.282315	-0.17345
Chenab Textile Mill	Dated 14-03-2013	AR	-0.05656	0.032601	0.053132	0.024308	-0.0705	-0.40841	0.269664	0.10982	0.13652	0.040037	0.005126
		CAR	-0.05656	-0.02396	0.029177	0.053485	-0.01701	-0.42543	-0.15576	-0.0459	0.09058	0.130619	0.135746
		T-stat	-0.2325	0.134021	0.218423	0.09993	-0.28981	-1.67898	1.108578	0.45148	0.56122	0.164592	0.021075
Al Ahmed Dyeing Textile Mill	Dated 30/03/2013	AR	-0.05	0.00103	-0.113	0.094031	0.09462	-0.040214	-0.04024	-0.002133	0.0223	-0.0465	0.100015
		CAR	-0.04772	-0.05	-0.15954	-0.07	0.029043	-0.0112	-0.05134	-0.05348	-0.03151	-0.078	0.022052
		T-stat	-1.16258	0.02544	-2.7494	2.289403	2.30526	-0.98	-0.97882	-0.05197	0.535112	-1.1317	2.437
Jubleee Textile Mill	Dated 30/09/2013	AR	0.01948	-0.03687	0.018707	-0.04536	0.023687	-0.30387	0.205573	0.06277	0.11888	0.033852	-0.00436
		CAR	0.01948	-0.01739	0.001313	-0.04405	-0.02036	-0.32424	-0.11867	-0.0559	0.06299	0.096845	0.09249
		T-stat	0.11343	-0.21473	0.108943	-0.26419	0.137948	-1.76968	1.197204	0.3656	0.69235	0.197145	-0.02536

Fazal Textile Mill	**Dated 22-11-2013**	**AR**	0.23056	-0.00484	-0.01268	0.051726	-0.03622	-0.35557	0.078541	-0.2969	0.53495	-0.012	-0.04306
		CAR	0.23056	0.225725	0.213043	0.264768	0.228552	-0.12702	-0.04848	-0.3454	0.18956	0.177563	0.134508
		T-stat	5.46802	-0.1147	-0.30078	1.226738	-0.85892	-8.43278	1.862691	-7.0415	12.6867	-0.28464	-1.0211
Taj Rafiq Textile Mill	**Dated 01-10-2013**	**AR**	0.57495	-0.07499	-0.30403	-0.40343	-0.16486	-1.05134	-0.10927	0.79629	0.50511	-0.51651	0.340185
		CAR	0.57495	0.499968	0.195933	-0.2075	-0.37235	-1.4237	-1.53297	-0.7367	-0.2316	-0.74808	-0.40789
		T-stat	2.55979	-0.33386	-1.35361	-1.79612	-0.73398	-4.68074	-0.48649	3.54519	2.24883	-2.29957	1.514554
Shaheen Textile mill	**Dated 07/08/2013**	**AR**	-0.0530	-0.03914	-0.00589	0.054286	-0.05536	-0.2571	0.187933	0.0433	-0.0754	-0.03975	0.098926
		CAR	-0.0530	-0.09215	-0.09804	-0.04375	-0.09912	-0.35621	-0.16828	-0.1250	-0.2004	-0.24018	-0.14125
		T-stat	-0.4325	-0.3193	-0.04806	0.44286	-0.45165	-2.0974	1.533155	0.3529	-0.6152	-0.32425	0.807035
Rana Idress Textile	**Date 15/08/2013**	**AR**	-0.0032	0.013242	-0.07918	0.070365	-0.01184	-0.00965	-0.0298	0.00032	-0.0116	0.051563	-0.02483
		CAR	-0.00318	0.010066	-0.06911	0.001254	-0.01058	-0.02023	-0.05003	-0.0497	-0.0613	-0.00977	-0.0346
		T-stat	-0.04633	0.193188	-1.15514	1.02658	-0.17268	-0.14075	-0.43472	0.00473	-0.1697	0.752268	-0.36222
Ahmed Hassan Textile Mill	**Dated \30-01-2013**	**AR**	-0.0266	-0.02953	0.076687	0.057391	-0.0282	-0.16806	-0.07338	0.18859	0.05700	-0.02199	-0.01565
		CAR	-0.0249	-0.05437	0.022314	0.079705	0.051505	-0.11656	-0.18994	-0.00134	0.05566	0.033672	0.018025
		T-stat	-0.5183	-0.57548	1.494634	1.118546	-0.54963	-3.27549	-1.43017	3.67577	1.11096	-0.42863	-0.30495
AA Fabrics	**Dated 30/09/2013**	**AR**	-0.2672	0.0181	-0.0601	0.1976	-0.0875	-0.2028	0.1489	0.0222	-0.1479	-0.0368	0.2453
		CAR	-0.2672	-0.2491	-0.3092	-0.1117	-0.1992	-0.4020	-0.2531	-0.2308	-0.3787	-0.4156	-0.1702
		T-stat	-1.0806	-1.0075	-1.25057	-0.45154	-0.80558	-1.62587	-1.02352	-0.9336	-1.5316	-1.68066	-0.68849
Sargodha Spinning Mill	**Dated 07-08-2013**	**AR**	-0.10542	-0.08344	-0.02248	0.088687	-0.14085	-0.03858	-0.12225	0.10386	0.0655	0.0675	0.042848
		CAR	-0.10542	-0.18886	-0.21135	-0.12266	-0.26351	-0.3021	-0.42435	-0.32049	-0.2550	-0.1875	-0.14466
		T-stat	-0.36994	-0.66275	-0.74165	-0.43043	-0.92472	-1.06012	-1.48912	-1.12465	-0.8949	-0.6580	-0.50766

| Diamond Textile Mill | Dated 30/09/2013 | AR CAR T-stat | -0.0445 -0.0445 -0.6887 | 0.006816 -0.03767 0.10551 | 0.047782 0.010109 0.739632 | 0.048716 0.058826 0.75409 | -0.02808 0.030743 -0.4347 | -0.18495 -0.15421 -2.86293 | 0.13974 -0.01447 2.16305 | -0.0024 -0.01687 -0.03717 | 0.05859 0.04172 0.90695 | -0.0492 -0.00749 -0.76164 | -0.0524 -0.05988 -0.81108 |

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Appendix III

List of companies listed in KSE 100 index

S.No	Companies Name	Symbols	Data source
1	AA Textile Mill, Faisalabad	AATM	Business recorder
2	Ideal Spinning Mill, Faisalabad	IDSM	Business recorder
3	Asim Textile Mill, Faisalaabd	ASTM	Business recorder
4	Ishfaq Textile Weaving industry	ASHT	KSE-100
5	Chenab Engineering Mill Limited	CLCPS	Business recorder
6	Ibrahim Textile Mill Faisalabad	IBFL	Business recorder
7	Ithehad Chemical Industry ICL	ICL	KSE-100
8	Ishaq Textile Mill	ISTM	Business recorder
9	Jubilee Spinning and Weaving Mill	JUBS	Business recorder
10	Mubarik Textile Industry	MUBT	KSE-100
11	Taj Rafiq Textile Mill	TAJT	Business recorder
12	Sargodha Spinning Mill	SRSM	Business recorder
13	Sitara Chemicals industry	SITC	Business recorder
14	Hina Sana Textile	SNAI	Business recorder
15	Tri star polyster Dyeing Factory	TRPOL	KSE-100
16	Dawood Textile	DWCM	Business recorder
17	Khursheed Spinning mill	KHSM	Business recorder
18	Zahid Jee textile Mill	ZAHID	Business recorder
19	Thandianwali Sugar mill	TSMLR	KSE-100
20	Usman Textile mill	USMT	Business recorder
21	United Brand Limited	UBDL	Business recorder
22	Umar Fabrics	UMEF	Business recorder
23	Crescent textile Mill	CCM	Business recorder
24	Shaheen Cotton Mill	SCML	Business recorder
25	Rana Idress textile Mill	RITM	Business recorder
26	Ahmed Hassan spinning Mill	AHSM	Business recorder
27	Diamond textile Mill	DIIL	Business recorder
28	Billal Fibers , Faisalabad	BILF	Business recorder
29	Al Ahmed Dyeing Mil	ADF	Business recorder