AN INVESTIGATION OF ANNOUNCEMENT EFFECT ON STOCK PRICES IN THE ISTANBUL STOCK EXCHANGE

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an Investigation of Announcement Effect on Stock Prices in The Istanbul Stock Exchange

Istanbul Menkul Kiymetler Borsasında Anons Etkilerinin Hisse Senedi Fiyatlarina Etkisi Üzerine Bir Araştirma

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3) Anons Etkisi	3) Announcement Effect
4) Anormal Getiri	4) Abnormal Return

ÖZET

Bu çalışmada, İstanbul Menkul Kıymetler Borsasına kote olmuş şirketlerin, 2007 dönemi içerisinde, kamuya yaptığı anonsların, açıklama tarihinde, öncesinde ve sonrasında hisse senedi fiyatı üzerinde olan etkileri araştırılmıştır. Önceki çalışmalardan farklı olarak araştırmanın inceleme dönemi kısa tutulmuş fakat yapılan anonslar ile ilgili olarak sadece kar dağıtım kararları veya karlılık anonsları baz alınmayıp, hisse senedi fiyatını olumlu yada olumsuz etkileyebilecek tüm anonslar dikkate alınarak örneklem oluşturulmuştur. Elde edilen araştırma sonuçlarına göre anons tarihi öncesinde, sonrasında ve anons tarihinde anlamlı ilişkiler ve kümülatif anormal getiriler tespit edilerek ulaşılan bulgu ve sonuçlar yorumlanmıştır.

ABSTRACT

In this study, the announcement effect to stock prices of firms listed in Istanbul Stock Exchange (ISE) during 2007 period before, after and when on time of the disclosure time of the announcements was investigated. Different from prior studies, the period under review (2007) was kept short but related to the announcement sample, it includes not only profit distribution decisions and profitability announcements but also all kind of announcement types that can effect the stock price (156). Significant relations was found between before, after and on the time of announcement date and cumulative abnormal returns.

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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TABLE OF CONTENTS

TABLE OF CONTENTS v

LIST OF FIGURES vii

LIST OF TABLES viii

LIST OF ABBREVIATIONS x

ABSTRACT xii

ACKNOWLEDGMENT xiii

1. INTRODUCTION 14

2. GENERAL REVIEW OF STOCK MARKETS 16

2.1. HISTORY OF GLOBAL SECURITIES MARKET 16

2.2. HISTORY OF TURKISH SECURITY MARKET 20

2.3. PROCESSING OF THE SECURITY MARKETS 26

2.3.1. FUNDAMENTAL TERMS 26

2.3.1.1. DESCRIPTIONS RELATED TO THE PROCESSING OF THE SECURITY MARKETS 26

2.3.2. PROCESSING OF THE ISTANBUL STOCK EXCHANGE 32

2.3.2.1. GENERAL RULES OF THE THE TRADING STOCKS 32

2.3.2.2. PRICE FORMATION METHOD OF STOCK MARKETS 33

2.4. EFFECTIVE FACTORS ON THE STOCK PRICES 36

3. REVIEW OF THE LITERATURE 42

4. MEASUREMENT TECHNIQUES USED AND RESULTS 45

4.1. DESCRIPTIVE DATA..... 45

4.2. THE RELATION BETWEEN ANNOUNCEMENT DATES AND ABNORMAL RETURNS ON ISTANBUL STOCK EXCHANGE 47

5. CONCLUSION 53

REFERENCES 55

APPENDIX 60

LIST OF FIGURES

FIGURE 1: CAR IN ISE 2007 45

FIGURE 2: ABSOLUTE VALUE OF CARS 2007 50

FIGURE 3: NUMBER OF EFFECTIVE ANNOUNCEMENTS

ACCORDING TO DATES ALLOCATION 50

LIST OF TABLES

TABLE 1: CHARACTERISTICS OF THE DATA 47

TABLE 2: AR AROUND THE CORPORATE ANNOUNCEMENTS 51

TABLE 3: R AROUND THE CORPORATE ANNOUNCEMENTS 52

TABLE 4: RESIDUALS IN MONTHS SURROUNDING THE SPLIT 60

TABLE 5: EVENT-TIME PORTFOLIO METHOD 62

TABLE 6: DIFFERENCES IN CUMULATIVE AVERAGE ADJUSTED RESIDUAL RETURNS 63

TABLE 7: NON EARNINGS ANNOUNCEMENTS RELATED NEWS STOCK RETURNS 64

TABLE 8: CROSS-SECTIONAL ANALYSIS OF CARS 65

TABLE 9: POST-EVENT RETURNS AND NEWS 65

TABLE 10: THE MEAN AND MEDIAN CARS 66

TABLE 11: QUARTERLY EARNINGS ANNOUNCEMENT DATE RETURNS 67

TABLE 12: DIFFERENCE IN CUMULATIVE AVERAGE RESIDUAL RETURNS 68

TABLE 13: ABNORMAL RETURN IN SHANGAI STOCK MARKET . 69

TABLE 14: ABNORMAL RETURN IN SHENZHEN STOCK MARKET 69

TABLE 15: COEFFICIENTS IN SHANGAI STOCK MARKET 70

TABLE 16: COEFFICIENTS IN SHENZHEN STOCK MARKET 70

TABLE 17: CEO STOCK OPTION AWARD AND CAR ANALYSIS 71

TABLE 18: AWARD TIMING AND RELATIVE TO EARNINGS ANNOUNCEMENT..... 71
TABLE 19: CUMULATIVE DAILY AVERAGE PREDICTION ERRORS…….. 72
TABLE 20: MANAGEMENT EARNING FORECASTS 72
TABLE 21: INSURANCE PREMIUM..... 73
TABLE 22: GANT AND FILING DATE ANALYSIS 73

LIST OF ABBREVIATIONS

AR	:	Abnormal Return
CAR	:	Cumulative Abnormal Return
ETF	:	Exchange-Traded Fund
FEAS	:	Federation of Euro-Asian Stock Exchanges
ISE	:	Istanbul Stock Exchange
ISE100	:	Istanbul Stock Exchange 100 Index
JSDA	:	Japan Securities Dealers Association
OIC	:	Organization of Islamic Conference
SEC	:	U.S. Securities and Exchange Commission
WFE	:	World Federation of Exchanges

ÖZET

Bu çalışmada, İstanbul Menkul Kıymetler Borsasına kote olmuş şirketlerin, 2007 dönemi içerisinde, kamuya yaptığı anonsların, açıklama tarihinde, öncesinde ve sonrasında hisse senedi fiyatı üzerinde olan etkileri araştırılmıştır. Önceki çalışmalardan farklı olarak araştırmanın inceleme dönemi kısa tutulmuş fakat yapılan anonslar ile ilgili olarak sadece kar dağıtım kararları veya karlılık anonsları baz alınmayıp, hisse senedi fiyatını olumlu yada olumsuz etkileyebilecek tüm anonslar dikkate alınarak örneklem oluşturulmuştur. Elde edilen araştırma sonuçlarına göre anons tarihi öncesinde, sonrasında ve anons tarihinde anlamlı ilişkiler ve kümülatif anormal getiriler tespit edilerek ulaşılan bulgu ve sonuçlar yorumlanmıştır.

Anahtar Kelimeler: Hisse Senedi, İstanbul Menkul Kıymetler Borsası, Anons Etkisi, Anormal Getiri.

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In this study, the announcement effect to stock prices of firms listed in Istanbul Stock Exchange (ISE) during 2007 period before, after and when on time of the disclosure time of the announcements was investigated. Different from prior studies, the period under review (2007) was kept short but related to the announcement sample, it includes not only profit distribution decisions and profitability announcements but also all kind of announcement types that can effect the stock price (156). Significant relations was found between before, after and on the time of announcement date and cumulative abnormal returns.

Keywords: Stock, Istanbul Stock Exchange, Announcement Effect, Abnormal Return.

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1. INTRODUCTION

In this study, we examine the effect of announcements on stock prices when on the announcement date and what happen before and after the announcement date in the Istanbul Stock Exchange (ISE) 2007 term. Many studies are focused on the analysis of the information content of annual earnings and dividend announcements.

We extend the literature by examining whether stock price changes are systematically timed to coincide with randomly selected announcements that are not only share of profit decitions but also all kind of good or bad news, capital increase decitions etc. The data includes randomly selected announcements that may effect the stock price like earning announcements and good or bad news on Istanbul Stock Exchange (ISE), and the daily stock price returns for each stock and ISE 100 Index that accepted as market return.

The sample data includes 301 firms in 2007 and number of constant active firms is 287 and calculated Cumulative Abnormal Return (CAR) for each of them. We observed all of the announcements of 51 firms whose CAR is above 0,60 and randomly selected 156 announcemets and calculated Returns (R) and Abnormal Returns (AR) prior and after 15 days

around the announcements.

The paper is organized as follows. Chapter II General Review of Stock Markets covers History of Stock Markets in Turkey and also in the world And explains how Istanbul Stock Exchange works. Chapter III is the review of the literature discusses prior research, Chapter IV is the discussion and demonstration of the relation between the announcement date and the stock price movements and examines the conclusion. Chapter V is the references. Chapter VI is the appendix.

2. GENERAL REVIEW OF STOCK MARKETS

2.1. HISTORY OF GLOBAL SECURITIES MARKET

The roots of the global securities market are in medieval Italy. Out of a growing trade between East and West, new financial arrangements like deposit banking, marine insurance, bills of exchange, joint stock companies and transferable securities appeared in the cities Venice, Genoa and Florance. If a special event can be taken to express the beginnings of the global securities market it was the forced loan that Venice enforced on its citizens in 1171-2. Faced with the need of money due to the obligations of war and unable to raise additional amounts from the normal sources of gains like taxation, the Venetian authorities took what they required from their own wealthy citizens. In exchange, they promised to pay interest on the amount mandatorily borrowed until they were in a position to repay what they owed. These promises, in the form of interest-bearing bonds with no specific repayment date, then earned a life of their own, which are sold by those holders in need of money and bought by others looking for a regular income from their savings. These transferable securities gradually gained acceptance as a secure from of investment that not only paid interest but also could be bought and sold whenever the necessity existed.

Between 1262 and 1379, Venice never failed to pay the promised interest at 5% per annum. As a result, these bonds spanned widely among long-term

investors not only in Venice but olso throughout Europe due to the financial network secured by Italian bankers.

The securities market continued to develop during the centuries. During the period from 1850 to 1914, the securities market acted as a live regulatory mechanism in providing the world economy a pool of securities shared by the main markets. Local, national, and global securities markets were deeply integrated and together formed a wide network by the help of speedy telegraphic and telephone communications.

From 1914 until around 1970, the global securities market lost the ability to fulfill the functions it had performed with growing success over approximately the previous sixty years.

Only from the 1970s onward did a global securities market once again begin to emerge, fueled in particular by the development of a Eurodollar bond market based upon London.

At the end of the 20th century, the global securities seemed like the situation existed before the First World War. This caused some to evaluate the history of financial markets as a U-shaped curve in the 20th

century, which was same at the beginning and at the end but had been totally different in the interim period of years.

Structure, function and organisation of national securities markets and the environment they operate in was very different from each other both at the beginning and end of the 20th century. The greater control used by governments, the increased importance of regulation, the revolution in communications, and the conversion of national banks and brokers to global enterprises were the permanent consequences appeared due to the changes in 20th century.

Securities market existed before 1914 and at the end of the century were very different from each other due to the effect of these influences. Before 20th century, Europe and its Empires were forcible; international communications was based on the telegraph, steamship and railway; governments interfered in economic cases; and too many stock exchanges were at the heart of the global securities market. That was all changed over the next 100 years.

By the end of the 20th century Europe was no longer forcible and its Empires did not exist, international communications was made by telephone, aeroplane and computer network; governments took a part in economic cases both as domestically and internationally; and banks

and brokers operating globally controlled the securities market.

Structure of stock exchanges became corporate providers of financial services for an international community instead being a member controls organisations affected domestically. If the history is wanted to be used for shaping future direction, these differences between the present and past must be taken into consideration in their integrity.

Consequently, the growth of the global securities market owed much more to the needs of a particular group of investors looking for a short-term home for their money than to the long-term needs of either government or business. It required securities in which investors had confidence and which could be easily bought and sold. Government plans were unreliable, and even when a market developed of itself, governments were keen to either manage it by forbiding practices they little understood but disapproved of, or by managing it for their own ends. The global securities market of the early eighteenth century was not the product of governments and it did not serve political masters. It was the product of a need within the financial system to create a type of investment that could be bought and sold to supply a temporary home for funds and a means of transfer from one location to another. It overbalanced the needs of any special regime for its master was international trade and finance.

2.2. HISTORY OF TURKISH SECURITY MARKET

In March 1985, Muharrem Karslı was assigned as Chairman and CEO of the ISE (Istanbul Stock Exchange). ISE, which is the only security market in Turkey was inaugurated in December 1985 under the Chairmanship of Muharrem Karslı.

ISE started stock trading at the Cagaoglu building in January 1986. ISE Indices which had been calculateed on a weekly basis, was started daily calculation in October 1987 and moved to new building in Karaköy in November 1987.

The Settlement and Custody Center of the ISE was established in July 1989. Foreign investors in Turkey were allowed to purchase and sell all types of securities in August 1989. In addition to the ISE Composite Index, Financials and Industrials Indices were started to calculate in January 1991. Settlement and Custody Center was transformed into an independent company in January 1992. Corporate Bonds and revenuesharing Certificates were started trading in Bonds and Bills Market in February 1992. ISE was accepted as a full member to The World Federation of Exchanges (WFE) in October 1992.

In 1993, Rights Coupon Market and New Shares Market was

established in January; the Repo/Reverse Repo Market was started in February; the ISE by the U.S. Securities and Exchange Commission (SEC) was accepted as a “Designated Offshore Securities Market” in October and computerized stock trading with 50 stocks was started in December. Mr. Tuncay Artun was assigned as Chairman and Chief Executive Officer of the ISE in April, Small Orders Market in the Bonds and Bills Market was started in Sptember and stock trading was totally automated in November, in 1994.

In 1995; Regional Markets and the Wholesale Market were launched in January; ISE Settlement and Custody Company was assigned as an “Eligible Foreign Custodian” by U.S. Securities and Exchange Commission (SEC) and Custody Services was started on customer basis by the ISE Settlement and Custody Company in March; detailed balance sheet and income statements of companies including footnotes was denounced and short selling transactions in April; launch of the New Companies Market was started in April; moved to the new building in Istinye, the “ Federation of Euro-Asian Stock Exchanges ” (FEAS) with 12 members and Investor Counselling Center designed to provide information on the ISE's operations and traded companies was founded, and also the ISE as an “appropriate foreign investment market for the private and institutional Japanese investors” by the Japan Securities Dealers Association (JSDA) was approved in May the ISE Settlement and Custody Company changed to the ISE Settlement and Custody Bank (Takasbank) in July.

In January 1996, banking services of the ISE Settlement and Custody Bank started. In July, the requests for listing and trading on the ISE International Market was accepted. In September, Foreign Currency Denominated Government Debt Securities started to traded at the Outright Purchases and Sales Market of the Bonds and Bills Market. In December, the International Bonds and Bills Market was opened within the ISE International Market.

In 1997; new Stock Market indices was introduced as integers by the drop of two digits from base values in January, ISE International Bonds and Bills Market began its operations upon the listing of 40 international bonds issued by the Undersecretariat of Treasury for trading abroad in February, ISE Chairman & CEO Mr. Tuncay Artun has died in August, Mr. Osman Birsen was nominated as Chairman and CEO of the ISE in October.

ISE started to calculate National-100 Index on Euro basis in January 1999, ISE Settlement and Custody Bank (Takasbank) presented the client name-based custody system in May 1999, "Memorandum of Cooperation" was signed between the ISE and the stock exchanges of London and Republics of Kazakstan, Kyrgyzstan and Uzbekistan.in June 1999, the new computerized trading software for the Bonds and Bills Market was started in July 1999, short-selling transactions and margin trading became available on the ISE's markets by August 1999, when previously, authorized

ISE members had the chance to engage in short-selling transactions only in stocks forming the ISE-National 100 Index, the trading hours for the Bonds and Bill Market was changed by ISE's Executive Council and Trading started to exist between 9:30-12:00 and 13:00-17:00 by September 1999.

In May 2000, the Istanbul Stock Exchange joined in the capital of the Kyrgyz Stock Exchange by 27.4 percent and first dealership system was started for Government Debt Securities. In June 2000, the Istanbul Stock Exchange joined in the capital of the Baku Stock Exchange by 5. 26 percent as the 19th shareholder. In July 2000, the number of members work in their main offices at the Bonds and Bills Market, as a part of the Wide Area Network (WAN) project, increased to 50 and 98 at the end of 2000. Within the context of Wide Area Network Project, trading at the ISE's Stock Market by workstations existed at the headquarters of ISE members started on July 31, 2000.

In October 2001, the "Memorandum of Understanding" was signed between the Korea Stock Exchange and the Istanbul Stock Exchange in 1996 and renewed continuing on October 18, 2001. In December 2001, the Wide Area Network changed to Ex-API system.

In August 2002, stocks of companies, trading of which were suspended by the ISE for the reason that the denouncement of requirements have not been fulfilled resulting with uncertaines stopped the

formation of a health market, started to be traded off-exchange in line with the legislations with title "Principles including off-exchange trading of stocks exchange trading of which have been suspended by the ISE" published on July 19, 2004. In November 2002, Osman Birsen was re-appointed as ISE Chairman & CEO.

In March 2003, all orders entered to the Stock Market for all stocks and during all sessions had been required to have the customer account numbers; Regional Markets and New Companies Market were renamed as Second National Market and New Economy Market..

In November 2004, the "ETFs Market" was set in order to provide an organized and transparent market for trading of participation certificates of the ETFs. In 2005, in February, "ISE Corporate Governance Index" was started by ISE Executive Council. Between March 28-29, 2005, the Organization of Islamic Conference (OIC) Member States' stock exchanges representatives and OIC institutions met in Istanbul, Turkey for the first meeting additionally to the stock exchanges of the OIC Member States.

As of December 27, 2006, the ISE International Market and its submarkets (Depositary Receipts Market and International Market Bonds and Bills Market) was closed.

International Bonds Market started its operations within the

ISE Foreign Securities Market on April 16, 2007. In the Market, listed Turkish Sovereign Eurobonds have been traded. In August 2007, ISE started to calculate the Corporate Governance Index. On October 16, 2007, the "Memorandum of Understanding" was signed between the Istanbul Stock Exchange and the Shanghai Stock Exchange. In November 2007, Mr. Huseyin Erkan nominated as Chairman and CEO of the ISE.

In October 2008, Mr. Hüseyin Erkan was elected as the Working Committee Chairman and member of the Board of Directors of the World Federation of Exchanges (WFE).

In February 2009, City Indices was startedfor 9 cities and in May Public Disclosure Platform was started.

At the present day, National Market Traded Value has reached to 2.994.513.922.675.860 $ and National Market Number of Contracts has reached to 630.691.080.000 units.

2.3. PROCESSING OF THE SECURITY MARKETS

2.3.1. FUNDAMENTAL TERMS

2.3.1.1. DESCRIPTIONS RELATED TO THE PROCESSING OF THE SECURITY MARKETS

2.3.1.1.1 The Concept Of Session

The period between the time that the processes of a security are started and ended is called as “Session” in the related market.

Securities processed in the Stock Market are traded everyday between particular times. This process time is called as “Stock Market Session”. The session of all securities processed in the same market starts and ends at the same time.

2.3.1.1.2 Trading amount

It is the quantity of securities which are traded in a session or in a specific period in a market. In the Stock Market, in every process day, process quantity is published in terms of individual stocks for the processes of both sessions. When the realized process quantities of securities processed in different markets are summed up, the daily process quantity of ISE appears.

2.3.1.1.3 Trading Volume

It is the quantity found when the process quantity and the process prices in all the realized agreements are multiplied. The total process volume of all stocks forms the total process volume of the Stock Market.

2.3.1.1.4 Trading Unit

This conveys the minimum quantity or value of a Capital Market instrument, which can be processed with itself or it's multiplies. "Lot" is used as a process unit in Stock Market. 1 lot is equal to 1 stock or a stock with 1 TL nominal value. It represents the coupon on the stock with 1 TL nominal value for pre-emptive right coupons. Process unit is one piece and multiplies of the contribution rate in the process period of Exchange-Traded Fund (ETF).

2.3.1.1.5 Weighted Average Price

The calculation of the price which will be used in the next session is based on the quantity-weighted price of the stock. For every stock, before

each session, the weighted average price is calculated by considering the previous session processes.

When calculating the weighted average prices of the stocks, the processes realized in the wake of the normal biddings came true by different prices and quantities with registered prices are considered. (It should be a lot process and realized process should be a special bidding in order to register the price.) By the end of the process day, for all stocks, it is calculated by using below formula.

$$W.A.P. = \frac{\sum_{i=1} (M_i X F_i)}{\sum_{i=1} M_i}$$	**M i =** Process quantity **F_i =** Process price

2.3.1.1.6 Basic Price

It is the price served as a basis to determine the base and ceiling price limits and price steps in which a stock can be processed. When the weighted average price of the stock in the latest session it is issued in is not suitable to the step rule, this price is gained by evaluation of the "step suitable" and nearest prices to the base and ceiling, and by rounding up the

nearest one. The weighted average price is rounded up to the top if it has equal distance to both prices.

The basis price is entered to the system by the determination of the Stock Market, when there dividend payments, capital increases and corporate combination or transfers exist. The method which will be used in price determination is decided by the Stock Market Executive Board and published in the Daily Review.

2.3.1.1.7 Reference Price

It is a price type found by using the weighted average price and rights issue rate in its latest session before the old stock is divided, in order to be used by the investors as a reference to the nearest value of the coupon, due to the pre-emptive right coupons which are not the basis to determining the ceiling and base price limits to be processed are not opened to the processing with a basis price in the session they are first processed in.

In some corporate combinations, a reference price is published by the Stock Market, to be used till the end of the first session in which a process registered in the company order is realized.

2.3.1.1.8 Price Step

Price step is the minimum price change that can come true at one time for each stock. Price steps of the stocks are determined according to the basis prices. Various basis price ranges and steps increasing parallel to the basis price increase in particular levels for each of these ranges are defined in the Basis Price Range – Price Step table below. It is mandatory to comply with these price steps when entering bidding. This Basis Price Range – Price Step table is valid for stocks and pre-emptive right coupons. There exists another table for Exchange-Traded Fund (ETF) stocks.

Basis Price Range - TL		Price Step - TL
A	0,01 - 2,50	0,01
B	2,52 - 5,00	0,02
C	5,05 - 10,00	0,05
D	10,10 - 25,00	0,10
E	25,25 - 50,00	0,25
F	50,50 - 100,00	0,50
G	101,00 - 250,00	1,00
H	252,50 - 500,00	2,50
I	505,00 and over	5,00

2.3.1.1.9 Price Change Limits

Comparison of supply and demand for the securities

processed in the Stock Market is only made in the price range settled by the method determined by the Stock Market Management.

For each stock, the base and ceiling prices it can be processed with, form the “Price Range” for that stock. These limits are calculated by having the base price of that session as a basis.

In Stock Market, for lot and special biddings, price ranges are limited with %10 more and less than the base price. If it is not suitable to the Price Step Rule, the upper limit calculated according in this procedure is rounded up to the top and lower limit is rounded up to the bottom, which is the “step suitable price level”. Price change can pass the prescribed percentage, when compared to the weighted average price, since the upper and lower limits are rounded up to the outwards and multiplies of the price steps. The price range of special biddings can be determined by the Stock Market Executive Board differently from the standard price ranges.

The rate in the Pre-emptive Right Coupon Market in which the base price is first processed and went on with free margin till the end of the session, is +/- %25.

In general, Wholesale Market processes do not depend on this %10 limitation.

2.3.2. PROCESSING OF THE ISTANBUL STOCK EXCHANGE

2.3.2.1. GENERAL RULES OF THE THE TRADING STOCKS

2.3.2.1.1 Securities Traded In The Stock Markets

Stocks, Deeds of Adherence of Exchange-Traded Fund (ETF) and differently from stocks, pre-emptive right coupons which has security adjective are processed in the market.

There occur different kinds of stocks and opens separate markets for each group of stocks, when companies give different rates of share of profit, enable voting or make call payments at different times, based on their agreements.

2.3.2.1.2 Exchange Of The Trades

In Stock Market, trading is done with payment in advance. Delivery of value and cost is done through Takasbank and Central Registry Agency in delivery day+2 days.

2.3.2.2. PRICE FORMATION METHOD OF STOCK MARKETS

2.3.2.2.1 Priority Rules

There are some process rules applied by the system, at the time of reception of bidding by an opposite bidding. A member representative transfers all the information of bidding to the system through the computer. Processes are realized automatically by the system according to the priority rules defined for the Stock Market. These rules are the price and time priority rules. On the processing order of biddings, price priority comes first and if the prices are the same then time priority comes.

2.3.2.2.2 Priority Of Price

It is the priority rule that secures the sales orders with lower prices are processed before the ones with higher prices and purchase orders with higher prices are processed before the ones with lower prices.

2.3.2.2.3 Priorty Of Time

It is the priority rule that secures the bidding saved to the system

previously is processed earlier when the prices of biddings have equality.

2.3.2.2.4 Bidding Improving-Aggravate Concepts

Bidding improvement means the raise of bidding price for purchasing and decrease of bidding price for sales orders. Bidding improvement can be done at any moments except the time that the stock is temporarily delisted.

Bidding aggravate means the decrease of purchase orders and increase of sales orders. Bidding aggravate can only be made on temporarily delisted stock or last stock entered to the system, at the time of having biddings in opening session.

2.3.2.2.5 Processing Methods

In ISE Stock Market, "Opening Session – Single Price" and "Continuous Auction System – Poli Price" methods are used.

2.3.2.2.6 Continious Auction-Poli Price Method

It is called as "Continuous Auction System – Poli Price Method" due that the sales and purchase orders sent to the system during the

session can meet at different price levels and so there occur different process prices.

2.3.2.2.7 Opening Session

It is a special session appliance works with Single Price method which takes place in a particular time period with acceptance of bidding to the trading system without any coupling and by calculating a single price level (Opening Price) that supplies the realization of the process with the highest quantity.

I. Opening Session Processing Principles

Opening Session is composed of two milestones basically:

1. Raising of biddings: In this period of time, biddings are sent to the system and they are ordered accordingly to the priority rules. There are no matches.

2. Determination of opening price and realization of opening processes: In this period of time, opening price is determined with the evaluation over trading biddings in the system and the biddings suitable to price-time priority are processed if there is enough bidding.

Opening session can be realized for a particular stock as well as it can be realized for a particular market and/or totally for all stocks on

specialty code (old, new, etc.).

II. Session Times

Session times in Stock Market are determined as below with the Opening Session application:

National Market, Corporate Products Market, Second National Market, New Economy Market and Fund Market	
1. Session	09:30 - 12:30
a. Opening Session	09:30 - 09:50
i) . Raising of Biddings Period	09:30 - 09:45
ii) . Determining Opening Price and Opening Processing	09:45 - 09:50
b. Continuous Auction Session + Opening Session based on Stock	09:50 - 12:30
2. Session	14:00 - 17:30
a. Opening Session	14:00 - 14:20
i) . Raising of Biddings Period	14:00 - 14:15
ii) . Determining Opening Price and Opening Processing	14:15 - 14:20
b. Continuous Auction Session + Opening Session based on Stock	14:20 - 17:30
Wholesale Market Official Auction Processing Primary Market Processing	11:00 - 12.00
Watch List Market	09:30 - 10:30

2.4. EFFECTIVE FACTORS ON THE STOCK PRICES

In general, two main factors that determine stock prices. The first one is the general economic situation, and the second one is about the company's own situation and positive or negative developments. Some

effective factors from the literature are as below.

Fama (1969) found that market's judgments concerning the information especially about future divident implications of a split are fully reflected in the price of a share at least by the end of the split month after the announcement date.

According to Niedderhoffer (1971) World events exert a discernible influence on the movements of the stock market averages.

Fama (1981) Found that the negative relations between real stock returns and inflation are the consequence of proxy effects. Accoring to Fama it seems a hedge against inflation.

Bjerring, Lakonishok and Vermaelen (1983) found that brokerage firms provide a valuable service to its customers in selecting stocks which achieved positive abnormal returns during the recommendation period. Moreover, the information content of the recommendations was not "immediately" reflected in market prices.

Pearce and Roley (1985) has examined the daily response of stock prices to announcements of the narrowly defined money stock, the CPI, the PPI, the unemployment rate, industrial production, and the Federal Reserve's discount rate. According to Pearce and Roley, money

announcement surprises have a significantly negative effect on stock prices. In the subsample beginning discount rate changes also have significant effects. Second, only limited evidence supports the view that either inflation or real economic activity surprises affect stock prices. PPI surprises have significant effects on the day of an announcement, but they are estimated to be offset by the end of one week. In both subsamples, surprises in announced levels of real economic activity have no significant impact on stock prices on the day of an announcement. Third, the empirical results indicate that anticipated components of economic announcements do not significantly affect daily stock price movements.

Kross and Schroeder (1984) found that earnings announcement timing was associated with abnormal stock returns around the earnings announcement date. Abnormal returns of firms that announced early (late) were significantly higher (lower) than the returns of firms that announced late (early).

Cutler, Poterba and Summers (1988) examined that market moves coincident with major political and world events. They also indicated that stock price movements are fully explicable by news about future cash flows and dicount rates in their working paper.

Warner, Watts and Wruck (1988) have found no significant relation between average stock price change and top management change at the announcement date.

Worrell, Davidson and Sharma (1991) found that layoff announcements generally convey negative information to investors and that negative market reactions are particularly likely to occur in cases attributable to financial distress. In addition, preannouncement negative market reactions appear likely to occur when leakage precedes an announcement, and announcements of large or permanent layoffs elicit stronger negative shareholder responses than announcements of small, temporary layoffs.

Veronesi (1999) found that three implications, first the reaction of prices to news tends to be high in good times and low in bad times. Second, the volatility of percentage returns tends to be higer in bad times than in good times and it is maximized during periods of higest uncertainty. Third, expected returns change over time as the investors‘ level of uncertainity changes, as does return volatility.

Dechow and Hutton (1999), They provided evidence consistent with the hypothesis that sell-side analysts make overly optimistic long-term earnings growth forecasts for firms issuing equity. They also showed that the overly optimistic forecasts are reflected in stock prices.

Subramani and Walden's (1999) results suggest that e-commerce initiatives announced in this period do indeed lead to positive CARs for firms.

Chan and Siems (2004) found that global capital markets are tightly inter-linked; news spreads rapidly, with quick spillover, or contagion, effects. They found evidence that suggests that modern U.S. capital markets are more resilient than they were in the past and that they recover sooner from terrorist/military attacks than other global capital markets.

Hendricks and Singhal (2005) investigated the long-run stock price effects and risk effects due to supply chain disruptions. They found that over a three-year time period starting one year before through two years after the disruption announcement date, the mean abnormal return of their sample firms was nearly 40%. Some of this negative abnormal performance is observed during the year before the announcement, indicating that the market partially anticipates the disruption.

According to Lo, Repin and Steenbarger (2005) typical emotional responses may be too crude an evolutionary adaptation for purposes of "financial fitness" and as a result, one component of successful trading may be a reduced level of emotional reactivity. Given that trading is likely to involve higher brain functions such as logical reasoning, numerical

computation, and long-term planning. To the extent that emotional reactions "short-circuit" more complex decision-making faculties it should come as no surprise that the result is poorer trading performance. The specific emotional context of an individual is also often influenced by external factors such as market events, family history, and even weather and other environmental conditions. This may provide yet another motivation for multi factor assetpricing models where certain common factors are affect related.

3. REVIEW OF THE LITERATURE

Some studies examined the return behaviour from the literature. Debondt and Thaler (1985) found that portfolios of prior losers, are found to outperform prior winners.

Jegadeesh and Titman (1993) found that investors who buy past winners and sell past losers move prices away from their long-run values temporarily and thereby cause prices to overreact.

Hong and Stein (1999) improved a modal gradual information diffusion process that firms slowly diffussing news especially bad news about their future fundamentals.

Chan (2003) examined long term return behaviour following large price changes unaccompanied by public news and finds price reversals that are stronger for small and illiquid stocks.

Erdoğan and Yezegel (2009) analyzed short term return behaviour following large price changes when there is no news.[1]

[1] Erdoğan and Yezegel (2009) added on literature as on the momentum anomaly.

Some studies examine opportunistic behaviour by insiders in the con-text of timing equity offerings. Kong and Taghavi (2006) found that the changes of the news variable significantly influence the mean of abnormal return in that the mean of abnormal return markedly increases four days before announcement, while decreases four days after announcement in The Shanghai and Shenzen Stock Markets.

Yermack (1997) finds that analysis of corporate earnings announcements supports an interpretation that CEOs receive stock option awards shortly in advance of favorable corporate news. The timing of CEO stock option awards appears even more successful than the timing of ordinary stock trades by corporate insiders.

Seyhun (1986) finds that outside investors cannot use the publicly available information about insiders' transactions to earn abnormal profits.

Aboody and Kasznik (2000) find that CEOs' incentives to manage investors' expectations around scheduled awards could be mitigated by setting award dates immediately after earnings announcements.

Chalmers, Dann, and Harford (2002) find Consistent with the managerial opportunism hypothesis, there is a negative association between the amount of D&O insurance coverage at the IPO and the three-year stock price performance of the firm.

Randall and Eric (2007) found that backdating is the major source of the abnormal stock return patterns around executive stock option grants. Their evidence further suggests that the new reporting requirements have greatly curbed backdating but have not eliminated it. To eliminate backdating, it appears that the requirements need to be tightened further, such that grants have to be reported on the grant day or, at the latest, on the day thereafter.

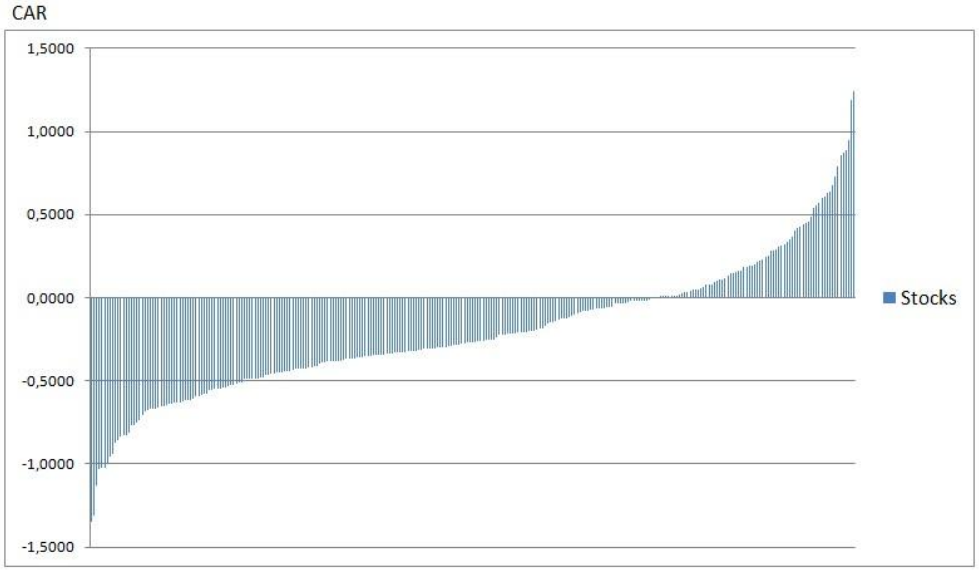
In addition, the accounting literature is replete with studies that examine managers' ability to manage reported earnings to increase cash bonuses Healy (1985), Lambert and Larcker (1987), and Gaver and Gaver (1993).

4. MEASUREMENT TECHNIQUES USED AND RESULTS

4.1. DESCRIPTIVE DATA

The data includes randomly selected announcements that may effect the stock price like earning announcements and good or bad news on Istanbul Stock Exchange (ISE), and the daily stock price returns for each stock and ISE 100 Index that accepted as market return. The sample data includes 301 firms in 2007 and number of constant active firms is 287[2] and we calculated Cumulative Abnormal Return (CAR) for each of them.

Figure 1: 1 CAR in ISE 2007



We observed all of the announcements of 51 firms whose CAR is above 0,60 and randomly selected 156 announcemets and calculated Returns (R)

[2] These 16 firms were not active in 2007 term in ISE: ALBRK, ARAT, EPLAS, ESEMS, HALKB, ISMEN, MZBYO, MZHLD, OYAYO, OYSAC, SAGYO, SAGYO, SNGYO, TAVHL, TEKTU, TKFEN, UKIM

and Abnormal Returns (AR) prior and after 15 days around the announcements. For to determine effect of the internal variables (news effects). *Abnormal return can best be described as the difference between actual return and the competitive return.*[3]

As we explained on Literature Chapter, Hong and Stein (1999) developed a modal about gradual information difussion where firms slowly release information especially bad news before their formal announcement date to the the investors (Public Disclosure). We relized that negative CAR (release of bad news) is bigger than positive CAR (release of good news). Detailed characteristics of the data is as below.

[3] Robert Jacobsen, 1988, The Persıstence Of Abnormal Returns, *Strategic Management Journal, Vol. 9, P:3*

Table 1: Characteristics of The Data

Characteristics of The Data	
Stock Market	Istanbul Stock Exchange
Term	2007
Total Firms	301
Number of Constant Active Firms	287
Total CAR	-58,66
Average CAR	-0,20
Max CAR	1,24
Min CAR	-1,35
Mode of CAR	-0,34
Median of CAR	-0,27
Total Absolute Value of CAR	103,73
Average Absolute Value of CAR	0,36
Max Absolute Value of CAR	1,35
Min Absolute Value of CAR	0,00
Mode of Absolute Value of CAR	0,34
Median of Absolute Value of CAR	0,33
Number of Firms That CAR Is Bigger Than 0,60	51
Number of News That Can Effect Price of Stock	156

4.2. THE RELATION BETWEEN ANNOUNCEMENT DATES AND ABNORMAL RETURNS ON ISTANBUL STOCK EXCHANGE

The sample data includes 301 firms in 2007 and number of constant active firms is 287 and calculated Cumulative Abnormal Return (CAR) for each of them. Our data includes randomly selected 156 announcements may effect the stock price like earning announcements and good or bad news on Istanbul Stock Exchange (ISE) of 51 firms their CAR above 0,60 and the daily stock price returns for each stock and ISE 100 Index that accepted as market return and calculated Returns (R) and Abnormal Returns (AR) prior and after 15 days around the announcements.

There are two basic cases in this study. The first case is there is no relation between Abnormal Returns and corporate announcements. The second case is there is significant relation between corporate announcements and abnormal returns prior or after or both the announcement date.

This paper aims to discover which of the above two cases is most likely to occur on the Istanbul Stock Exchange market by statistically testing the relation between abnormal retuns and randomly selected announcements around 15 days.

In this study, we did not make a distinction between good and bad news. We used the absolute value after calculated the AR and CAR, due to investors can short their investments to protect themselves from sharp price decreases because of the bad corporate announcements. Consequently we could measure good and bad announce effects together.

We use that formula to calculate daily returns:

$R = (Pt/Pt\text{-}1)\text{-}1$

R:Return

Pt:Closing Price of The Stock

Pt-1:One Day Before Closing Price of The Stock

We use that formula to calculate Abnormal Returns:

$AR = R_i - Rɱ$

AR:Abnormal Return

R_i:Return of The Stock

Rɱ:Market Return (Return of the ISE 100 Index)

And we use that formula to calculate Cumulative Abnormal Return

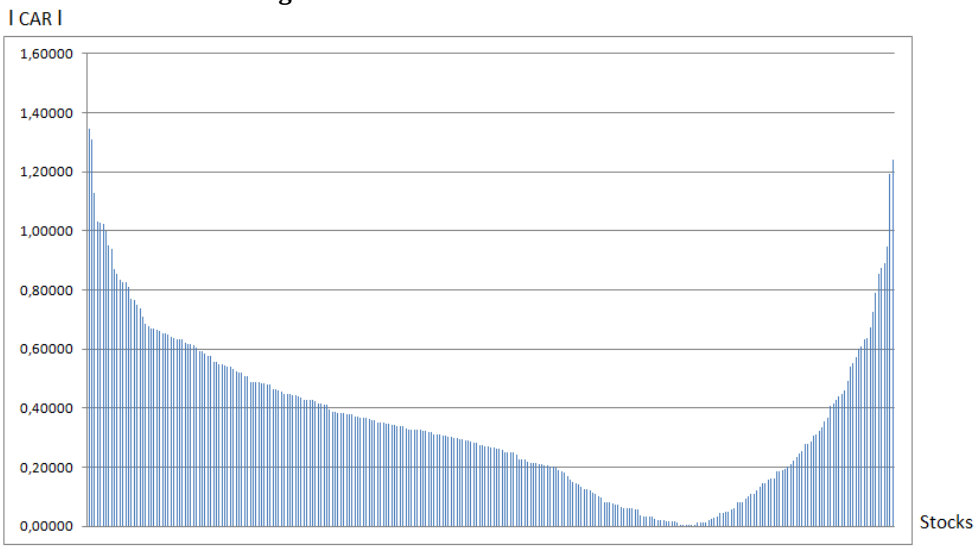
$CAR = \sum AR$

CAR:Cumulative Abnormal Return

AR:Abnormal Return

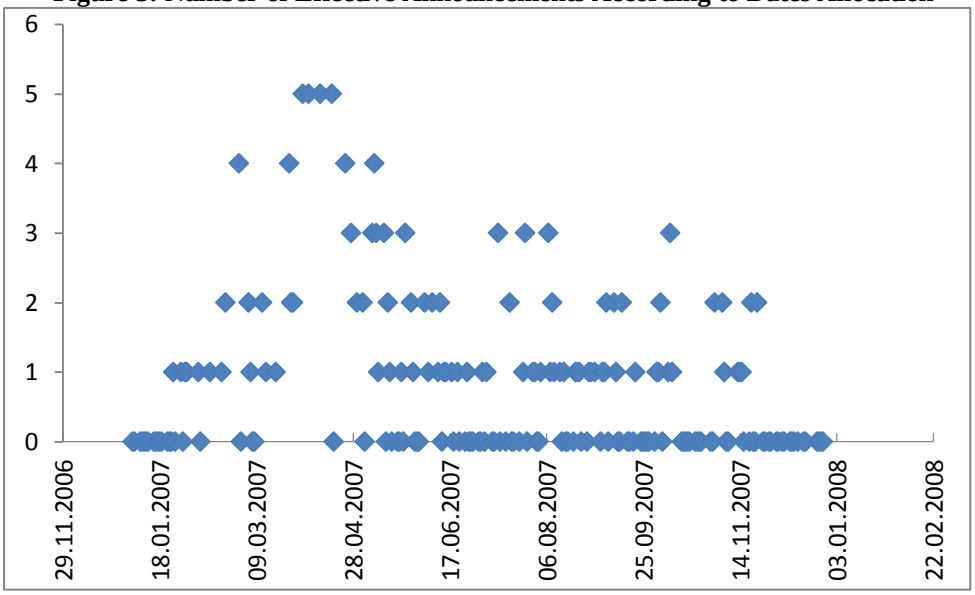
You can see the graph of absolute value of the CAR below:

Figure 2: Absolute Value of CARs 2007



We choosed 51 firms (CAR > 0,06) and observed all of their corporate announcemets and randomly selected 156 effective announcements which are about share of profit and good or bad news which may be effective on price of the stocks. **(Figure:3)**

Figure 3: Number of Effective Announcements According to Dates Allocation



We found some results of AR and R on the announcement date, before and after 15 days around the announcements. As you can see on **Table:2 and Table:3** there are significant relations between CAR and corporate announcement date (0 Point) and 11-12 days before. In addition, we relized that short term return behaviour following large price changes after the announcement date.

Table 2: AR Around The Corporate Announcements

Number of Days To The Announcements	Volatility %	Standard Deviation	Skewness	Kurtosis	Median	Average	Max
-15	35,13	0,0281	2,86	10,15	0,0151	0,02358	0,1758
-14	60,72	0,0486	7,10	64,09	0,0145	0,02539	0,5072
-13	31,39	0,0251	2,75	9,47	0,0140	0,02103	0,1502
-12	**90,86**	**0,0727**	**9,87**	**110,39**	**0,0140**	**0,02712**	**0,8559**
-11	**79,25**	**0,0635**	**9,76**	**108,52**	**0,0141**	**0,02643**	**0,7460**
-10	31,81	0,0255	2,86	12,39	0,0105	0,01998	0,1871
-9	36,17	0,0290	5,00	36,31	0,0127	0,02143	0,2704
-8	56,77	0,0454	7,48	69,87	0,0144	0,02408	0,4832
-7	47,59	0,0381	3,62	16,48	0,0124	0,02460	0,2835
-6	26,07	0,0209	2,93	12,46	0,0124	0,01875	0,1445
-5	33,53	0,0268	2,82	10,32	0,0143	0,02278	0,1716
-4	46,78	0,0375	3,99	19,77	0,0156	0,02530	0,2773
-3	56,01	0,0448	7,05	64,86	0,0134	0,02559	0,4714
-2	45,80	0,0367	5,27	35,95	0,0129	0,02288	0,3304
-1	26,98	0,0216	2,08	5,20	0,0154	0,02100	0,1262
0	**71,76**	**0,0575**	**5,69**	**43,19**	**0,0206**	**0,03574**	**0,5478**
1	58,45	0,0468	4,83	33,03	0,0155	0,02951	0,4208
2	60,78	0,0487	7,89	78,85	0,0147	0,02569	0,5356
3	64,65	0,0518	6,84	53,37	0,0154	0,02640	0,4832
4	**78,73**	**0,0630**	**5,97**	**40,22**	**0,0163**	**0,03094**	**0,5478**
5	**80,13**	**0,0642**	**9,16**	**98,80**	**0,0148**	**0,02702**	**0,7382**
6	47,66	0,0382	5,15	38,03	0,0138	0,02420	0,3567
7	**79,93**	**0,0640**	**9,23**	**100,17**	**0,0123**	**0,02643**	**0,7382**
8	27,88	0,0223	3,51	17,01	0,0122	0,01797	0,1571
9	50,17	0,0402	7,61	68,73	0,0113	0,01890	0,4208
10	**87,73**	**0,0702**	**8,30**	**77,75**	**0,0143**	**0,02648**	**0,7460**
11	44,54	0,0357	9,56	106,48	0,0125	0,01797	0,4208
12	**76,42**	**0,0612**	**4,67**	**23,33**	**0,0122**	**0,02775**	**0,4208**
13	56,60	0,0453	6,15	45,58	0,0113	0,02330	0,4208
14	**114,37**	**0,0916**	**7,95**	**66,28**	**0,0138**	**0,03052**	**0,8559**
15	**92,67**	**0,0742**	**9,52**	**103,13**	**0,0123**	**0,02590**	**0,8559**

Table 3: R Around The Corporate Announcements

Number of Days To The Announcements	Volatility %	Standard Deviation	Skewness	Kurtosis	Median	Average	Max
-15	0,40	0,0317	2,76	8,51	0,0156	0,02479	0,1710
-14	0,62	0,0498	6,83	61,61	0,0131	0,02605	0,5157
-13	0,34	0,0275	2,48	7,14	0,0149	0,02382	0,1505
-12	0,91	0,0726	9,69	107,77	0,0128	0,02722	0,8495
-11	0,80	0,0644	9,54	105,32	0,0143	0,02663	0,7520
-10	0,33	0,0263	2,70	11,44	0,0149	0,02386	0,1869
-9	0,37	0,0300	3,71	19,12	0,0156	0,02355	0,2353
-8	0,57	0,0453	7,46	70,62	0,0147	0,02493	0,4841
-7	0,51	0,0409	3,99	22,02	0,0163	0,02765	0,3333
-6	0,28	0,0222	2,72	11,24	0,0148	0,02067	0,1571
-5	0,38	0,0301	2,65	8,35	0,0151	0,02375	0,1786
-4	0,48	0,0381	3,47	14,96	0,0157	0,02648	0,2632
-3	0,59	0,0473	7,23	67,24	0,0148	0,02535	0,5000
-2	0,47	0,0374	4,99	33,25	0,0143	0,02439	0,3302
-1	0,30	0,0240	2,41	8,11	0,0145	0,02190	0,1582
0	0,75	0,0600	5,39	39,40	0,0189	0,03704	0,5563
1	0,56	0,0446	5,07	38,39	0,0174	0,03129	0,4218
2	0,62	0,0496	6,56	58,97	0,0177	0,03003	0,5130
3	0,65	0,0524	6,77	51,66	0,0121	0,02349	0,4841
4	0,81	0,0650	5,59	36,62	0,0150	0,03215	0,5563
5	0,81	0,0651	8,72	92,60	0,0163	0,02983	0,7399
6	0,53	0,0426	4,73	32,81	0,0135	0,02691	0,3854
7	0,81	0,0652	8,63	91,53	0,0137	0,02986	0,7399
8	0,32	0,0252	3,08	13,82	0,0140	0,02062	0,1837
9	0,50	0,0400	7,37	67,90	0,0107	0,02018	0,4218
10	0,89	0,0714	8,03	74,24	0,0138	0,02788	0,7520
11	0,47	0,0376	8,25	84,89	0,0123	0,02012	0,4218
12	0,77	0,0615	4,47	21,80	0,0125	0,02968	0,4218
13	0,60	0,0478	5,39	36,62	0,0119	0,02491	0,4218
14	1,15	0,0924	7,75	63,84	0,0114	0,02937	0,8495
15	0,95	0,0759	8,88	91,51	0,0131	0,02739	0,8495

5. CONCLUSION

We analysed randomly selected announcements may effect to stock prices like earning announcements and good or bad news on Istanbul Stock Exchange (ISE), and calculated daily stock price returns for each stock and ISE 100 Index accepted as market return. The sample data includes 301 firms in 2007 and number of active firms is 287 and we calculated CAR for each of them. Different from prior studies we analyzed the period under review was kept short but related to the announcement sample, it includes not only profit distribution decisions and profitability announcements but also all kind of announcement types that can effect the stock price. Our announcement data includes not only profit distribution decisions but also capital increase decisions, good or bad developments are together. We observed all of the announcements of 51 firms which of their CARs' above 0,60, then randomly selected 156 announcemets and calculated Returns (R) and Abnormal Returns (AR) prior and after 15 days around the announcements date.

We tested and found the significant relationship between Abnormal Returns and some of dates related with announcements. First important date is the announcement date, as Fama (1969) stated that some announcement effects of stock prices on the announcement date ("0" point on table 2 and 3).

The second important date is on 11-12 days before the announcement date which causes significant price changes ("-11,-12" points on table 2 and 3). It means that some firms may release their important knowledge of good or bad improvements before 11-12 days from the formal announcement date, as Hong and Stein (1999) stated that a modal gradual information diffusion process of firms slowly diffussing news about their future fundamentals like especially bad news. This idea is applicable in ISE as well. Moreover, negative CARs (release of bad news) is bigger than positive CARs (release of good news) that you can check it on (Figure:1).

And one of our findings is that short term return behaviour following the large price changes ("0-4&5-7-10-12-14&15 points on table 2 and 3). This finding is also consistent with findings of Erdoğan and Yezegel (2009) who analyzed short term return behaviour following large price changes when there is no news and they added on literature as on the momentum anomaly.

As a result, there are three findings in this study. The first finding is that company annuncements effect stock prices. The second finding is some companies may release their important information 11-12 days before the formal announcement date. The third and the last finding is that return behaviour following the large price changes.

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APPENDIX

Table 4: Residuals in Months Surrounding The Split

ANALYSIS OF RESIDUALS IN MONTHS SURROUNDING THE SPLIT

	Splits followed by dividend "increases"			Splits followed by dividend "decreases"			All splits		
(1) Month m	(2) Average u_m^+	(3) Cumulative U_m^+	(4) Sample size N_m^+	(5) Average u_m^-	(6) Cumulative U_m^-	(7) Sample size N_m^-	(8) Average u_m	(9) Cumulative U_m	(10) Sample size N_m
−29	0.0062	0.0062	614	0.0033	0.0033	252	0.0054	0.0054	866
−28	0.0013	0.0075	617	0.0030	0.0063	253	0.0018	0.0072	870
−27	0.0068	0.0143	618	0.0007	0.0070	253	0.0050	0.0122	871
−26	0.0054	0.0198	619	0.0085	0.0155	253	0.0063	0.0185	872
−25	0.0042	0.0240	621	0.0089	0.0244	254	0.0056	0.0241	875
−24	0.0020	0.0259	623	0.0026	0.0270	256	0.0021	0.0263	879
−23	0.0055	0.0315	624	0.0028	0.0298	256	0.0047	0.0310	880
−22	0.0073	0.0388	628	0.0028	0.0326	256	0.0060	0.0370	884
−21	0.0049	0.0438	633	0.0131	0.0457	257	0.0073	0.0443	890
−20	0.0044	0.0482	634	0.0005	0.0463	257	0.0033	0.0476	891
−19	0.0110	0.0592	636	0.0102	0.0565	258	0.0108	0.0584	894
−18	0.0076	0.0668	644	0.0089	0.0654	260	0.0080	0.0664	904
−17	0.0072	0.0739	650	0.0111	0.0765	260	0.0083	0.0746	910
−16	0.0035	0.0775	655	0.0009	0.0774	260	0.0028	0.0774	915
−15	0.0135	0.0909	659	0.0101	0.0875	260	0.0125	0.0900	919
−14	0.0135	0.1045	662	0.0100	0.0975	263	0.0125	0.1025	925
−13	0.0148	0.1193	665	0.0099	0.1074	264	0.0134	0.1159	929
−12	0.0138	0.1330	669	0.0107	0.1181	266	0.0129	0.1288	935
−11	0.0098	0.1428	672	0.0103	0.1285	268	0.0099	0.1387	940
−10	0.0103	0.1532	672	0.0082	0.1367	268	0.0097	0.1485	940
− 9	0.0167	0.1698	672	0.0152	0.1520	268	0.0163	0.1647	940
− 8	0.0163	0.1862	672	0.0140	0.1660	268	0.0157	0.1804	940
− 7	0.0159	0.2021	672	0.0083	0.1743	268	0.0138	0.1942	940
− 6	0.0194	0.2215	672	0.0106	0.1849	268	0.0169	0.2111	940
− 5	0.0194	0.2409	672	0.0100	0.1949	268	0.0167	0.2278	940
− 4	0.0260	0.2669	672	0.0104	0.2054	268	0.0216	0.2494	940
− 3	0.0325	0.2993	672	0.0204	0.2258	268	0.0289	0.2783	940
− 2	0.0390	0.3383	672	0.0296	0.2554	268	0.0363	0.3147	940
− 1	0.0199	0.3582	672	0.0176	0.2730	268	0.0192	0.3339	940
0	0.0131	0.3713	672	−0.0090	0.2640	268	0.0068	0.3407	940
1	0.0016	0.3729	672	−0.0088	0.2552	268	−0.0014	0.3393	940
2	0.0052	0.3781	672	−0.0024	0.2528	268	0.0031	0.3424	940
3	0.0024	0.3805	672	−0.0089	0.2439	268	−0.0008	0.3416	940
4	0.0045	0.3851	672	−0.0114	0.2325	268	0.0000	0.3416	940
5	0.0048	0.3898	672	−0.0003	0.2322	268	0.0033	0.3449	940
6	0.0012	0.3911	672	−0.0038	0.2285	268	−0.0002	0.3447	940

(Continued on next page)

Table 4: Continued

(*continued*)

	Splits followed by dividend "increases"			Splits followed by dividend "decreases"			All splits		
(1) Month m	(2) Average u_m^+	(3) Cumulative U_m^+	(4) Sample size N_m^+	(5) Average u_m^-	(6) Cumulative U_m^-	(7) Sample size N_m^-	(8) Average u_m	(9) Cumulative U_m	(10) Sample size N_m
7	0.0008	0.3919	672	−0.0106	0.2179	268	−0.0024	0.3423	940
8	−0.0007	0.3912	672	−0.0024	0.2155	268	−0.0012	0.3411	940
9	0.0039	0.3951	672	−0.0065	0.2089	268	0.0009	0.3420	940
10	−0.0001	0.3950	672	−0.0027	0.2062	268	−0.0008	0.3412	940
11	0.0027	0.3977	672	−0.0056	0.2006	268	0.0003	0.3415	940
12	0.0018	0.3996	672	−0.0043	0.1963	268	0.0001	0.3416	940
13	−0.0003	0.3993	666	0.0014	0.1977	264	0.0002	0.3418	930
14	0.0006	0.3999	653	0.0044	0.2021	258	0.0017	0.3435	911
15	−0.0037	0.3962	645	0.0026	0.2047	258	−0.0019	0.3416	903
16	0.0001	0.3963	635	−0.0040	0.2007	257	−0.0011	0.3405	892
17	0.0034	0.3997	633	−0.0011	0.1996	256	0.0021	0.3426	889
18	−0.0015	0.3982	628	0.0025	0.2021	255	−0.0003	0.3423	883
19	−0.0006	0.3976	620	−0.0057	0.1964	251	−0.0021	0.3402	871
20	−0.0002	0.3974	604	0.0027	0.1991	246	0.0006	0.3409	850
21	−0.0037	0.3937	595	−0.0073	0.1918	245	−0.0047	0.3361	840
22	0.0047	0.3984	593	−0.0018	0.1899	244	0.0028	0.3389	837
23	−0.0026	0.3958	593	0.0043	0.1943	242	−0.0006	0.3383	835
24	−0.0022	0.3936	587	0.0031	0.1974	238	−0.0007	0.3376	825
25	0.0012	0.3948	583	−0.0037	0.1936	237	−0.0002	0.3374	820
26	−0.0058	0.3890	582	0.0015	0.1952	236	−0.0037	0.3337	818
27	−0.0003	0.3887	582	0.0082	0.2033	235	0.0021	0.3359	817
28	0.0004	0.3891	580	−0.0023	0.2010	236	−0.0004	0.3355	816
29	0.0012	0.3903	580	−0.0039	0.1971	235	−0.0003	0.3352	815
30	−0.0033	0.3870	579	−0.0025	0.1946	235	−0.0031	0.3321	814

Table 5: Event-Time Portfolio Method

(1) Week of Listing	(2) Number of Stocks	(3) Abnormal Return	(4) Abnormal Return t-Value	(5) Cumulative Abnormal Return	(6) Cumulative Abnormal Return t-Value	(7) MCARS[a]	(8) MCARS[a] t-Value
−8	92	0.5234	1.32				
−7	92	−0.4203	−1.06				
−6	92	0.0832	0.21				
−5	92	−0.0776	−0.20				
−4	92	−0.2189	−0.55				
−3	92	0.2695	0.68				
−2	92	0.3345	0.85				
−1	92	0.3176	0.80				
0	92	1.4858	3.76	1.49	3.76	1.47	3.72
1	91	0.5866	1.40	2.08	3.61	2.10	3.55
2	90	−0.3541	−0.85	1.74	2.44	1.75	2.42
3	85	−0.2436	−0.55	1.54	1.83	1.33	1.50
4	81	−0.1137	−0.25	1.46	1.54	1.19	1.18
5	80	−0.2727	−0.61	1.23	1.17	0.86	0.78
6	79	0.0730	0.17	1.31	1.16	0.73	0.64
7	76	−0.8059	−1.75	0.61	0.49	−0.17	−0.13
8	74	1.1457	2.42	1.63	1.25	0.75	0.52
9	73	0.2723	0.56	1.90	1.36	0.71	0.46
10	68	−0.1015	−0.19	1.84	1.24	0.64	0.37
11	65	0.2137	0.40	2.05	1.30	1.03	0.56
12	62	0.2234	0.41	2.26	1.36	1.48	0.76
13	62	0.0015	0.00	2.29	1.32	1.49	0.74
14	61	0.9852	1.89	3.12	1.72	2.21	1.09
15	61	0.0320	0.06	3.18	1.69	2.24	1.07
16	60	0.9530	1.81	3.99	2.05	3.02	1.39
17	57	−0.4007	−0.71	3.73	1.84	1.47	0.62
18	50	1.1758	2.04	4.61	2.20	3.29	1.31
19	44	0.6511	1.22	5.11	2.36	2.10	0.88
20	43	0.0767	0.14	5.25	2.36	2.31	0.93
21	42	0.6419	1.32	5.75	2.51	2.84	1.24
22	40	0.6475	1.35	6.24	2.66	4.56	1.99
23	39	0.8408	1.90	6.85	2.85	4.67	2.15
24	39	−0.2008	−0.45	6.84	2.78	4.47	2.02
25	39	−0.2097	−0.47	6.82	2.71	4.26	1.88
26	34	0.8044	1.70	7.37	2.87	5.90	2.40
27	34	0.6750	1.43	7.87	3.00	6.58	2.63
28	34	0.3035	0.64	8.16	3.05	6.88	2.70
29	34	0.6318	1.33	8.64	3.16	7.51	2.90
30	34	−0.0024	−0.00	8.76	3.15	7.51	2.85
31	31	0.5032	1.11	9.16	3.23	8.11	3.17
32	31	1.0574	2.34	9.87	3.42	9.16	3.53
33	30	1.4223	3.25	10.77	3.67	11.09	4.35
34	29	0.6403	1.43	11.25	3.77	10.76	4.06
35	28	0.2468	0.54	11.54	3.80	8.94	3.27
36	27	0.9126	1.90	12.15	3.93	9.05	3.10
37	27	0.1822	0.38	12.41	3.95	9.23	3.12
38	27	0.9159	1.91	13.04	4.09	10.15	3.39
51	16	−0.5862	−0.87	13.98	3.60	3.68	0.75
103	2	1.9250	0.98	28.65	4.01	23.22	1.16
179	1	0.8700	0.31	50.22	4.18	−58.10	−1.55

[a] MCARS is the mean cumulative abnormal return for survivors.

Table 6: Differences in Cumulative Average Adjusted Residual Returns

Differences in Cumulative Average (Market-Adjusted) Residual Returns Between the Winner and Loser Portfolios at the End of the Formation Period, and 1, 12, 13, 18, 24, 25, 36, and 60 Months into the Test Period

Portfolio Selection Procedures: Length of the Formation Period and No. of Independent Replications	Average No. of Stocks	CAR at the End of the Formation Period		Difference in CAR (t-Statistics)							
				Months After Portfolio Formation							
		Winner Portfolio	Loser Portfolio	1	12	13	18	24	25	36	60
10 five-year periods	50	1.463	−1.194	0.070 (3.13)	0.156 (2.04)	0.248 (3.14)	0.256 (3.17)	0.196 (2.15)	0.228 (2.40)	0.230 (2.07)	0.319 (3.28)
16 three-year periods	35	1.375	−1.064	0.105 (3.29)	0.054 (0.77)	0.103 (1.18)	0.167 (1.51)	0.181 (1.71)	0.234 (2.19)	0.246 (2.20)	NA*
24 two-year periods[a]	35	1.130	−0.857	0.062 (2.91)	−0.006 (−0.16)	0.074 (1.53)	0.136 (2.02)	0.101 (1.41)	NA	NA	NA
25 two-year periods[b]	35	1.119	−0.866	0.089 (3.98)	0.011 (0.19)	0.092 (1.48)	0.107 (1.47)	0.115 (1.55)	NA	NA	NA
24 two-year periods[a] (deciles)	82	0.875	−0.711	0.051 (3.13)	0.006 (0.19)	0.066 (1.71)	0.105 (1.99)	0.083 (1.49)	NA	NA	NA
25 two-year periods[b] (deciles)	82	0.868	−0.714	0.068 (3.86)	0.008 (0.19)	0.071 (1.46)	0.078 (1.41)	0.072 (1.29)	NA	NA	NA
49 one-year periods	35	0.774	−0.585	0.042 (2.45)	−0.076 (−2.32)	−0.006 (−0.15)	0.007 (0.14)	−0.005 (−0.09)	NA	NA	NA

[a] The formation month for these portfolios is the month of December in all uneven years between 1933 and 1979.
[b] The formation month for these portfolios is the month of December in all even years between 1932 and 1980.
* NA, not applicable.

Table 7: Non Earnings Announcements Related News Stock Returns

Months after portfolio formation	Non-EA-related news stocks		Decomposition of subsequent returns:			
			In EA months		Non-EA months	
	Avg. (%)	*t*-stat.	Avg. (%)	*t*-stat.	Avg. (%)	*t*-stat.
Panel A: *Long-short strategy*						
1	−0.07	−0.37	0.01	0.05	−0.08	−0.52
3	0.51	1.18	0.13	0.83	0.38	1.11
6	1.22	1.76	−0.01	−0.03	1.23	2.24
9	2.67	2.94	0.12	0.37	2.55	3.43
12	3.13	2.96	−0.03	−0.08	3.17	3.77
24	2.88	1.85	−0.54	−0.86	3.42	2.76
36	0.84	0.39	−1.55	−1.73	2.39	1.41
Panel B: *Winner portfolio*						
1	−0.15	−1.30	0.07	1.28	−0.23	−2.48
3	−0.17	−0.55	0.18	1.51	−0.35	−1.49
6	−0.34	−0.63	0.36	1.77	−0.69	−1.66
9	−0.11	−0.15	0.52	1.82	−0.63	−1.09
12	−0.16	−0.16	0.70	1.92	−0.85	−1.18
24	−0.34	−0.23	1.61	2.54	−1.95	−1.64
36	−0.33	−0.16	2.40	2.55	−2.73	−1.60
Panel C: *Loser portfolio*						
1	−0.08	−0.52	0.07	0.85	−0.15	−1.32
3	−0.68	−2.05	0.05	0.37	−0.73	−2.71
6	−1.56	−2.55	0.37	1.47	−1.92	−3.91
9	−2.78	−3.14	0.40	1.16	−3.19	−4.47
12	−3.29	−2.80	0.73	1.38	−4.02	−4.47
24	−3.22	−1.43	2.15	2.33	−5.37	−3.05
36	−1.17	−0.34	3.94	2.83	−5.12	−1.91

Table 8: Cross-Chapteral Analysis of CARs

Cross-sectional analysis of cumulative abnormal returns (+1, +60). This table shows the ordinary least squares estimation results of the regression of cumulative abnormal returns (+1, +60) on PRE-CAR (−5, 0), market value percentile, Monday, December, January and pre and post official news flow dummy variables. NEWS10, NEWS20, NEWS60 and NEWSPRE are dummy variables that take a value of one if there was an official news release in the event window (+1, +10), (+1, +20), (+1, +60) and (−10, −1), respectively. Each column lists the coefficient of the variable and their *t*-values (in parenthesis). * Indicates significance at the 10% level, ** indicates significance at the 5% level; and *** indicates significance at the 1% level. The dependent variable in all models is the cumulative abnormal return during the post-event period (+1, +60). Continuous independent variables are winsorized at the 5th and 95th percentiles.

Model	Intercept	PRE	SZIN	MON	DEC	JAN	NEWS10	NEWS20	NEWS60	NEWSPRE	Obs.	Adj. *R*
Panel A: Positive sub-sample												
I	−0.361***	0.368**	0.003***	−0.031	0.057	0.061					476	3.31%
	(−5.46)	(2.55)	(4.06)	(−0.49)	(0.7)	(0.55)						
II	−0.319***	0.374***	0.003***	−0.032	0.052	0.053	−0.074*				476	3.69%
	(−4.5)	(2.6)	(4.07)	(−0.51)	(0.65)	(0.48)	(−1.65)					
III	−0.33***	0.371**	0.003***	−0.031	0.051	0.057		−0.04			476	3.20%
	(−4.15)	(2.57)	(4.07)	(−0.49)	(0.63)	(0.51)		(−0.71)				
IV	−0.36***	0.368**	0.003***	−0.031	0.057	0.061			−0.001		476	3.09%
	(−3.35)	(2.55)	(4.05)	(−0.49)	(0.7)	(0.55)			(−0.02)			
V	−0.359***	0.372**	0.003***	−0.032	0.053	0.053	−0.084	0.009	0.044		476	3.31%
	(−3.35)	(2.58)	(4.03)	(−0.5)	(0.65)	(0.48)	(−1.52)	(0.11)	(0.41)			
VI	−0.363***	0.364**	0.003***	−0.031	0.058	0.062				0.007	476	3.09%
	(−5.34)	(2.48)	(4)	(−0.48)	(0.71)	(0.55)				(0.14)		
VII	−0.36***	0.361**	0.003***	−0.031	0.056	0.054	−0.087	0.005	0.041	0.022	476	3.13%
	(−3.35)	(2.46)	(3.92)	(−0.48)	(0.68)	(0.49)	(−1.56)	(0.07)	(0.38)	(0.46)		
Panel B: Negative sub-sample												
I	−0.096	0.687**	0	−0.347*	−0.142	0.174					110	4.03%
	(−0.73)	(1.96)	(0.05)	(−1.74)	(−0.86)	(0.39)						
II	−0.029	0.647*	0.001	−0.286	−0.111	0.074	−0.219**				110	8.92%
	(−0.22)	(1.89)	(0.4)	(−1.46)	(−0.69)	(0.17)	(−2.04)					
III	0.016	0.598*	0	−0.326	−0.12	0.015		−0.209*			110	7.71%
	(0.12)	(1.71)	(0.15)	(−1.67)	(−0.74)	(0.03)		(−1.83)				
IV	−0.087	0.685*	0	−0.348*	−0.141	0.174			−0.009		110	2.37%
	(−0.37)	(1.92)	(0.04)	(−1.72)	(−0.84)	(0.39)			(−0.05)			
V	−0.17	0.638*	0.001	−0.256	−0.126	−0.008	−0.167	−0.14	0.212		110	7.69%
	(−0.73)	(1.83)	(0.53)	(−1.27)	(−0.78)	(−0.02)	(−1.11)	(−0.84)	(0.94)			
VI	−0.079	0.659*	0.001	−0.349*	−0.131	0.128				−0.097	110	3.48%
	(−0.59)	(1.86)	(0.39)	(−1.75)	(−0.79)	(0.29)				(−0.82)		
VII	−0.145	0.622*	0.002	−0.26	−0.116	−0.028	−0.183	−0.11	0.188	−0.074	110	6.63%
	(−0.61)	(1.76)	(0.72)	(−1.28)	(−0.71)	(−0.06)	(−1.19)	(−0.63)	(0.82)	(−0.6)		

Table 9: Post-event Returns and News

Post-event returns and news. This table reports the cumulative average abnormal returns for p subsamples partitioned based on the arrival information during three post-event windows; 10-day, 20-day and and C report cumulative average abnormal returns conditional on the arrival of news in the (+1, +10), (+1, event windows, respectively. The fourth column reports the t-ratio of the CAAR for each subsample. Fifth co Diff.', reports the difference in CAARs for news and no news partitions in each sub-sample, sixth column lists t test statistic assuming unequal variances. The final column indicates the p-value of the corresponding mean

Sign(PRE)	NEWS10	Mean	*t*-Ratio	Mean. Diff.	*t*-Ratio
Panel A: CAAR (+1, +60) and information arrival during the event window (+1, +10)					
Positive	No News	−4.98%	−1.41	6.54%	1.40
	News	−11.52%	−3.79		
Negative	No News	−14.90%	−1.99	25.03%	2.56
	News	−39.93%	−6.39		
Panel B: CAAR (+1, +60) and information arrival during the event window (+1, +20)					
Positive	No News	−6.25%	−1.55	3.26%	0.67
	News	−9.51%	−3.53		
Negative	No News	−11.47%	−1.24	23.49%	2.16
	News	−34.96%	−6.05		
Panel C: CAAR (+1, +60) and information arrival during the event window (+1, +60)					
Positive	No News	−10.60%	−1.51	−1.84%	−0.25
	News	−8.76%	−3.63		
Negative	No News	−26.60%	−1.23	1.62%	0.07
	News	−28.22%	−5.42		

Table 10: The Mean and Median CARs

Event window test statistics. The mean and median cumulative abnormal returns for all sub-samples are reported for each event window indicated in the first column. The remaining columns list the parametric and non parametric test statistics for the corresponding event windows. * Indicates significance at the 5% level; ** indicates significance at the 1% level and *** indicates 0.1% significance level.

Days	*N*	Cumulative average abnormal return	Median cumulative abnormal return	Positive: negative	Patell	Portfolio time-series	Rank test	Skewness corrected test
Panel A: Positive sub-sample								
(−5, 0)	476	28.18%	25.43%	481:0***	71.836***	62.55***	15.395***	75.489***
(+1, +5)	476	−0.77%	−2.66%	201:280	−1.41	−1.866	−2.425*	−0.917
(+1, +10)	476	−2.59%	−4.88%	194:287	−4.119***	−4.458***	−3.261**	−2.479*
(+1, +15)	476	−1.89%	−4.34%	204:277	−1.663	−2.654**	−2.933**	−1.457
(+1, +30)	476	−3.97%	−7.02%	194:287	−2.732**	−3.939***	−3.912***	−2.122*
(+1, +45)	476	−5.86%	−9.52%	183:298*	−3.57***	−4.75***	−4.131***	−2.584**
(+1, +60)	476	−8.94%	−9.57%	189:292	−4.906***	−6.273***	−4.724***	−3.647***
(+1, +90)	476	−13.44%	−13.60%	185:296*	−6.229***	−7.705***	−5.271***	−4.751***
(+1, +120)	476	−16.74%	−12.88%	186:295*	−6.739***	−8.309***	−5.436***	−5.374***
Panel B: Negative sub-sample								
(−5, 0)	110	−22.77%	−18.02%	0:72***	−20.733***	−16.06***	−8.893***	−17.212***
(+1, +5)	110	−5.46%	−4.61%	24:47	−5.217***	−4.217***	−2.382*	−3.119**
(+1, +10)	110	−8.03%	−8.68%	25:47	−5.118***	−4.388***	−3.111**	−3.695***
(+1, +15)	110	−10.30%	−8.51%	25:47	−5.25***	−4.597***	−3.399***	−4.146***
(+1, +30)	110	−16.66%	−15.89%	21:51**	−5.569***	−5.255***	−3.975***	−4.386***
(+1, +45)	110	−20.46%	−23.00%	20:52**	−5.778***	−5.271***	−4.207***	−4.183***
(+1, +60)	110	−28.13%	−28.74%	17:55***	−7.15***	−6.275***	−5.05***	−5.237***
(+1, +90)	110	−30.12%	−27.97%	20:52**	−6.407***	−5.485***	−4.039***	−4.922***
(+1, +120)	110	−35.58%	−32.88%	20:52**	−6.392***	−5.613***	−3.859***	−4.351***

Table 11: Quarterly Earnings Announcement Date Returns

The stocks are ranked in ascending order on the basis of 6-month lagged returns. The stocks in the lowest past return decile are called the *losers* group and the stocks in the highest past return decile is called the *winners* group. The differences between the 3-day returns (returns on days −2 to 0) around quarterly earnings announcements for stocks in the winners group and the losers group are reported here ($r_t^w - r_t^l$). t is the month after the ranking date. The sample period is January 1980 to December 1989.

t	$r_t^w - r_t^l$	t	$r_t^w - r_t^l$	t	$r_t^w - r_t^l$
1	0.0055	13	−0.0055	25	−0.0002
	(2.75)		(−2.56)		(−0.11)
2	0.0082	14	−0.0080	26	−0.0021
	(4.41)		(−3.89)		(−1.02)
3	0.0082	15	−0.0071	27	−0.0032
	(4.36)		(−4.04)		(−1.68)
4	0.0090	16	−0.0097	28	−0.0028
	(4.88)		(−5.75)		(−1.31)
5	0.0059	17	−0.0062	29	−0.0015
	(3.16)		(−2.90)		(−0.62)
6	0.0058	18	−0.0060	30	−0.0021
	(3.14)		(−2.96)		(−1.10)
7	0.0013	19	−0.0031	31	−0.0027
	(0.62)		(−1.63)		(−1.52)
8	0.0000	20	−0.0017	32	−0.0021
	(−0.02)		(−0.82)		(−1.13)
9	−0.0020	21	0.0006	33	−0.0020
	(−1.07)		(0.27)		(−1.05)
10	−0.0031	22	−0.0005	34	−0.0017
	(−1.60)		(−0.29)		(−0.91)
11	−0.0039	23	−0.0001	35	−0.0022
	(−2.23)		(−0.05)		(−1.29)
12	−0.0053	24	0.0012	36	−0.0059
	(−2.75)		(0.63)		(−2.91)

Table 12: Difference in Cumulative Average Residual Returns

Differences in Cumulative Average (Market-Adjusted) Residual Returns Between the Winner and Loser Portfolios at the End of the Formation Period, and 1, 12, 13, 18, 24, 25, 36, and 60 Months into the Test Period

Portfolio Selection Procedures: Length of the Formation Period and No. of Independent Replications	Average No. of Stocks	CAR at the End of the Formation Period		Difference in CAR (t-Statistics)							
				Months After Portfolio Formation							
		Winner Portfolio	Loser Portfolio	1	12	13	18	24	25	36	60
10 five-year periods	50	1.463	−1.194	0.070 (3.13)	0.156 (2.04)	0.248 (3.14)	0.256 (3.17)	0.196 (2.15)	0.228 (2.40)	0.230 (2.07)	0.319 (3.28)
16 three-year periods	35	1.375	−1.064	0.105 (3.29)	0.054 (0.77)	0.103 (1.18)	0.167 (1.51)	0.181 (1.71)	0.234 (2.19)	0.246 (2.20)	NA*
24 two-year periods[a]	35	1.130	−0.857	0.062 (2.91)	−0.006 (−0.16)	0.074 (1.53)	0.136 (2.02)	0.101 (1.41)	NA	NA	NA
25 two-year periods[b]	35	1.119	−0.866	0.089 (3.98)	0.011 (0.19)	0.092 (1.48)	0.107 (1.47)	0.115 (1.55)	NA	NA	NA
24 two-year periods[a] (deciles)	82	0.875	−0.711	0.051 (3.13)	0.006 (0.19)	0.066 (1.71)	0.105 (1.99)	0.083 (1.49)	NA	NA	NA
25 two-year periods[b] (deciles)	82	0.868	−0.714	0.068 (3.86)	0.008 (0.19)	0.071 (1.46)	0.078 (1.41)	0.072 (1.29)	NA	NA	NA
49 one-year periods	35	0.774	−0.585	0.042 (2.45)	−0.076 (−2.32)	−0.006 (−0.15)	0.007 (0.14)	−0.005 (−0.09)	NA	NA	NA

[a] The formation month for these portfolios is the month of December in all uneven years between 1933 and 1979.
[b] The formation month for these portfolios is the month of December in all even years between 1932 and 1980.
* NA, not applicable.

Table 13: Abnormal Return in Shangai Stock Market

Abnormal Return in the Shanghai Stock Market

t	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	N
−10	0.333*	0.217	8.042	−5.126	2.176	0.513	4.270	698
−9	0.170	0.267	7.411	−8.842	2.681	−0.315	4.313	698
−8	0.357*	0.685	6.165	−9.896	2.839	−0.545	4.008	698
−7	0.071	0.203	7.601	−6.359	2.499	0.063	3.164	698
−6	0.103	0	9.320	−5.333	2.676	0.636	3.929	698
−5	0.226	0.105	8.292	−6.724	2.652	0.444	3.964	698
−4	0.523*	0.133	9.579	−3.659	2.424	0.883	4.403	698
−3	0.105	0.365	6.276	−7.045	2.338	−0.375	3.675	698
−2	0.414*	0.403	7.696	−4.669	2.228	0.495	3.526	698
−1	0.540*	0.870	6.390	−5.078	2.465	−0.102	2.626	698
0	−0.261	−0.781	6.460	−5.923	2.701	0.289	2.760	698
1	−0.235	−0.309	5.451	−4.535	1.905	0.343	3.412	698
2	−0.030	0	4.791	−4.890	1.906	0.042	3.151	698
3	−0.274	−0.687	5.870	−4.806	2.289	0.611	3.126	698
4	−0.112	−0.216	4.143	−4.076	1.703	0.253	2.958	698
5	0.281	0.175	5.121	−5.087	2.066	0.056	2.702	698
6	0.037	−0.139	5.674	−3.917	1.960	0.550	3.485	698
7	0.034	−0.075	6.551	−6.216	2.166	0.002	4.211	698
8	−0.372*	−0.477	3.714	−5.432	1.818	−0.212	3.083	698
9	0.179	−0.179	5.955	−3.533	2.002	0.534	3.180	698
10	0.128	0.044	8.909	−6.06	2.275	0.281	5.144	698

*Significance at the 5 percent level.

Table 14: Abnormal Return in Shenzhen Stock Market

Abnormal Return in the Shenzhen Stock Market

T	Mean	Median	Max	Min	Std. Dev.	Skewness	Kurtosis	N
−10	0.243	0.203	8.542	−7.600	2.928	0.003	4.119	526
−9	0.461*	0.359	9.564	−8.106	3.066	0.560	4.122	526
−8	0.292	0.279	8.156	−5.129	2.541	0.458	4.067	526
−7	0.386*	0.170	8.058	−7.933	2.735	0.080	3.693	526
−6	0.420*	0.256	5.988	−6.266	2.551	0.005	2.648	526
−5	−0.230	−0.135	9.573	−5.711	2.349	0.398	5.261	526
−4	0.545*	0.378	7.923	−6.589	2.338	0.262	3.925	526
−3	0.292	0.264	8.464	−8.324	2.431	−0.047	5.359	526
−2	−0.038	0.104	4.871	−5.135	2.278	−0.018	2.654	526
−1	0.439*	0.142	8.358	−3.326	1.866	0.861	5.221	526
0	0.442*	0.064	8.369	−4.953	2.801	0.535	3.187	526
1	−0.054	0	5.283	−3.439	1.998	0.488	2.718	526
2	0.231	0.189	9.592	−3.564	2.036	1.003	6.337	526
3	−0.053	−0.120	7.080	−5.145	1.983	0.462	4.116	526
4	−0.143	−0.149	9.531	−5.147	2.038	1.184	8.416	526
5	0.134	0.279	5.446	−6.772	2.049	−0.404	3.845	526
6	−0.389*	−0.196	3.279	−5.291	1.829	0.214	2.740	526
7	−0.015	0	7.031	−6.760	2.208	−0.056	4.078	526
8	−0.381*	−0.325	6.436	−6.519	2.483	0.729	5.292	526
9	0.350*	0.135	6.259	−5.512	2.035	0.056	3.372	526
10	−0.037	−0.168	7.648	−3.695	1.944	0.905	4.645	526

*Significance at the 5 percent level.

Table 15: Coefficients in Shangai Stock Market

Coefficients in M-EGARCH Model in Shanghai Stock Market

T	α_0	α_1	α_h	β_0	β_1	β_h	g
−10	0.2627	−0.0526	0.0013				
−9	0.1348	−0.0265	−0.0006	0.7326	−0.0978	−0.0609	0.0544
−8	0.3667	0.0074	0.0052	0.7826	0.0195	−0.1002	−0.0282
−7	0.1143	0.0328	0.0013	0.1154	0.0805	−0.1942	−0.0496
−6	0.0590	−0.0331	−0.0028	0.2371	0.0447	−0.2502	−0.0118
−5	0.3724	0.1102*	0.0063	0.4840	−0.0300	−0.2458	0.0866
−4	0.6903	0.0503	0.0049	0.2178	0.0827	0.0016	0.0423
−3	0.1687	0.0215	−0.0074	0.0244	0.0786	−0.0104	0.0350
−2	0.5208	0.0053	−0.0018	−0.0831	−0.0177	0.1740	−0.0223
−1	0.6458	0.0045	0.0056	0.4949	0.0716	−0.0475	0.0594
0	−0.3297	−0.0503	0.0031	1.1655	−0.0716	0.0026	−0.0290
1	−0.2133	0.0147	0.0072	−0.1843	0.0261	−0.0901	−0.0607
2	0.0710	0.0797*	−0.0058	−0.3350	0.0109	−0.1899	0.0038
3	−0.2214	0.0400	0.0076	0.0374	0.1098*	−0.0992	0.0252
4	−0.1090	−0.0020	−0.0016	−0.6297	0.1229*	−0.0193	0.0385
5	0.3220	0.0310	−0.0027	0.1234	0.0622	−0.1826	0.0544
6	0.0236	−0.0100	0.0028	−0.5515	0.0862	0.1006	−0.0138
7	−0.0411	−0.0567	0.0083	−0.2135	0.0103	0.0552	−0.0263
8	−0.3293	0.0325	0.0055	0.0085	−0.0160	−0.0019	0.0335
9	0.0930	−0.0647	−0.0091	−0.2739	0.0524	−0.0914	−0.0290
10	0.1882	0.0453	−0.0078	0.1673	0.0185	−0.1406	−0.0249

*Significance at 10 percent level, and **significance at 5 percent level.

Table 16: Coefficients in Shenzhen Stock Market

Coefficients in M-EGARCH Model in Shenzhen Stock Market

T	α_0	α_1	α_h	β_0	β_1	β_h	g
−10	0.5015	−0.0385	0.0033				
−9	0.3762	−0.1687	−0.0097	0.2082	0.1462	−0.1162	0.0226
−8	0.3466	−0.0417	−0.0039	0.2791	0.0058	0.0307	0.0321
−7	0.4400	0.0490	−0.0059	0.5910	−0.0294	−0.0969	0.0416
−6	0.3785	−0.0381	0.0038	0.7028	−0.1377	−0.0214	−0.0378
−5	−0.1430	0.0800	0.0037	0.1086	−0.0571	−0.0110	−0.0600
−4	0.9023	0.2350**	0.0011	−0.1155	−0.0274	−0.0138	0.0183
−3	0.6080	0.1060	0.0066	−0.0505	−0.1788*	−0.1332	−0.0816
−2	0.0693	0.0981	−0.0082	0.0937	0.0496	−0.0167	0.0774
−1	0.5734	0.1227**	0.0025	−0.1677	−0.0226	0.1305	0.0706
0	0.5132	0.0650	0.0003	0.8681	−0.0140	−0.0328	0.1117
1	−0.0605	−0.0057	0.0085	0.2665	−0.0428	−0.0347	0.0309
2	0.2245	−0.0060	0.0109	−0.0152	−0.0498	0.1853	0.0074
3	−0.0742	−0.0195	−0.0029	−0.0336	−0.0176	0.1187	0.0583
4	−0.2275	−0.0770	0.0053	−0.3308	−0.0945	−0.0370	−0.1488**
5	0.0200	−0.1040*	−0.0149	−0.0550	−0.0408	0.0464	−0.0243
6	0.3452	−0.0407	0.0025	−0.4524	0.1675*	−0.0608	0.0217
7	0.0220	0.0345	0.0080	−0.0281	0.0891	−0.1034	0.0167
8	0.4270	0.0416	0.0067	0.1985	0.0123	−0.1682	0.0327
9	0.3866	0.0332	0.0019	0.3855	−0.0633	0.0117	0.0808
10	−0.0211	0.0149	0.0022	−0.2608	0.1060	0.0392	0.0428

*Significance at 10 percent level, and **significance at 5 percent level.

Table 17: CEO Stock Option Award and CAR Analysis

Days Relative To Award	Sample Size	% CARs Positive	Mean CAR	*t*-Statistic	Median CAR	*Z*-Statistic
−20	620	47.6%	−0.03%	−0.21	−0.10%	−0.99
.	.	.	.	.	.	
−10	620	50.3%	−0.09%	−0.42	0.06%	−0.52
.	.	.	.	.	.	
AwardDate	620	48.1%	0.02%	−0.28	−0.47%	−0.40
1	620	48.7%	0.05%	−0.17	−0.25%	−0.04
2	620	49.8%	0.21%	0.36	−0.02%	0.38
3	620	50.6%	0.34%	0.65	0.10%	0.88
4	620	51.0%	0.36%	0.60	0.26%	0.91
5	620	49.7%	0.47%	0.96	−0.05%	1.15
6	620	50.0%	0.53%	0.99	0.01%	1.29
7	620	51.9%	0.67%	1.22	0.52%	1.46
8	620	51.5%	0.73%	1.31	0.33%	1.60
9	620	51.6%	0.77%	1.39	0.32%	1.61
10	620	51.5%	0.86%	1.55	0.43%	1.80*
.	.	.	.	.	.	
15	620	53.1%	1.18%	2.08**	0.84%	2.43**
.	.	.	.	.	.	
20	620	54.5%	1.55%	2.71***	0.73%	2.92***
.	.	.	.	.	.	
30	619	55.4%	1.71%	2.81***	1.98%	3.09***
.	.	.	.	.	.	
40	619	55.7%	1.67%	2.70***	1.92%	2.92***
.	.	.	.	.	.	
50	618	57.4%	2.27%	3.42***	2.16%	3.50***
.	.	.	.	.	.	
60	618	55.7%	2.30%	3.14***	2.30%	3.02***
.	.	.	.	.	.	
80	616	53.2%	2.13%	2.68***	1.30%	2.37**
.	.	.	.	.	.	
100	614	51.6%	2.56%	2.68***	1.27%	2.29**
.	.	.	.	.	.	
120	613	54.5%	2.82%	2.47**	1.86%	2.33**

*** Significant at 1% level.
** Significant at 5% level.
* Significant at 10% level.

Table 18: Award Timing and Relative to Earnings Announcement

Award Timing Relative to Earnings Announcement	Sample Size	Mean CAR for Earnings Announcement	*t*-Statistic	Median CAR for Earnings Announcement	Wilcoxon *Z* Statistic
6 to 10 days before	20	0.59%	0.41	−0.28%	−0.49
2 to 5 days before	25	2.53%	2.90***	0.85%	1.92*
1 day before	36	2.24%	3.95***	1.14%	1.79*
1 day after	12	0.68%	0.60	0.49%	0.55
2 to 5 days after	57	−0.36%	−0.00	0.15%	−0.08
6 to 10 days after	62	−0.20%	−0.96	0.04%	−0.31

*** Significant at 1% level.
** Significant at 5% level.
* Significant at 10% level.

Table 19: Cumulative Daily Average Prediction Errors

Percentage cumulative daily average prediction errors and their *t*-statistics in parentheses for 769 firms traded by insiders from 1975 to 1981 around the day insiders' reports are first received by the SEC and the day the *Official Summary* is available.

	Cumulative daily average prediction errors	
Event period	Insiders' reports are received by SEC; day 0 is last day of month	*Official Summary* is available on day 0
Day 1 through 20	0.5 (3.2)	0.3 (1.9)
Day 1 through 50	0.8 (3.5)	0.7 (2.4)
Day 1 through 100	1.4 (4.3)	1.2 (3.0)
Day 1 through 300	1.9 (3.4)	1.1 (1.7)
Sample size	10,221	8,302

Table 20: Management Earning Forecasts

Management earnings forecasts issued prior to scheduled CEO stock option awards.

Panel A: Sign of forecast news

	AWARD_BEFORE		*AWARD_AFTER*	
	N	%	N	%
Bad news	32	9.4	7	1.6
Neutral	7	2.0	8	1.9
Good news	1	0.3	15	3.6
No forecast	301	88.3	391	92.9
Total	341	100.0	421	100.0

Chi-Square=34.34, $p<0.001$

Panel B: Sign of earnings news

	AWARD_BEFORE		*AWARD_AFTER*	
	N	%	N	%
$\Delta EPS < 0$	96	28.2	122	29.0
$\Delta EPS > 0$	245	71.8	299	71.0
Total	341	100.0	421	100.0

Chi-Square=0.06, p=0.802

Table 21: Insurance Premium

Explaining the insurance Premium

	(D	(2)	(3)	(4)	(5)
Intercept	**0.129 (7.629)**	**0.131 (7.655)**	**0.127 (7.357)**	**0.127 (7.427)**	**0.130 (7.156)**
IPO size	**0.004 (6.496)**	**0.004 (6.424)**	**0.004 (6.293)**	**0.004 (6.400)**	**0.004 (7.446)**
Leverage	**-0.731 (-4.625)**	**0.734 (-4.769)**	**-0.725 (-4.713)**	**-0.705 (-4.751)**	**0.753 (-4.956)**
Avg revenue	0.000 (0.822)	0.000 (0.893)	0.000 (0.779)	0.000 (0.782)	0.000 (0.564)
Std dev revenue	-0.000 (-0.464)	-0.000 (-0.500)	-0.000 (-0.423)	-0.000 (-0.432)	-0.001 (-1.617)
Average op income	**-0.006 (-4.169)**	**0.006 (-4.195)**	**-0.006 (-4.185)**	**-0.005 (-4.227)**	**0.005 (-3.710)**
Std dev op income	0.002 (1.554)	0.002 (1.553)	0.002 (1.556)	0.002 (1.608)	**0.004 (2.920)**
Age of firm	**0.003 (1.705)**	0.003 (1.617)	**0.004 (1.674)**	0.003 (1.631)	**0.005 (2.131)**
Blockholder	0.008 (0.558)	0.007 (0.434)	0.009 (0.565)	0.010 (0.698)	0.000 (0.030)
% sold by VC	**-0.227 (-2.562)**	**-0.224 (-2.525)**	**-0.225 (-2.541)**	**-0.223 (-2.525)**	**0.367 (-4.940)**
% outside directors	0.000 (0.521)	0.000 (0.520)	0.000 (0.522)	0.000 (0.547)	0.000 (0.649)
Underpricing	-0.008 (-0.355)	-0.008 (-0.345)	-0.008 (-0.363)	-0.009 (-0.410)	-0.002 (-0.085)
Securities Litigation Reform Act	**-0.037 (-2.351)**	**-0.035 (-2.215)**	**-0.037 (-2.173)**	**0.036 (-2.272)**	**0.039 (-2.707)**
Unexplained coverage	**0.021 (6.473)**	**0.021 (6.645)**	**0.021 (6.905)**	**0.032 (4.662)**	**0.017 (6.652)**
3 yr rets raw x unexplained coverage		0.001 (0.268)			
5 yr rets B/M & Size x unexplained coverage			-0.001 (-0.234)		
Std dev rets x unexplained coverage				**-0.211 (-1.724)**	
Litigation x unexplained coverage					**0.045 (2.165)**
Number of obs	72	72	72	72	72
Adjusted i?-squared	0.558	0.551	0.551	0.555	0.505

Table 22: Gant and Filing Date Analysis

	Filed two trading days after the transaction date		Filed three trading days after the transaction date		Filed more than three trading days after the transactiondate	
Event	Mean	*P*-value	Mean	*P*-value	Mean	*P*-value
Grant date	**7.8%**	0.000	**12.1%**	0.001	**13.1%**	0.000
Grant date + 1	**11.1%**	0.000	**10.6%**	0.004	5.8%	0.186
Filing date	**6.1%**	0.005	**10.2%**	0.003	7.5%	0.085
Filing date + 1	0.4%	0.871	2.8%	0.439	9.2%	0.029