

**POLITICAL NEWS AND STOCK MARKET REACTIONS:  
EVIDENCE FROM TURKEY OVER THE PERIOD 2008-2017**

**Master of Business Administration**

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**POLITICAL NEWS AND STOCK MARKET REACTIONS:  
EVIDENCE FROM TURKEY OVER THE PERIOD 2008-2017**

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## FINAL APPROVAL FOR THESIS

This thesis titled "**Political News and Stock Market Reactions: Evidence From Turkey Over The Period 2008-2017**" which has been prepared and submitted by **Sleiman KARIME** in partial fulfillment of the requirements in "**Anadolu University Directive on Graduate Education and Examination**" for the Master of Arts in **Department of Business Administration Program in Finance** has been examined and approved on **28/05/2018**.

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## ABSTARCT

### POLITICAL NEWS AND STOCK MARKET REACTIONS: EVIDENCE FROM TURKEY OVER THE PERIOD 2008-2017

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Programme in Finance

Anadolu University, Graduate School of Social Science, May 2018

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The primary objective of this thesis is to examine the impact of political news (good and bad news) on the returns and volatility of Borsa Istanbul 100 Index (BIST-100). Sample data covers the period from January 2008 to December 2017. The main sample was divided into two sub-periods to insulate the dominating impacts of both the 2008 Global Financial Crisis and 2013 Federal Reserve Tapering on Turkish stock markets. The daily stock market data was collected from the EVDS Web-Service, while political news headlines were collected from the Guardian newspaper. Different nonlinear volatility models (Symmetric and Asymmetric GARCH type models) were used to model and estimate BIST-100 volatility in response to political news. The findings of the thesis highlight four main results. First, there seems to be a significant impact of political news on the returns and volatility of BIST-100 index. Second, negative shocks derived from bad news tend to have a significant impact on the returns and volatility of BIST-100, while positive shocks derived from good news do not tend to have any significant impact on the returns, but decreased returns volatility. Third, political news, both good and bad, can affect stock return and stock return volatility in different directions, and this direction is time-varying. Fourth, the findings strongly reveal the presence of “Leverage Effect” in the returns of BIST-100 index.

**Keywords:** political news, stock returns, volatility, BIST-100, GARCH

## ÖZET

### SİYASİ HABERLER VE HİSSE SENEDİ PİYASASINDAKİ TEPKİLER: 2008-2017 DÖNEMİNDE TÜRKİYE'DEN BULGU

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Bu tezin temel amacı, siyasi haberlerin Borsa İstanbul 100 endeksinin (BİST-100) getirileri ve oynaklığı üzerindeki etkisini incelemektir. Örneklem verisi, Ocak 2008’le Aralık 2017 arasındaki dönemi kapsamaktadır. Örneklem, 2008’deki Küresel Ekonomik Krizi’nin ve 2013’deki Amerikan Merkez Bankası’nın tahvil alımlarının azaltılması politikasının Türk hisse senedi piyasaları üzerindeki etkilerinin yalıtılması amacıyla, iki alt döneme ayrılmıştır. Günlük hisse senedi piyasası verileri EVDS Web-Hizmeti’nden, siyasi haber başlıkları ise Guardian Gazetesi’nden derlenmiştir. BİST-100’ün siyasi haberlere tepki olarak oluşan oynaklığının modellenmesi amacıyla çeşitli doğrusal olmayan oynaklık modelleri (simetrik ve asimetrik GARCH tipi modeller) kullanılmıştır. Tezin bulguları dört temel sonuca işaret etmektedir. Birincisi, siyasi haberlerin BİST-100 endeksinin getirileri ve oynaklığı üzerinde anlamlı bir etkisi var gibi görünmektedir. İkincisi, kötü haberlerden kaynaklanan negatif şoklar BİST-100 endeksinin getirilerini ve oynaklığını etkilemekle birlikte, iyi haberlerden kaynaklanan pozitif şoklar getiriler üzerinde anlamlı bir etkiye sahip olmadığı halde getirilerin oynaklığını düşürmektedir. Üçüncüsü, iyi yada kötü haberler hisse senedi getirilerini farklı yönlerde etkilemekte olup etkinin yönü zamanla değişim göstermektedir. Dördüncüsü, bulgular, BİST-100 getirilerinde “Kaldıraç Etkisi” nin varlığını güçlü bir şekilde meydana çıkarmaktadır.

**Anahtar Sözcükler:** siyasi haberler, pay getirileri, oynaklık, BİST-100, GARCH

#### **STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES**

I hereby truthfully declare that this thesis is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section; and that this study has been scanned for plagiarism with "scientific plagiarism detection program" used by Anadolu University, and that "it does not have any plagiarism" whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

28.05/2018

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## LIST OF ABBREVIATIONS

AC	: Autocorrelation
ADF	: Augmented Dickey-Fuller
AIC	: Akaike Information Criterion
AKP	: Ak Parti (Justice and Development Party)
APT	: Arbitrage Pricing Theory
ARCH	: Autoregressive Conditional Heteroscedasticity
BIST	: Borsa İstanbul
BSE	: Beirut Stock Exchange
CAPM	: Capital Asset Pricing Model
CEO	: Chief Executive Officer
DB	: Bad News Dummy
DG	: Good News Dummy
DN	: News Dummy
ECB	: European Central Bank
EGARCH	: Exponential Generalized Autoregressive Conditional Heteroscedasticity
EMH	: Efficient Market Hypothesis
EVDS	: Elektronik Veri Dağıtım Sistemi (Electronic Data Delivery System)
FED	: Federal Reserve (US Central Bank)
F-16	: Fighter (US military aircraft designation)
GARCH	: Generalized Autoregressive Conditional Heteroscedasticity
GARCH-M	: Generalized Autoregressive Conditional Heteroscedasticity-in-Mean
GDP	: Gross Domestic Product
GNP	: Gross National Product
ICRG	: International Country Risk Guide
ISE	: Istanbul Stock Exchange
ISIS	: Islamic State of Iraq and Syria
KSE	: Karachi Stock Exchange
LM	: Lagrange Multiplier
MBA	: Master of Business Administration

MHP	: Milliyetçi Hareket Partisi (Nationalist Action Party)
MSCI	: Morgan Stanley Capital International
MVRM	: Market Value Reserve Method
NATO	: North Atlantic Treaty Organization
NYSE	: New York Stock Exchange
OECD	: Organization for Economic Cooperation and Development
PKK	: Partiya Karkerên Kurdistanê (Kurdistan Workers' Party)
PKR	: Pakistani Rupee
PM	: Prime Minister
Q-Q	: Quantile-Quantile
RAM	: Risk Assesment Matrix
SC	: Schwarz Criterion
SET	: Stock Exchange of Thailand
Su-24	: Sukhoi (All-Weather Attack Aircraft)
TCMA	: Turkish Capital Markets Association
TGARCH	: Threshold Generalized Autoregressive Conditional Heteroscedasticity
TRY	: New Turkish Lira

## **1. INTRODUCTION**

Whether the Turkish financial market is efficient, and whether major news such as the political news headlines of credible newspapers can affect market prices; are attractive questions for both researchers and investors, especially in the era of the new information revolution, which has triggered a serious boom in formulating events and news, presenting them and tailoring their consumption patterns.

It is known that, financial market investors are considered as a consumer of news releases, in particular the good and bad news. According to Chen & Siems (2004), investors mostly leave a market and search for another one with safer financial assets when information about a catastrophic event becomes available. Investors' reactions and their ways of response to available information and expectations are related to what is called market rationality, which can be defined as the "Market's ability to reflect new information properly" (Huseyin & Oncu, 2006).

The primary objective of this paper is to explore the impact of political news on a country's financial market, more specifically, the Turkish stock market. During my research, I briefly attempted to present some background information about the Turkish stock market and the major political events that took place in Turkey during the period (2008-2017). In the introduction chapter, I began with a background of the research topic, an overview of the political risk, the research problem, research objectives, contribution of the research to knowledge, research methodology, thesis structure, definitions of terms and limitations of the research.

### **1.1. Research Background**

*"It seems a place for gamblers, or for those people that work in the City, or on Wall St – who must surely know exactly what is going on! This is a fallacy" (Tom, 2009).*

Stock market is a place for trading shares of individual companies listed on a particular exchange. They are composed of numerous assets traded with huge numbers on a daily basis and monitored, in terms of activity and performance, by market indices. Stock markets are, of course, complex and complicated, but they are surely built on a logic, which is controlled by the supply and demand principle. Therefore, the ones who describe stock market movements as "random" would be using a wrong expression. The better word to describe stock market movements is "chaotic", because in the stock market

world, chaotic is not just a word, but a system consisting of a large number of variables, each has influence over the others (Tom, 2009).

When talking about the factors affecting stock prices, a substantial number of researchers and economic specialists such as Kobrin (1979), Grossman & Shiller (1981), Fama E. (1990) and Kim & Mei (1994) agree that economic variables and political risk and uncertainty, are among the main driving forces behind stock market movements.

Given the Turkey's long history of domestic and external political shocks, it will be not surprising that much of the economic fallouts and financial market movements are caused by the continuing political uncertainty, which is part of Turkey's country risk.

This is what was confirmed in the Financial System Stability Assessment report published in 2017 by the International Monetary Fund. According to the report, the first risk to be considered in the Risk Assessment Matrix (RAM) of Turkey is the risk associated with the domestic political situation and political fragmentation. The report stated that: "Rise in populism and nationalism in large economies could slow down or even reverse policy coordination and collaboration; international trade liberalization; financial, and labor flows; and lead to unsustainable policies, weighing on global growth and exacerbating financial market volatility" (IMF, 2017).

Therefore, understanding the components of a country risk and its correlation with financial markets' volatilities and returns is of great significance, especially given the increasing extent of the global nature of investment portfolios (Erb et al. 1996).

## **1.2. Political Risk, Instability and Uncertainty**

Political risk as a concept, was proposed firstly in the 1960s as country risk, with a view to accounting for a country's insolvency. However, in the last decades and with the rapidly changing dynamics of trade and investment internationalization, political risk has gained more interest by institutions and methodologies developers (Sottilotta, 2013).

Many writers agree that there is not only one *precise* definition of political risk because of its broad meaning. During my research, I came across the difference between the three close terms, Political Risk, Political Instability and Political Uncertainty.

According to Kobrin (1979) the term political risk is almost implied to the "possibility of unwanted consequences arising from political activity". In the same line, Root (1972) defined political risk as the "possible occurrence of a political event of any kind; (i.e., war, revolution, coup d'etat, expropriation, taxation, devaluation, exchange



controls and import restrictions) at home or abroad that can cause a loss of profit potential and/or assets in an international business operation".

Sottilotta (2013) summarized all the definitions of the political risk when he defined it as the "probability that the profitability of an investment be negatively affected by circumstances ascribable either to unforeseen changes in the domestic or international political arena, or to governmental policy choices affecting the international investor's property rights".

Robock (1971) distinguished between Political Risk and Political Instability regarding the level of change or effect occurred by the political fluctuations in the business environment. Therefore, if the political fluctuations do not *significantly* change the business environment, then, those fluctuations are considered as instability indicators not as political risk indicators.

Finally, Root (1972) considered political uncertainty as the general term among the two other close terms; political risk and political instability. Therefore, he counted potential government acts and/or general instability in the political and social system as main indicators of the political uncertainty.

The relationship between political events and financial market prices was illustrated by numerous studies before and proven by many researchers. Cuban crisis in 1962, unification process of Germany during 1989-1990, 30 October 1995 Quebec referendum and September 11, 2001 attacks are major examples of key world events that had an impact on financial markets.

When studying the case of Turkey over the last ten years (2008-2017), one can notice a lot of major political events. Continuous terrorist attacks in the Turkish biggest provinces and border cities, election of Recep Tayyip Erdoğan as the Turkish president, tension with Europe and with some Middle East countries, signing a landmark accord with Armenia, signing a Gas deal with the European Union, Gezi Park protests movement, downing of the Russian Jet, 2016 coup attempt and the victory in the 2017 Constitutional Referendum. Therefore, as seen previously, it is not out of the question that Turkey's political situation has had a role in pricing stock assets.

### **1.3. Research Questions and Objectives**

The nexus between politics and finance, and the impact of political news on financial markets has been a subject of interest in many empirical studies. Its importance comes from the role of news releases in driving asset price movements.

In this domain, the majority of studies found an impact of good and bad political news on stock market return and volatility. A negative impact for negative news and a positive impact for positive news. The main research question considered in this study is:

- How do political events affect Turkish stock market ?

The main objective of this research is steered towards examining the impact of political news (good and bad news) on the performance and volatility of the Turkish stock market, using different symmetric and asymmetric volatility (GARCH type) models. Methods and models will be discussed in detail in chapter four.

### **1.4. Contribution of the Research to Knowledge**

This research contributes to the existing literature in the following way. First, it investigates the period 2008-2017, a critical period in the modern political history of Turkey since two fateful events were occurred; *2016 Coup Attempt* and *2017 Constitutional Referendum*; which the current literature lacks. Second, to the best of my knowledge, current literature lacks the empirical evidence regarding the impact of good and bad political news on Turkish stock market performance and volatility using different nonlinear volatility models together, and covering the same study period.

### **1.5. Research Methodology**

The research used time series data covering the period from 2008-2017. An amount of 324 political news headlines were collected from a credible source of news; *the British Guardian Newspaper*. All political news were split into *good* and *bad* news. Daily data of BIST-100 index were extracted from the EVDS Web-Service developed by the Central Bank of the Republic of Turkey. Eviews software was used for data analysis and hypotheses testing. I focused on the parametric models, as they are more likely to analyze nonlinear relationships and explain major features common to financial market data. Symmetric GARCH models (GARCH & GARCH-M) were used to capture the general impact of political news on the returns and volatility of BIST-100 index, whereas

asymmetric GARCH models (EGARCH & TGARCH) were employed to capture the asymmetric (leverage) effect of good and bad news on the returns and volatility of the studied index.

## **1.6. Thesis Structure**

The thesis is organized as follows: Chapter two, presents the literature review on the effect of political news on stock market performance and volatility. Chapter three, provides a brief and impartial background of the major political events of Turkey during the study period. Chapter four, describes the methodology which includes; data collection, sampling design, hypotheses & method of analysis, research model and preliminary data analysis. Chapter five, discusses the empirical results of the study in addition to the residual diagnostics and model robustness checking. Finally, chapter six, presents the conclusion and recommendations.

## **1.7. Definitions of Terms**

**Efficient Market:** "An ideal market in which firms can make production-investment decisions, and investors can choose among the securities that represent ownership of firm's activities under the assumption that security prices at any time *fully reflect* all available information" (Fama E. F., 1970).

**New Information Revolution:** is the faster era in the history of humanity, "it includes coverage of universal access, the potential merging of cable/telephone/computer companies and public libraries or post offices as online resource centers" (Gay, 1996).

**Financial Market:** " is a broad term describing any marketplace where trading of securities including equities, bonds, currencies and derivatives occurs" (Investopedia).

**Stock Market:** " Stock Market is a market where the trading of company stock, both listed securities and unlisted takes place, therefore it includes all the national stock exchanges of the country" (Kaur, 2014).

**Financial Assets:** " are intangible assets such as bank deposits, bonds, and stocks, whose values are derived from a contractual claim of what they represent. Unlike property or commodities, they are not physical (apart from the documents' paper)" (Market Business News).

**Capitalization-Weighted Index:** " A stock index which is computed by adding the capitalization (float times price) of each individual stock in the index, and then dividing

by the divisor. The stocks with the largest market values have the heaviest weighting in the index" (Nasdaq).

Real Estate Investment Trusts: " is a closed-end investment company that owns assets related to real estate such as buildings, land and real estate securities. REITs sell on the major stock market exchanges just like common stock" (Investing Answers).

Venture Capital Investment Trusts: " VCIT are generally composed of leading shareholders and general managers with experience in financial industries. They are established for the purpose of investing in small-sized start-up enterprises with the potential for rapid growth and high profit rates" (KETENCI, 2016).

Collective Products Market: "a market created in order to ensure that the shares of the investment trusts, real estate investment trusts and venture capital investment trusts, exchange traded funds participation certificates, warrants and other structured products are traded in a special market segment " (RSM, 2011).

Structured Products Market: "is a market for investment products which are combined of derivatives products and conventional financial products, that invest in fixed income instruments, securities, securities portfolios, indices, commodities and currencies etc" (Iş Investment).

Country Risk: " a risk that shows in a general manner the risks of the international businesses, reflecting the overall situation and the cumulative effects of the other associated risks; A diagnosis of the socio-economic potential of the country that receives international economic flows" (ILIESCU & DINU, 2011).

Country's Insolvency: "is one of the main legal grounds for initiating bankruptcy proceedings" (Bite & Jakuntaviciute, 2014)

Internationalization: " The growing tendency of corporations to operate across national boundaries" (Business Dictionary).

## **1.8. Limitations and Suggestions for Future Research**

In this research, there are two limitations that must be addressed. The first limitation is associated with the news data. Selected political news may not be the most appropriate news to explain political risk and uncertainty in Turkey. Moreover, some news were not at the same level of significance as the key political news explained in the third chapter. Furthermore, some of the selected news headlines may be judged *inappropriate* according to an investor's point of view. The second limitation is that the study ignored all the other

factors that may also affect the stock market, and focused only on the political factors that may explain a part of the relationship with stock market. Thus, the research could be expanded to include comparative indices and other factors such as the economic and global factors.

## 2. LITERATURE REVIEW

Significant news regarding corporate earnings, economic performance and political risk are among the main factors than can affect stock markets and steer their movements. However, the impact of news is related to the nature and importance of available information, degree of market efficiency and the way the investors value and deal with new information. Therefore, it is very essential, when writing a research about the financial market reaction to news, that key finance theories, mainly the Efficient Market Hypothesis (EMH), Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT), are studied, or at least mentioned, since they are most likely to demonstrate some different dimensions of the relationship between political news and the stock market movements.

### 2.1. Theoretical Review

#### 2.1.1 Efficient market hypothesis

Fama E. F. (1965), the *father* of the efficient market theory, at the beginning of his journey, defined efficient market as "the market where there are large numbers of rational profit-maximizers actively competing with each other trying to predict future market values of individual securities, and where important current information is almost freely available to all participants". He demonstrated that the prediction of stock price movements is impossible, since prices are *randomly* changing and information is speedily incorporated into prices. Thus, significant information cannot generally be fully or instantly evaluated, and all *technical* or *chartist* theories and techniques which aim to predict stock prices are completely without value.

Fama E. F. (1970) defined efficient market again as "the market in which prices always fully reflect available information". Moreover, he divided his empirical work into three categories based on the *nature* of information. The Weak form; where investors have the chance to generate profit since the information set is just historical prices, and thus, new prices can be predicted from historical price trends. The Semi-Strong form; where "prices efficiently adjust to other information that is obviously publicly available" such as companies' announcements, financial statements, stock splits, etc. Finally, the Strong form; in which prices are supposed to "fully reflect all the available information".

Grossman & Stiglitz (1980) attempted to redefine efficient market through an article titled "on the impossibility of informationally efficient markets" from the perspective of arbitrageurs and traders. They argued that stock prices cannot *perfectly* reflect the available information since information is costly. Therefore, there was a fundamental dispute regarding the return and compensation of those who spend resources to gather information (arbitrageurs), whereas it is freely available to those (traders) who pay nothing to get it.

Brown et al. (1988) conducted a *richer* version of EMH, which was completely based on the generality and rationality of the investors' decision rules. The model is called; Uncertain Information Hypothesis. Their model was based on a hypothesis that stock market prices are set by the investors before all the consequences of a dramatic financial event are known. The theory also predicted that, both the risk and expected return increase systematically after the news of a dramatic event become public. Furthermore, the empirical framework proved that market prices normally overreact to bad news more than good news.

After 20 years of his last review, Fama E. F. (1991) made another thornier task in reviewing the market efficiency literature. His new review focused mainly on the adjustment of the stock prices to different types of information, describing the importance of time-series and cross-section behavior of security returns. Moreover, it focused on ensuring the impossibility of the "precise inference about the degree of market efficiency".

Fama changed the three categories of his previous empirical work of 1970 to be broader and more comprehensive. The first category covered the tests for *return predictability* that involved return forecasting and cross-sectional predictability, depending on variables such as past returns, dividend yields, interest rates and other various *term-structure* variables. The first category also considered the seasonals in returns, mainly the January effect, as well as the tests of asset-pricing models and anomalies such as the size effect. In the second category, instead of the semi-strong form tests, Fama suggested a more common term, the *event studies* tests, so he argued its ability to give the most direct evidence on efficiency. Finally, instead of the strong form tests, he used a more expressive term, tests for *private information*. At the end, Fama clarified the evidence that the private information of the corporate insiders are not fully reflected in prices, and considered the evidence of professional investment managers' possession of private information as a "murky, clouded by the joint-hypothesis" problem.

On the other hand, Malkiel (2003) examined the attacks on the EMH and concluded that "stock markets are far more efficient and far less predictable than some recent academic papers would have us believe". Furthermore, he claimed that investors are not able or permitted to earn extraordinary risk adjusted returns, in spite of the existence of stock prices' anomalous behavior, since "insufficient, predictable patterns" have been discovered, published and documented in the literature.

### **2.1.2. Capital asset pricing model**

As reported by French (2003), the Capital Asset Pricing Model was initially introduced by Jack L. Treynor (1961) based on the single-period-discrete-time that was founded by Markowitz (1952) and Tobin (1958), and consequently developed by Sharpe (1964), Lintner (1965) and Mossin (1966).

The model is considered as one of the simplest mathematical models of asset pricing and portfolio selection. As stated by Markowitz (1959), securities' past performance and analysts' beliefs are among the essential raw materials that can be used as an input in the process of portfolio analysis. Markowitz pointed out that uncertainty is a salient feature of security investment. Thus, uncertainties regarding economic and political conditions can affect the capital gains and the dividends of one or many securities.

However, Markowitz believed that "there are no magic formulas to supplant the sources of information and the rules of judgment of the security analyst", but making an efficient portfolio in terms of expected return and variance, with a near optimal result is possible through natural procedures containing; choosing a proper period of analysis and moving on the basis of judgment and in the direction of the desired portfolio at a slow pace. Markowitz also considered the point of recomputing the formal analysis regularly and periodically as a main step in building an efficient portfolio.

According to Merton (1973) , CAPM is a single-period equilibrium model that explains a significant fraction of the variation in asset returns, and provides a solid specification of the correlation between asset returns. In line with Fama & French (2004), CAPM offers strong predictions regarding; how risk can be measured and the relationship between expected return and risk, building on the model of portfolio choice and the logic of investors' risk aversion. Consequently, investors build "mean variance efficient portfolios" in order to 1) minimize portfolio return variance taking into account expected return, and 2) maximize expected return taking into account variance.



As stated by Perold (2004), despite CAPM's confusing empirical performance, the model has many assumptions that could serve as a reference point for understanding some capital market phenomenon that cause asset price and investor behavior to diverge from the instructions and the suggestions of the model, particularly, the assumptions regarding; investors risk aversion, perfection of the capital markets (no transaction costs, not taxes, free availability of information, borrowing and lending at the risk-free-rate), and investors' accessibility to the same investment opportunities.

On the other hand, Roll (1977) criticized the model on many grounds, most importantly, on the ground of its implication, which he considered as "not independently testable". Roll stated that "there is an if and only if relationship between return/beta linearity and market portfolio mean variance efficiency". Therefore, the model cannot be tested unless all the individual assets of the sample are included, and the precise structure of the market portfolio is recognized and well-used in the tests. The model was also criticized for considering the beta itself as a risk measure, since it only takes into account the "ex-post efficient frontier" and neglect the investors' behaviours toward risk.

### **2.1.3. Arbitrage pricing theory**

The theory, as stated by many researchers, performs extremely well as opposed to the CAPM, especially in explaining cross sectional variations in asset returns that result from changes in macro risks associated with macroeconomic and political factors.

Arbitrage Pricing Theory is an alternative to the mean variance capital asset pricing model, and it is mainly based on the idea of equilibrium in markets and the preclusion of arbitrage opportunities through static asset portfolios (Ross, 1976).

APT was primarily established by Ross (1976), and developed by Huberman (1982) and Connor (1984) on the back of the assumption that; "each asset return is linearly related to several common global factors, plus its own idiosyncratic disturbance" (Chen, 1983). Those several common global factors (systematic factors) normally do not have "priori specifications", and therefore can be measured only by the empirical implementation of the theory. However, the idiosyncratic or random components can be diversified away and even canceled out by well-managed large portfolios (Lehmann & Modest, 1985).

Roll & Ross (1984) showed that asset returns are affected by two types of risks; systematic risks which are related to the economy as a whole, and the idiosyncratic risks

which are not directly related to the economy as a whole and have a bearing on individual firms and specific industries. Furthermore, they found that expected return of an asset is directly related to the asset's sensitivity to unanticipated movements in main economic factors, such as inflation, interest rates, risk premiums, etc.

APT was also defined by Huberman & Wang (2005) as a one period-model in which every investor considers that the stochastic properties of asset returns are consistent with a factor structure, and expected returns are linearly related to their betas or covariances with the market portfolio's return. They also found that due to its clearness and flexibility, APT has various practical applications in many areas such as; asset allocation, managed funds performance evaluation and cost of capital computation.

On the contrary, Dhrymes et al. (1984) reexamined the empirical evidence on the APT and criticized the theory on different grounds. In particular, it lacks clarity in conclusively answering the question of "how many risk factors the theory takes into consideration". Moreover, the accuracy of its claim; that there are three to five factors that can sufficiently explain the observed returns; was adopted by much of the literature without taking into consideration the increasing number of the securities in the universe, and therefore the increasing number of the *significant* factors at all.

## **2.2. The Determinants of the Variability of Stock Market Prices**

The most common explanation for the big and unforeseeable fluctuations in stock prices is that price swings reflect the efficient discounting of new information (Grossman & Shiller, 1981). However, the issue is more complex than this interpretation. The real issue is the ability to determine the type of these new information.

Generally, as indicated in the article by Fama E. (1990), key economic variables such as real GNP, industrial production and investment can be used as forecasts for future annual stock return variances. Moreover, Fama mentioned that large fractions (up to 50%) of return fluctuations can be traced to forecasts of the aforementioned variables.

Grossman & Shiller (1981) provided an evidence that stock price movements can be justified in terms of real interest rate movements as a result of the increased information that consumers may have about consumption. Furthermore, Geske & Roll (1983) find a well-documented negative relation between stock returns and inflation. Their empirical evidence suggests that when the expected inflation increases, stock prices decrease.

Anatolyev (2008) found substantial evidence that global macroeconomic and financial variables such as major stock market prices and interest rates, precisely US stock prices and interest rates, have growing impact on the Russian stock market at the aggregate level.

Rahman et al. (2009) examined the factors that affect the Malaysian stock market, as well as the relationship between Malaysian stock prices and macroeconomic components. Rahman et al. find that there are significant long-run effects of the macroeconomic variables on the Malaysia stock market, mainly the money supply, exchange rate, reserves, interest rate and industrial production.

In the same line, Zafar (2013) found evidence that there is a relationship between macroeconomic determinants and stock market prices in Pakistan. A significant positive relationship between direct foreign investment and stock market performance, and a moderate negative relationship between real interest rate and stock market capitalization.

From another angle, the firm related news and factors also have been revealed to have an impact on stock prices. Many researchers have investigated the role of corporate dividend policy and dividend announcements in determining the volatility in stock prices. In this context, Nazir et al. (2010) found a strong significant relationship between dividend policy and stock price volatility in Pakistan. Hunjra et al. (2014) studied the impact of dividend yield in detail, dividend payout ratio, return in equity, earning per share and profit after tax on stock prices of four non financial sectors in Pakistan. They found that all the variables have significant impact on stock prices, particularly, a negative relationship between dividend yield and stock prices, and a positive relationship between the other variables and the stock prices.

Hussainey et al. (2011) further tested the relationship between dividend policy and share price changes in the UK stock market. They found a positive relationship between dividend yield and stock price changes, and a negative relationship between dividend payout ratio and stock price changes. Their results also indicate that firm's growth rate, debt level, size and earnings explain stock price changes.

Suwanna (2012) examined the empirical evidence for dividend signalling theory in order to capture the impact of dividend announcements on stock prices. The result indicated that the prices of Thailand Stock exchange move upward significantly after dividend announcements. Unlike Suwanna et al. (2010) who considered the efficient market hypothesis to explain the impact of dividend announcement on the Indian stock

market returns. The study found an evidence that investors do shift their security positions at the time of dividend announcement, and therefore, positive announcement lead to more positive abnormal returns. Their evidence pointed out the possibility of information content in the post announcement periods.

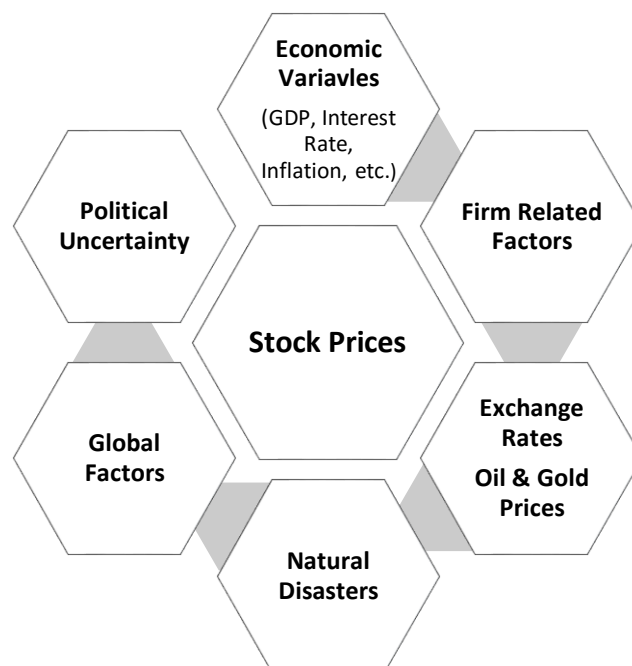
As noticed above, the factors and events that affect stock prices on the whole are numerous and complex, some of them, affect stock prices directly and some do so indirectly. With regard to the indirect influences, some researchers examined the effect of variables such as; exchange rates, oil prices, gold prices and natural disasters on stock performance and found empirical evidence related to the existence of the relationship.

For instance, many researchers investigated empirically the relationship between the volatility of exchange rates and stock markets. Aslam (2014) found a very weak negative bidirectional correlation in between USD – PKR exchange rate and KSE-100 indices of Pakistan. Najaf & Najaf (2016) found a negative unidirectional relationship between the Indian Rupess-USD exchange rate and Nifty returns. Kennedy & Nourizad (2016) found that increased exchange rate volatility of USD-Euro exerts a positive and statistically significant impact on U.S. stock return volatility.

On the other hand, extensive studies were conducted on the impact of oil prices on stock returns. Adebisi et al. (2012) found empirical results showing a significant and immediate negative impact of oil price shocks on real stock returns in Nigeria. Filis et al. (2011) deeply investigated the correlation between stock market prices and oil prices for importing and exporting countries such as Canada, Mexico, Brazil; and USA, Germany, and Netherlands. Empirical correlation results were the same for oil importing and oil exporting economies; "a negative impact of oil prices on all studied stock markets". Chaibi & Gomes (2013) inspected the transmission of shocks and volatility between oil prices and twenty three frontier stock markets including MSCI world and MSCI frontier markets. The empirical results showed a significant volatility interaction between oil prices and some frontier stock markets. Furthermore, results showed that spillover effect seem to be bidirectional in many markets and often move from oil to stock markets. Broadstock & Filis (2014) also examined the correlation between oil prices shocks and US & China stock market returns. They mainly pointed out that the correlation is explicitly and consistently time varying, and it also varies quite widely among countries and industries.

According to many researchers, stock price volatility can also be affected by external factors such as gold prices and natural disasters. Empirical results indicate a co-movement between gold prices and stock prices, by considering gold as a mean of investment like bonds or equities (Bhunja & Das, 2012). Last, but not least, catastrophic natural disasters have also been known to impact the individual stocks or the markets as a whole. Luo (2012) find a significant impact of the 2011 Japanese earthquake on some individual global stocks of different industries, a positive impact on the companies engaged in food, construction, minning and non-nuclear energy, and a negative impact on oil, automobile, consumer electronic goods and nuclear energy related companies. On the other hand, Hanan et al. (2012) presented the result of a study that determine the impact of news related to politics, terrorist attacks and natural disasters (such as earthquakes and floods) on Pakistan stock market (KSE-100). They noted that all the three variables have a strong impact on the stock market as a whole, particularly, a positive impact for the good news and a negative impact for the bad news.

**Figure 2.1.** *Factors affecting stock market prices*



Overall, one can decipher from the literature that many direct and indirect factors can cause the price of a stock to increase or decrease (See Figure 2.1). The aim of my thesis is to examine the effect of political news on the Turkish stock market (BST-100) during the period 2008-2017.

### **2.3. Empirical Studies**

One of the key studies that best illustrates the relationship between political risk and stock returns (using risk indices as a proxy for the political risk variable) is the study of Bilson et al. (2002) titled "The Explanatory Power of Political Risk in Emerging Markets". The paper investigated the relationship in the context of 17 emerging markets, using a framework that accounts for global and local return effects (international asset pricing). The countries included in the sample are (Argentina, Brazil, Chile, Colombia, Mexico, Venezuela, India, Korea, Malaysia, Pakistan, Philippines, Taiwan, Thailand, Greece, Jordan, Nigeria and Zimbabwe). For comparative reasons, the paper also included 18 developed stock markets (Australia, Austria, Belgium, Canada, Denmark, France, Germany, Hong Kong, Italy, Japan, Netherlands, Norway, Singapore, Spain, Sweden, Switzerland, the UK and the US). The sample period ranged from 1984 to 1997 and data were gathered on a monthly basis. The indices of the International Country Risk Guide (ICRG) were used as a proxy for political risk. The findings of the study concluded that political risk has a greater role in explaining return variations in emerging markets than in developed markets. Moreover, the paper found a positive relationship between political risk and ex-post returns in emerging markets, especially during the 1990s.

On the contrary, in my research, the political news were used as proxies for political risk and considered as independent variables which affect stock market, taking into account the issue that political risk is unobservable and hard to be quantified. In other words, I did not rely on the results of the quantitative methods estimated by rating agencies to create the dataset of the study.

In fact, during my research, I came across several studies, mostly conducted in emerging markets, which have empirically examined the relationship between political news and stock markets. One of those studies, conducted by Kim & Mei (1994), investigated the impact of political risk on the Hong Kong equity market. The study adopted an event study methodology to examine the direct impact of political changes in security returns. The study also constructed a volatility model called Components-Jump model in order to quantify the market volatility impact of political events using a statistical estimation process. The model consists of two parts, the fundamental ARCH-derivative model of Engle & Lee, 1993, which serves in capturing time-varying nature of long-term volatility, and the Jump/Poisson process, which explicates the return shocks.

The primary sample covered the period from 1989-1993, and the data utilized are the daily, weekly and quarterly stock returns data derived from the Hang Seng Index. Political news were extracted from the Wall Street Journal and the New York Times, and divided into three indices of separate political issues, which are, democracy and human rights in China, China's political future and China's trading status with the US. The results from this study indicated that political events which occurred during the sample period have significantly impacted movements in the index of Hang Seng. Moreover, volatility effects of the political risk variables were also significant.

Ilkuçan (2004) analyzed the direct impact of political news on the intra-daily performance of the Istanbul Stock Exchange index ISE100. The study covered the period between 2002-2003. Domestic and foreign political news data was collected from the Reuters Turkish language news service. Ilkuçan employed an event study methodology and GARCH (1,1) model in the study. The study resulted that political news significantly increased both the mean and variability of ISE-100 returns. Furthermore, key political news such as the news about Iraq war, Cyprus peace negotiations and November 2002 elections had significantly impacted the intra-daily ISE100 index returns.

Beaulieu et al. (2006) examined the short-run effect of the Oct 30<sup>th</sup>, 1995 referendum on the common stock returns of Quebec firms. A classic event study methodology were used to measure the economic impact of the referendum on the value of 102 firms headquartered in Quebec and listed on the Montreal Stock Exchange and/or on the Toronto Stock Exchange. The study also used the GARCH model to estimate the volatility of stock returns and assess whether the significance of abnormal returns is influenced by variable volatility. The results showed that the uncertainty regarding the outcome of the referendum had an effect on the stock returns of the Quebec firms. The study also indicated that the Quebec firms exposed to political risk are the firms most affected by the referendum, and the degree of vulnerability depends primarily on the structure of firm's assets and on the firm's degree of foreign involvement.

Białkowski et al. (2008) tested whether national elections stimulate greater volatility in the stock market by investigating a broad international sample (containing all OECD member states) excluding Iceland, Luxembourg and Slovakia. The sample included 27 countries and 134 elections that took place in the period between 1980 and 2004. The study used MSCI world index as a proxy for this global portfolio and collected stock market data from Thomson Financial Datastream. An event study methodology was

employed to gauge the impact of elections on the second moment of return distribution, while GARCH models served as a benchmark for measuring abnormal volatility and for isolating the country-specific component of variance. The results indicated that the variance in the country-specific component of index return was simply doubled during the week around election day, which demonstrates the investor's surprise about the outcomes of the elections.

Suleman M. T. (2012) studied the effect of good and bad political news on the return and volatility of Pakistan's Karachi Stock Exchange KSE100 Index and eight sector indices, namely; oil and gas, financial, basic material, utilities, food and beverages, industry, health care and auto and parts. Index data consisted of daily closing prices between 1992-2010. Suleman selectively collected 186 news items related to political parties agreements, politicians and army's conflicts, politicians' declarations regarding future policies, early dismissal of government and army's interventions. The study employed the EGARCH model of (Engle & Ng, 1993). The results of the study indicate that good and bad political news have different impact on stock return and volatility, precisely, good news have positive impact on stock returns, and decreased volatility, while bad news have negative impact on returns and increased volatility. Moreover, the results confirmed that bad news has stronger impact on the volatility than good news. However, on the sector level, the study showed that most sectors of KSE were affected by the two types of news in the same way except oil and gas, financial and health care sectors; which were found to be not statistically significant in responding to political news.

Kongprajya (2010) investigated the impact of political news on Thailand stock market by sampling approximately 500 news obtained from Bangkok post website. The study period ranged from 2004-2008. Historical daily data of SET index return were employed in the analysis. Kongprajya mainly used GARCH-in-mean model for estimating stock return volatility. Furthermore, additional specifications such as EGARCH and APARCH models were used in order to capture the asymmetric effect of the favorable and unfavorable news on stock return. The study found out a significant effect of the favorable news on the increase in SET returns and volatility, and vice versa. However, the most interesting finding of the study was the symmetric effect of the two types of news on stock returns.

Suleman M. T. (2012) separately studied the effect of terrorist attack news (as a part of the political news) on the returns and volatility for the Pakistan's Karachi Stock



Exchange. His study covered all the terrorist attacks that happened in Pakistan in the period between 2002 and 2009. The data used in his study was collected from the Karachi stock exchange and Thomson Datastream, and included daily closing prices of KSE-100 index and the indices of oil & gas, financial and industry. Suleman used the EGARCH model of Engle and NG (1993) to reach the following results: terrorist attack news has had a negative impact on all the sector indices, terrorist attack news had increased the volatility of KSE-100 index and the financial sector index, and the results of oil & gas, and industry sectors were not statistically significant in reaction to the terrorist attack news.

A similar study to the one of Kongprajya (2010) was conducted by Kulwarothai (2013) studying the effect of political risk (measured through political news) on the volatility of stock returns in Thailand. The study used GARCH-M and EGARCH-M models. The time span of the study was from 2006-2011 and it was based on the daily closing indices of the SET smart. The results demonstrated that political news significantly impact stock return volatility, and negative shocks derived from unfavorable news have greater effect on the volatility than positive shocks derived from favorable news.

Some have extended their analyses to study the effects of leadership changes on the mean value and volatility of stock markets. Osa (2014) made his analysis on 48 global stock markets. Political learders' news was collected from Archigos-dataset. National stock market data were taken from Thomson Reuters Datastream, while global stock market data were taken from MSCI index. Data covered the period from 1970 to 2004 and was measured on a monthly basis. The study used two different techniques; the standard event study methodology for calculating the abnormal returns in the political transmissions' periods, and the GARCH(1,1) model to estimate the volatility in the markets. The results of the study showed that values of stock markets vary extremely in the periods of political transition. However, the study found no statistically significant result regarding the effect of political changes on stock market mean returns.

El-Chaarani (2015) conducted a study on the impact of Lebanese political news on the return and volatility of Beirut Stock Exchange for the period 2005-2014. El Chaarani analyzed 294 political news and crises in term of their impact before, during and after announcement dates. Political news were collected from the National News Agency, and stock market data were obtained on a daily basis using BSE database. GARCH, EGARCH

and ARCH models were employed. Results indicated that favorable and unfavorable political news have significant impacts on BSE returns, more specifically, a positive impact of favorable news and a negative impact of unfavorable news. Furthermore, results indicated that unfavorable political news has stronger impact on BSE return and volatility than favorable news.

On the other hand, some researchers like Cutler et al. (1989) and Chen et al. (2005) found no significant reaction of stock movements to political events. Cutler et al. used vector autoregressive model to *test* NYSE's response to political, military and major world news within the period 1871-1985. Results found a relatively small market reaction to those news. Therefore, they argued emphatically against explaining the missing variation in stock returns with political events.

Likewise, Chen et al. (2005) made their investigation on the Taiwan's stock market for the period 1996-2002. Their sample consisted of a total of 100 firms with their daily returns. Results of the study indicated that when employing an MVRM framework, stock price reaction to majority of the political news were to some extent insignificant.

**Table 2.1. Summary of Literature Review**

<b>Author(s)</b>	<b>Publication</b>	<b>Country/Market</b>	<b>Time Period</b>	<b>Purpose</b>	<b>Methodology /Model</b>	<b>Key findings</b>
Bilson, Brailsford & Hooper (2002)	<i>International Review of Financial Analysis</i>	17 emerging markets, and 18 developed markets	1984-1997	Investigating the relation between political risk and stock returns within the context of emerging markets	International asset pricing	<ul style="list-style-type: none"> <li>- Political risk has a greater role in explaining return variations in emerging markets than in developed markets.</li> <li>- A positive relationship between political risk and ex-post returns in emerging markets.</li> </ul>
Kim & Mei (1994)	<i>New York University Working Paper</i>	China: Hong Kong Equity Market	1989-1993	Measuring the impact of political risk on asset prices	<ul style="list-style-type: none"> <li>- Event study methodology.</li> <li>- ARCH-derivative model.</li> <li>- Jump/Poisson process.</li> </ul>	<ul style="list-style-type: none"> <li>- Political events have significantly impacted movements in the index of Hang Seng.</li> <li>- Volatility effects of the political risk variables were significant.</li> </ul>
İlkuçan (2004)	<i>Bilkent Journal Publications</i>	Turkey: Istanbul Stock Exchange	2002-2003	Analyzing the direct impact of political news on the intra-daily performance of the ISE100 index	<ul style="list-style-type: none"> <li>- Event study methodology.</li> <li>- GARCH model</li> </ul>	<ul style="list-style-type: none"> <li>- Political news significantly increased both the mean and the volatility of ISE100 returns.</li> <li>- Key political news had significantly impacted the intra-daily ISE100 index returns.</li> </ul>

Beaulieu, Cosset & Essaddam (2006)	<i>Canadian Journal of Economics</i>	Canada: Montreal Stock Exchange/ Toronto Stock Exchange	1995	Examining the short-run effect of the Oct 30th, 1995 referendum on the common stock returns of 102 Quebec firms	- Event study methodology. - GARCH model.	- Uncertainty regarding the outcome of the referendum has had an effect on the stock returns of the Quebec firms. - Quebec firms exposed to political risk are the firms most affected by the referendum.
Białkowski, J., Gottschalk, K., & Wisniewski, T. P. (2008)	<i>Journal of Banking &amp; Finance</i>	All OECD member states excluding Iceland, Luxembourg and Slovakia	1980-2004	Testing whether national elections stimulate greater volatility in the stock market	- Event study methodology. - GARCH model.	- The variance in the country-specific component of index return was simply doubled during the week around election day.
Suleman (2012)	<i>Asian Journal of Finance &amp; Accounting</i>	Pakistan: Karachi Stock Exchange	1992-2010	Studying the effect of good and bad political news on return and volatility for KSE100 index and eight sector indices	EGARCH model	- Good news (bad news) have positive (negative) impact on returns and decreased (increased) volatility - Bad news has stronger impact on the volatility than good news.
Kongprajya (2010)	<i>University of Nottingham</i>	Thailand: Stock Exchange of Thailand	2004-2008	Investigating the impact of political news on SET index	- GARCH-in-mean model. - EGARCH model. - APARCH model.	- A significant effect of the favorable news on the increase in SET returns and volatility, and vice versa. - A symmetric effect of the good and bad news on stock returns.

Suleman (2012)	<i>Australasian Accounting, Business and Finance Journal</i>	Pakistan: Karachi Stock Exchange	2002-2009	Studying the effect of terrorist attack news on return and volatility of the KSE100 index	EGARCH model	<ul style="list-style-type: none"> <li>- Terrorist attack news has had a negative impact on all the sector indices.</li> <li>- Terrorist attack news had increased the volatility of KSE100 index and the financial sector index.</li> <li>- Oil &amp; gas, and industry sectors were not statistically significant in reaction to the terrorist attack news.</li> </ul>
Kulwarothai (2013)	<i>Thammasat University</i>	Thailand: Stock Exchange of Thailand	2006-2011	Studying the effect of political risk (measured through political news) on the volatility of SET-smart return	<ul style="list-style-type: none"> <li>- GARCH-M model.</li> <li>- EGARCH-M model.</li> </ul>	<ul style="list-style-type: none"> <li>- Political news significantly affect stock return volatility.</li> <li>- Negative shocks derived from unfavorable news have greater effect on the volatility than positive shocks derived from favorable news.</li> </ul>
Osa (2014)	<i>University of Oslo</i>	48 global stock markets	1970-2004	Studying the effects of leadership changes on the mean value and volatility of MSCI index	<ul style="list-style-type: none"> <li>- Event study methodology.</li> <li>- GARCH model.</li> </ul>	<ul style="list-style-type: none"> <li>- Values of stock markets vary extremely in the periods of political transition.</li> <li>- No statistically significant result regarding the effect of political changes on stock market mean returns.</li> </ul>

El Chaarani (2015)	<i>Lebanese Science Journal</i>	Lebanon: Beirut Stock Exchange	2005-2014	Studying the impact of Lebanese political news on the return and volatility of BSE	- GARCH model. - EGARCH model. - ARCH model.	- Favorable and unfavorable political news have significant impacts on BSE returns. - A positive impact of favorable news and a negative impact of unfavorable news. - Unfavorable political news has stronger impact on BSE return and volatility than favorable news.
Cutler, Poterba & Summers (1989)	<i>The Journal of Portfolio Management</i>	America: New York Stock Exchange	1871-1985	Testing NYSE's response to political, military and major world news	Vector autoregressive model	- No significant reaction of stock performance to political, military and major world news. - Missing variation in stock returns cannot be explained with political events.
Chen, Bin & Chen (2005)	<i>International Journal of Business</i>	Taiwan: Taiwan Stock Exchange	1996-2002	Testing stock performance reaction (of 100 firms listed on TSE) to political events.	Event Study (MVRM framework)	Stock price reaction to majority of the political news were to some extent insignificant.

### 3. OUTLINE OF MAJOR POLITICAL EVENTS IN TURKEY

This chapter is mainly concerned with providing a brief and impartial background of the major political events happened in Turkey during the study period (2008-2017). First of all, Turkey's friends and foes, new ones and olds, directly and indirectly confirm that Turkey's economy and development performance over the last decade, is still strong and steadfast in spite of all the internal and external political and security challenges. It is also clear that how the Turkish successful model is becoming a target for the organized international terrorism.

Turkey, as known, is a Muslim-Majority country, located in a very critical location, in Southeastern Europe and Western Asia. The strategic significance of Turkey derives from its geopolitical position, in addition to the coexistence model that it provides between religious identity and country's secular democracy, modernity and globalization (Rabasa & Larrabee, 2008).

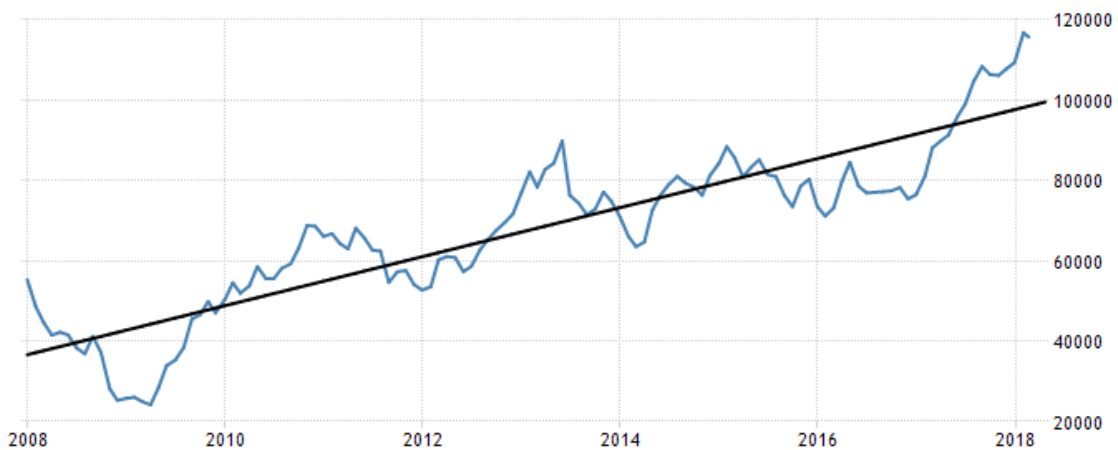
According to a report released in September 2016 by Atradius, "In the last decade, Turkey has made impressive economic progress. With political stability since 2002, when the *AKP* came to power, the country has experienced GDP growth exceeding the European average, while real per capita income has increased markedly". (See Figure 3.1). Atradius also clarified that due to rapid growing population and rising prosperity, Turkey has become one of the most outstanding emerging markets. The same report also confirmed that just since 2013, sharply increased political risks have resurfaced with some structural economic weaknesses including inflation, capital inflows and international liquidity.



**Figure 3.1.** Turkey GDP per capita between (2008-2016).

**Source:** (<https://tradingeconomics.com/turkey/gdp-per-capita>).

During the study period, massive crises and terrible political events occurred in Turkey, but generally they did not affect the perception of the investors regarding their confidence in the Turkish stock market as noticed in (Figure 3.2). On the contrary, these crises have proven both the strength of the Turkish stock market and its long-term growth and stability, regardless of all political shocks.



**Figure 3.2.** BIST-100 index values (2008-2018).

**Source:** (<https://tradingeconomics.com/turkey/stock-market>).

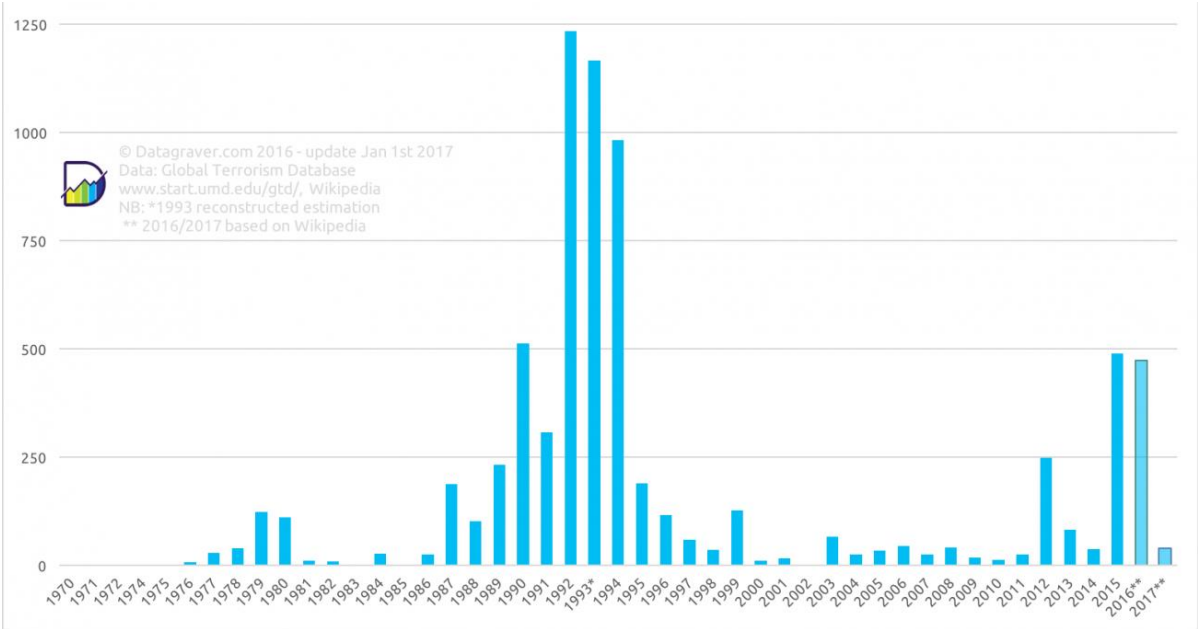
Every nation in the world is vulnerable to the direct and indirect effects of the acts of terrorism, but the most affected area is the area in which the direct terrorist attacks occur, that's



because of the impacts ranging from loss of people to loss of earnings of companies and markets (Nguyen & Enomoto, 2009).

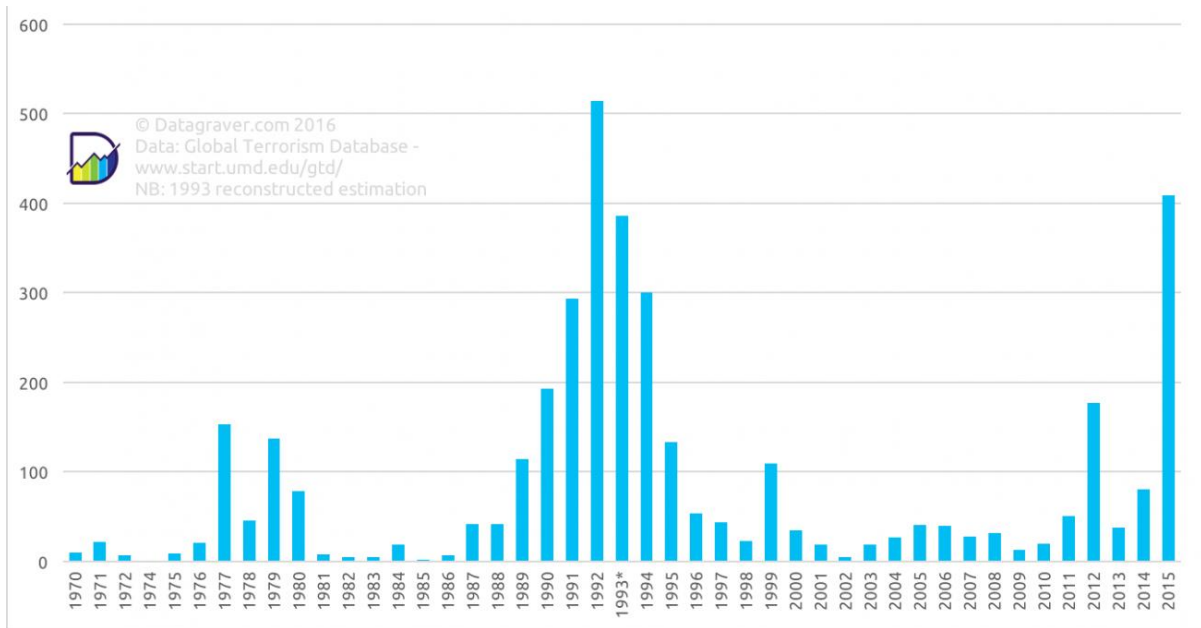
Turkey is one of the countries that suffered a lot from terrorism and terrorist attacks. Most of the attacks in the last years were carried out by PKK and ISIS. Thousands of deadly attacks targeted the civilians (citizens & tourists), security personnel and government institutions in the biggest provinces and border cities, such as Istanbul, Ankara, Gaziantep, Kayseri and Diyarbakir.

During the last decade, the year 2015 was the highly challenging year for Turkey in terms of the number of terrorist attacks experienced and people killed by these attacks. More than 400 attacks occurred and 495 people were killed in that year (See Figures 3.3 & 3.4).



**Figure 3.3.** People killed by terrorism in Turkey per year (1970-2017).

**Source:** (<http://www.datagraver.com/case/terrorism-attacks-in-turkey-1970-2016>).



**Figure 3.4.** Number of terrorist attacks per year in Turkey (1970-2015).

**Source:** (<http://www.datagraver.com/case/terrorism-attacks-in-turkey-1970-2016>).

### 3.1. Incursion into Northern Iraq

The political and security situation in Iraq is a source of instability that poses a threat for Turkey just like any other country having borders with another unstable country. Therefore, Turkey was forced to move into Iraq in order to firstly secure its borders from terrorist groups, mainly groups like PKK and ISIS, and secondly, to defend its strategic interests and vital options there.

During the last decade, Turkish military has made continual incursions into northern Iraq and became more directly involved in the fight against terrorism in various ways and at different levels (Turunc, 2011). The incursions of 2008 and 2015 were the greatest in terms of level, depth and repercussions. The Turkish financial markets were clearly dipped especially after February 2008 incursion into Northern Iraq (Hurriyet English, 2008). As can be seen in (Figure 3.5), when the Turkish Armed Forces operations began on February 21, 2008, BIST-100 index prices dropped by 14.48% in only one month.



**Figure 3.5.** *Impact of the Turkish Incursion into Northern Iraq on BIST-100 (February 2008).*

**Source:** (<https://tradingeconomics.com/turkey/stock-market>).

### **3.2. Signing a Landmark Accord With Armenia**

It was a historical deal and the most illustrious since Turkey closed its border with Armenia in 1993. The accord was signed in Zurich by the two foreign ministers, Ahmet Davutoğlu and Edward Nalbandian after meditations by mainly US and Sweden. Under the agreement, both parties corresponded to reopen their common borders and re-establish formal diplomatic ties (BBC News, 2009).

The accord marked a peaceful short-term in the relations between Turkey and Armenia and lasted for almost five months without any escalations since the signature of the agreement in October 10, 2009. The breakdown of the agreement started in March 2010, when US and Sweden (the main mediators of 2009 agreement) voted in the congress and the parliament for describing the first world war issue between Armenians and Ottoman Turks as a genocide which caused a diplomatic freeze between the two countries. Moreover, Pope Francis in April 2015 and the German MPs in June 2016 also approved motions to describe Armenians-Turks issue in 1915-22 as a genocide.

### **3.3. The Gas Deal Between Turkey and The European Union**

The agreement of Turkey–Austria Gas Pipeline was signed in Ankara, on July 13, 2009, between Turkey and four European Union countries (Austria, Bulgaria, Romania and Hungary). They agreed on constructing a long planned Nabucco pipeline (2,000 miles/10.6 billion dollars) crossing the five countries. The Gas deal had two political aspects, the first one was related to

strengthening diplomatic ties and bringing new dimensions to the relations between Turkey and Europe, and the second one was related to the intention of Europe to reduce its dependency on Moscow's energy supplies (Deutsche Welle, 2009).

After the intergovernmental agreement was signed between the five ministers of the participating parties, Hungary was the first country to ratify the agreement on October 2009, followed by Bulgaria and Romania on February 2010, then by Turkey on March 2010. Remarks on the agreement varied between positive and negative (hostile) such as that of the Iranian Foreign Minister and the Russian Prime Minister who threatened to void the pipelines from gas if they do not participate in the agreement. The most positive remarks to the agreement were the remarks of PM Erdoğan when he described the deal as a "historic moment" in reference to its positive political and economic consequences (Wikipedia, 2015).

Senior European commissioner Piebalgs also declared that Turkey and EU were to agree on implementing a strategic infrastructure project that will increase Turkey's political presence in the world and create a physical link between EU and Turkey (YİNANÇ, 2009).

### **3.4. Withdrawal of PKK Fighters from Turkish Territory**

The hope of peace between Turkey and Kurdish militants had been the highest in the talks of December 2012 between Recep Tayyip Erdoğan's government and the leader of the Kurdistan Workers' party Abdullah Ocalan. It was in March 21, 2013 when the PKK chief Abdullah Ocalan declared ceasefire with Turkey in a remarkable step to end a 30-year war (The Telegraph, 2013).

Declarations of both, Turkish government and Ocalan were full of hope and positivity towards solving the arms problem and proposing a roadmap for ending a conflict that had claimed more than 40,000 lives during three decades (BBC News, 2013).

In the two years of ceasefire between Turkey and PKK, there was a state of hopefulness and optimism in Turkey in general and in the region where PKK was active (Diyarbakir). The ceasefire was also reflected in the economy by major investment projects especially in energy and infrastructure sectors (Financial Times, 2016).

### **3.5. Gezi Park Protest Movements**

The story had started at the end of October 2012, when the Turkish government announced an urban development plan for the Istanbul City Center. The plan as declared by

Istanbul Mayor Kadir Topbaş included establishing a shopping mall in the place of Gezi Park. In May 27, 2013 when bulldozers came to uproot some trees in the area, a gathered group of activists was already available there as a response to the unwelcomed renovation plan. One day later, a politician from Peace and Democracy Party used his parliamentary immunity to enforce the police and municipality workers to make a step back and remove bulldozers and barricades from the park (Güner, 2016).

According to a report by Al-Monitor (2014), "The stock market's reaction to the first day of the Gezi protests came in the form of a 6.73% slump, which brought the index down to 80,253 points, the largest daily loss in 22 months". The report also indicated that the implications of Gezi Park events were very unfavourable on the Turkish Stock Market (XU100) since the first days. (See Figure 3.6).



**Figure 3.6.** Impact of Gezi Park Protests Movement on BIST-100 (May 27, 2013)

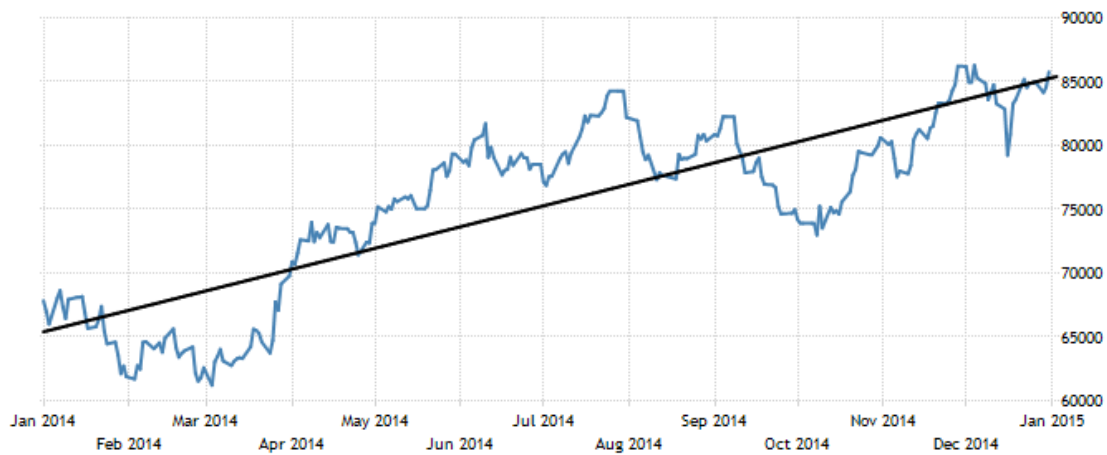
Source: (<https://tradingeconomics.com/turkey/stock-market>).

### 3.6. Electing Recep Tayyip Erdoğan as a Turkish President

It was the 12<sup>th</sup> presidential election of the Republic of Turkey when the Turkish Prime Minister Recep Tayyip Erdogan had won the country's first direct presidential election in the first round and with 52% of the votes. The election of August 10, 2014 had been seen as a landmark in Turkey's political history (Al Jazeera, 2014).

On the report of the Oxford Business Group (2015) about the Turkish economic situation in the year 2014, it was confirmed that Borsa Istanbul and Turkey's stock exchange had a bumper year. BIST-100 index rose by 26% and closed at a record year-end high. Furthermore, Turkey was classified as the 5<sup>th</sup> most profitable exchange at the global level.

In 2014, the The Turkish Capital Markets Association (TCMA) in its annual review reported that the falling of BIST-100 index in the first quarter of 2014 was due to the uncertain political situation which preceded two main elections (See Figure 3.7). The report also indicated that there were other reasons that contributed in the decline of BIST-100 such as the geopolitical developments in the region. According to the report, three main events were behind the boost in BIST-100 index, which are the local presidential elections, ECB's quantitative easing program declaration and the FED's decision to delay increasing interest rates (Altaş et al. 2015).

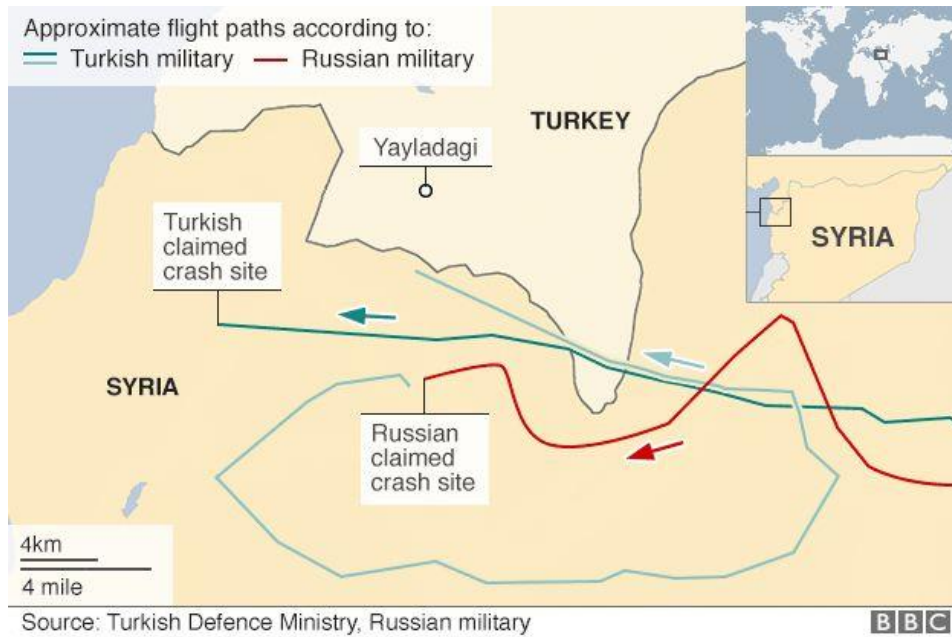


**Figure 3.7.** *Impact of Electing Recep Tayyip Erdoğan as a Turkish President on BIST-100.*

**Source:** (<https://tradingeconomics.com/turkey/stock-market>).

### 3.7. Downing of a Russian Jet

The incident of downing the Russian jet was a turning point in the relationship between Turkey and Russia for almost seven months. On November 24, 2015 a Russian Su – 24 jet was shot down by Turkish F – 16 fighters after it repeatedly violated the Turkish air space in Hatay province, and that happened after 10 times warning of five minutes via an emergency channel (Figure 3.8). The plane crashed on the Turkish-Syrian border, more specifically "in the mountainous Jabal Turkmen area of the Syrian province of Latakia" (BBC News, 2015).



**Figure 3.8.** *Approximate flight paths according to Turkish Military & Russian Military.*

In the wake of the incident, NATO called for a meeting and called Turkey and Russia to show restraint. However, both Turkey and Russia summoned diplomatic representatives, but the matter evolved to become one of the most severe clash between Russia and a NATO member country on the last half of the century (REUTERS, 2015).

The Financial Times stated in an article on the consequences of the Russian Jet incident, "The incident rattled European markets. The Turkish lira dropped 0.9 per cent against the US dollar, and the Istanbul equity market lost 1.6 per cent. Russian stocks fell, having risen sharply the day before, while the rouble was flat" (Financial Times, 2015). As seen in Figure 3.9, The BIST-100 index fell sharply on the news of the incident, a 13.09% decline in only 21 days.



**Figure 3.9.** *Impact of Downing of the Russian Jet on BIST-100 (November 24, 2015)*

Source: (<https://tradingeconomics.com/turkey/stock-market>).

According to a report of the European Commission released in 2016, the resumption of harmonious diplomatic and economic relations between Turkey and Russia started to return gradually in June 2016 after an intense deterioration of the relations.

### **3.8. 2016 Coup Attempt**

The fatal coup attempt in July 15, 2016 can be considered as one of the most prominent and unforgotten events in Turkey's political memory. The aims of the attempt were; displacing the democratically elected president Recep Tayyip Erdogan, overthrowing his government and creating chaos in the country, by kidnapping the chief of the general staff, Hulusi Akar, taking tanks and soldiers to the streets and bombing critical places such as the Parliament building in Ankara and Istanbul Security Directorate in Istanbul. However, in a matter of hours, and after more than 240 people fell martyr; loyalist citizens, soldiers and police officers frustrated the coup attempt and the victory was announced (Al Jazeera English, 2017).

After the failed coup attempt had thrown, the government declared the state of emergency. Prime Minister Binali Yıldırım, 10 days after the coup attempt, had declared that the damage in the economy was "limited to some fluctuations in the financial markets", he also ensured that only within few days after the coup attempt, the fluctuations in the financial markets had returned to normal range. On the other hand, the international news agency *Reuters* confirmed that the week following the failed coup attempt, the Turkish markets passed by a "broad-based rebound and sold off heavily". Moreover, not only Turkish lira had risen, but also Turkish Stocks had their best day in more than a month when they rallied 3.4% on July 25, 2016 (Hurriyet Daily News, 2016). It can be observed from Figure 3.10 that the BIST-100 index suffered a painful 13.8% fall during the week after the coup attempt.





**Figure 3.10.** *Impact of 2016 Coup Attempt on BIST-100 (July 15, 2016)*

**Source:** (<https://tradingeconomics.com/turkey/stock-market>).

### 3.9 . First Direct Incursion into Syria

It was the night of August 24, 2016 when Turkey surprised the world and announced its intention to take a direct role in handling the conflict in Syria. The aim of the incursion was to prevent the division of the country on ethnic basis and to ensure its border security by clearing it (mainly Jalabulus border city) from ISIS militants, in addition to containing the expansion of the Kurdish militants in northern Syria. "Euphrates Shield" was the name of the military operation conducted by the Turkish military forces and supported by the Syrian Rebel Forces. The operation is considered as the first direct ground incursion into Syria since the revolution started in 2011 (The Anchor, 2016).

### 3.10. The Victory in the Constitutional Referendum

The referendum was the seventh in the modern history of Turkey. It was not an ordinary constitutional referendum, but a historic one. The victory was declared on April 16, 2017 by the Turkish president Recep Tayyip Erdoğan, with a result of 51.4% for the yes voters campaign and 48.6% for the other campaign. The Justice and Development Party (AKP) and the Nationalist Action Party (MHP) with their vital parliamentary and public support were the two parties who backed the new constitutional changes that would transform Turkey from the parliamentary system to the executive presidency system, but with more powers (Al Jazeera English, 2017).

The full implementation of the constitutional amendments is taking place after November's 2019 elections. Consequently, the Turkish government system will be changed to the presidential form, similar to the US and France. In other words, the amendments cancel the prime minister's post and transfer it to the president (who would have two-five-year tenure). Furthermore, the new president will be able to issue decrees and assign top public officials including ministers and vice-presidents (Ghazali, 2017).

One day after the referendum, Anadolu Agency stated that "The BIST 100 index climbed 0.74 percent to 90,731.33 points -- a 667.63 point rise on the market at the end of trading". Indices of main sectors such as banking, holding and electricity rose 0.75 percent, 0.69 percent and 1.82 percent, respectively (Anadolu Agency, 2017). The upwards tendency of BIST-100 index kept continuing during the year of referendum, and the index climbed up by 27.2% since after the referendum, and reached its highest-ever close. (Figure 3.11).



**Figure 3.11.** Impact of The Victory in the Constitutional Referendum on BIST-100 (April 16, 2017)

**Source:** (<https://tradingeconomics.com/turkey/stock-market>).

## 4. METHODOLOGY

### 4.1. Data Collection

This thesis is based on secondary data analysis. The data was mainly collected from official entities' web-services, newspapers, master's thesis, journal articles, annual reports, web articles and books on market theories and econometrics.

To examine the impact of political news on stock market returns and volatility, BIST-100 index was used as a capitalization-weighted index which represents the Turkish national market companies, other than investment trusts. The time series data consists of daily closing prices presented in local currency (TRY) and collected from the EVDS Web-Service which was developed by the Central Bank of the Republic of Turkey.

In Turkey, the Borsa Istanbul 100 Index (BIST-100/XU100), is the main index in Borsa Istanbul Equity Market, and the only exchange market in the Turkish Capital Markets. Accordingly, it is called "the symbol of Turkey's economic power" because of its major contribution in the economy and finance through its affiliates in different sectors (Borsa Istanbul, 2016).

The BIST-100 index is composed of one hundred stocks selected among the stocks of companies traded on the BIST stars, BIST main markets, the stocks of real estate investment trusts and venture capital investment trusts traded on the collective and structured products market. BIST-100 index automatically comprise BIST-30 and BIST-50 stocks. In Borsa Istanbul, *Index and Data Department* is responsible for administering and monitoring all BIST indices which are subjected to regular reviews (Bosra Istanbul, 2016). Garanti Bankasi, Akbank, Tupras, Bim Magazalar, Ereğli Demir Celik, Is Bankasi, Turkcell, Koc Holding, Sabanci Holding, T. Halk Bankasi and Turk Hava Yollari are some of the well-known companies listed on the BIST-100.

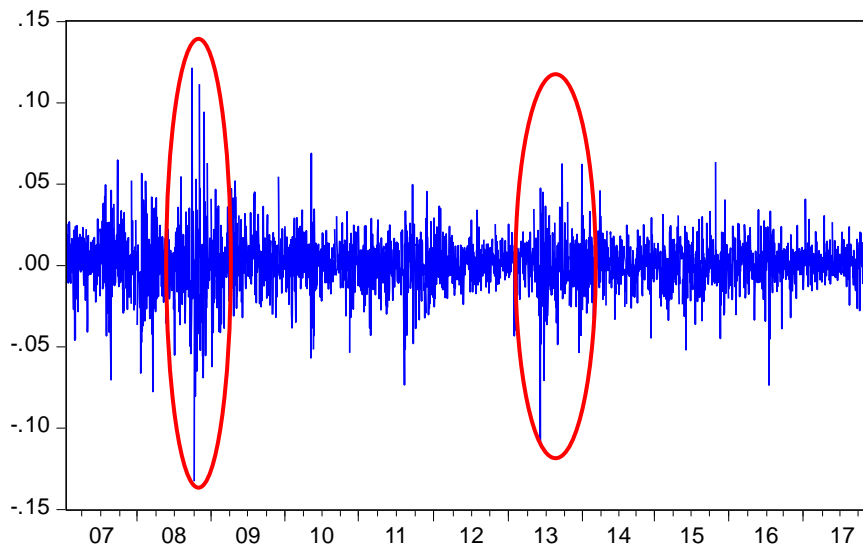
The data on political news events were collected from the Guardian newspaper, one of the world's deep-rooted news organizations. The reason behind choosing the Guardian as a foreign source of news was its selectivity and universality, especially for the growing number of foreign investors purchasing in Borsa Istanbul during the last years. In other words, neutral outsider news sources could be more preferable for foreign and even some domestic investors in comparison to domestic sources.

## 4.2. Sampling Design

Stock market data covers the period from January 2008 to December 2017 and includes 2441 observations. The main sample is also divided into two sub-periods to insulate the potential dominating impacts of both the 2008 Global Financial Crisis and 2013 Federal Reserve Tapering on the overall Turkish economy, including BIST-100 index. Thus, the first sub-period spans the time from January 2008 to May 2013 and includes 1336 observations, while the second sub-period runs from June 2013 to December 2017 and includes 1105 observations.

As stated by Huseyin ERKAN (2008), the chairman & CEO of Istanbul Stock Exchange between (2007-2012); "Inevitably, the adverse consequences of the global financial crisis impacted the Istanbul Stock Exchange (ISE), and a significant drop in the traded values of our markets was recorded". The statement which proves the above assumption regarding the major effect of the US liquidity crisis (caused by the sub-prime mortgages and misaligned credit ratings) on the Global economy, including Turkey.

On the other hand, many sources pointed out the impact of the slowing down of the rate of Fed asset purchases on the emerging markets during the year 2013. According to a report published by Rabobank on December 20 of 2013, looking at the impact of the Fed Tapering on emerging markets such as Brazil, India, Indonesia, Turkey and South Africa; Turkey's economy slowed in the third quarter after the tapering announcement, but remained robust at 4% on a y-o-y basis. Moreover, the report showed a significant tightening of the financial conditions in the emerging markets, and expected a stronger market reaction of all the studied markets including Turkey, especially when tapering actually begins in January 2014. (See figure 4.1).



**Figure 4.1.** *The Impact of the 2008 Global Financial Crisis and 2013 Federal Reserve Tapering on BIST-100 Index Returns.*

During the overall study period, a total of 324 out of almost 3000 political news headlines were carefully selected and analyzed. The selection criteria is based on ambiguity avoidance, meaning that, if the news headline is not obviously declaring a good or a bad political event that would clearly impact the country's economy and the response of both domestic and foreign investors, the day is classified as a non-event day. Furthermore, news were classified according to their apparent nature and immediate potential impact on the market in the short-run, more than to their possible consequences that may occur in the long-run.

Moreover, when there is more than one political event per day, the event selected is the one which is expected to have a stronger impact on investors' stock investment decision. The following table provides an example of the categorizing criteria.

**Table 3.1.** *Political news headlines categorizing criteria*

News Headlines	Categorizing	Decision
Kurdish leader Abdullah Ocalan declares ceasefire with Turkey	Good News	Included
Vladimir Putin: Turkey's downing of Russian jet "a stab in the back"	Bad News	Included
Turkey and US 'agree in principle' to provide air support for Syrian rebels	Non-Event	Excluded

Dilek Öcalan, niece of jailed Kurdish leader, enters Turkish parliament	Non-Event	Excluded
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### 4.3. Hypotheses & Method of Analysis

The research design of this thesis is based on the following two hypotheses (which are built on the research question):

*Hypothesis(1):* There is a significant effect of political news releases on both stock market returns and volatility.

*Hypothesis(2):* Bad political news has a greater effect on stock market returns and volatility than good news.

The findings were obtained using a quantitative research method. In order to test whether the presence or absence of good and/or bad political news has an impact on stock market returns and volatility, a correlational study was conducted. The statistical technique used in this thesis is univariate time series analysis.

### 4.4. Research Model

This thesis is focusing on the parametric models, as they are more suitable to analyze nonlinear relationships. Different nonlinear volatility models (symmetric and asymmetric GARCH type models) were used to test the hypotheses, since they have the ability to explain major features common to financial market data such as; leptokurtosis, volatility clustering, long memory and leverage effects (Brooks, 2002).

The models used are; GARCH(1,1), GARCH-M(1,1), EGARCH(1,1) and TGARCH(1,1). All the models and tests were run on Eviews 9.0 software. Akaike Information Criterion (AIC) and Schwarz Criterion (SC) were taken into account when selecting the most appropriate models. Logarithmic returns were used to build the returns time series, since they are time additive, so the log return was defined as:

$$r_{BIST100_t} = \ln\left(\frac{BIST100_t}{BIST100_{t-1}}\right) \quad (4.1)$$

Where,  $BIST100_t$  means stock price at time t,  $r_{BIST100_t}$  is the return between time t-1 and t.

#### 4.4.1. ARCH/GARCH models

The Auto-regressive Conditional heteroscedasticity (ARCH) models could be considered as the most widely used non-linear models used for modeling and forecasting volatility in financial time series. ARCH models, as previously mentioned, have become popular, as they can capture the main statistical facts common to financial assets.

The ARCH concept was originally introduced by Engle R. F. (1982). "ARCH models assume the variance of the error term of innovation to be a function of the actual sizes of the previous time periods' error terms: often the variance is related to the squares the of previous innovations" (Stock J, 2003). In simple words, the volatility of a stock is able to be predicted based on the past information or news (Engle & Ng, 1993).

The extended general case of the Auto-regressive Conditional Heteroscedasticity model ARCH( $q$ ), where error variance depends on  $q$  lags of squared errors, can be defined as:

$$\sigma_t^2 = \alpha_0 + \alpha_1 u_{t-1}^2 + \alpha_2 u_{t-2}^2 + \dots + \alpha_q u_{t-q}^2 \quad (4.2)$$

Where,  $\sigma_t^2$  is the conditional variance at time  $t$ ,  $\alpha_0$  is the constant,  $\alpha_q$  is the scalar parameter to be estimated and  $u_t^2$  is the squared error term.

An important note here, one of the restrictions of ARCH( $q$ ) is the necessity of the non-negativity of the conditional variance, meaning that the conditional variance value must always be positive, which requires very large number of lags of the squared residuals in the model. Yet, fortunately, ARCH model was developed and generalized to (GARCH) model, as it can violate this non-negativity constraint and require lesser number of lags (Brooks, 2002).

#### 4.4.2. Symmetric GARCH models

Two symmetric GARCH models are used to test the effect of political news releases on BIST-100 returns and volatility. Therefore, in practice, one dummy variable is added to the mean and variance equations of the two models to indicate the presence or absence of political news. The dummy variable is:

$$D_N = \begin{cases} 1 & \text{if there is political news} \\ 0 & \text{if there is no political news} \end{cases}$$

##### 4.4.2.1. GARCH(1,1) model

ARCH model was usefully generalized to GARCH parameterization. The model was developed independently by Bollerslev and Taylor (1986). "The GARCH processes are

generalized ARCH processes in the sense that the squared volatility  $\sigma_t^2$  is allowed to depend on previous squared volatilities, as well as previous squared values of the processes" (McNeil, Frey, & Embrechts, 2015). The model proved its success in predicting conditional variances and had a good reputation of avoiding overfitting and being more parsimonious than high-order ARCH model (Brooks, 2002). The general form of a GARCH( $p, q$ ) model can be written as:

$$\sigma_t^2 = \omega + \sum_{i=1}^q \alpha_i u_{t-i}^2 + \sum_{j=1}^p \beta_j \sigma_{t-j}^2 \quad (4.3)$$

Where,  $q$  is the order of ARCH terms and  $p$  is the order of GARCH terms. While,  $\omega$ ,  $\alpha_i$  and  $\beta_j$  are the three parameters of the model. In most of the literature, GARCH(1,1) is the widely used model for financial time series analysis, since it has the ability to sufficiently capture the volatility clustering in the data, and also allowing an unlimited number of past squared errors to influence the current conditional variance. The mean and variance equations of GARCH(1,1) model are defined as:

$$\text{Mean Equation} \quad r_t = \mu + \varepsilon_t \quad (4.4)$$

$$\text{Variance Equation} \quad \sigma_t^2 = \omega + \alpha_1 u_{t-1}^2 + \beta_1 \sigma_{t-1}^2 \quad (4.5)$$

Where,  $r_t$  is the stock return at time  $t$ ,  $\mu$  is the average return,  $\varepsilon_t$  is the error term (or unexplained return) and  $\omega > 0$ ,  $\alpha_1, \beta_1 \geq 0$ ,  $\beta_1 > \alpha_1$ .

#### 4.4.2.2. GARCH-M(1,1) model

The GARCH-in-mean model was developed by Engle, Lilien, & Robins (1987). This model can be linked to the financial theory (CAPM) which states that the return of a security may depend on its volatility or risk. Thus, the specification of the model allows the conditional mean to depend on its own conditional variance or standard deviation and be affected by it. GARCH-M model adds a heteroscedasticity term into the mean equation to model the above financial theory. Another important feature of the model is that it can capture risk not only by the variance series, but also by using the standard deviation (Asteriou & Hall, 2007). The GARCH-M(1,1) model can be defined as:

$$\text{Mean Equation} \quad r_t = \mu + \lambda \sigma_t^2 + \varepsilon_t \quad (4.6)$$

$$\text{Variance Equation} \quad \sigma_t^2 = \omega + \alpha_1 u_{t-1}^2 + \beta_1 \sigma_{t-1}^2 \quad (4.7)$$

Where,  $\mu$  and  $\omega$  are the constants.  $\lambda \sigma_t^2$  is the time-varying risk premium parameter. A positive risk-premium  $\lambda$  indicates that asset returns are positively related to their volatility. That



is to say, a positive risk premium value denotes that there is a positive relationship between the mean and the variance of asset return (Rossi, 2004).

#### 4.4.3. Asymmetric GARCH models

One of the major advantages of the asymmetric GARCH models is their ability to capture the leverage effects or the asymmetric responses to negative and positive shocks. In simple words, asymmetric models can help in determining whether the influence of a negative shock to the volatility of an asset is greater than that of a positive shock of the same magnitude (Brooks, 2002).

Here, two asymmetric GARCH models are used to test the impact of bad and good political news releases on the returns and volatility of BIST-100 index. In these models, only two dummy variables to be added "independently" to the mean and variance equations, to numerically indicate the occurrence and non-occurrence of bad and good events. The dummy variables are:

$$D_B = \begin{cases} 1 & \text{if Bad news} \\ 0 & \text{if otherwise} \end{cases}$$

$$D_G = \begin{cases} 1 & \text{if Good news} \\ 0 & \text{if otherwise} \end{cases}$$

##### 4.4.3.1. EGARCH(1,1) model

The Exponential Generalized Autoregressive Conditional Heteroscedastic (EGARCH) model of Nelson (1991) is regarded as a remarkable structure with features to (1) allow good news and bad news to have a different impact on volatility and (2) allow big news to have a greater impact on volatility, whereas the standard, symmetric GARCH models does not (Engle & Ng, 1993).

The model suggests that there is no need to artificially impose non-negativity constraints on the model, because as long as the  $\ln(\sigma_t^2)$  is modeled, then even if the parameters are negative,  $\sigma_t^2$  will be positive (Brooks, 2002). The EGARCH(1,1) can be written as:

$$\ln(\sigma_t^2) = \omega + \alpha_1 \left\{ \left| \frac{\varepsilon_{t-1}}{\sigma_{t-1}} \right| - \sqrt{\frac{2}{\pi}} \right\} + \gamma_1 \frac{\varepsilon_{t-1}}{\sigma_{t-1}} + \beta_1 \ln(\sigma_{t-1}^2) \quad (4.8)$$

Where,  $\gamma_1$  is the asymmetry term or leverage effect parameter. The existence of leverage effect can be tested by the hypothesis that  $\gamma_1 < 0$ . In other words,  $\gamma_1 < 0$  indicates that the

impact of the negative shocks to the volatility is greater than that of the positive shocks of the same magnitude, and vice versa. The effect of shocks is asymmetric if  $\gamma_1 \neq 0$ .

#### 4.4.3.2. *TGARCH / GJR-GARCH(1,1) model*

Although it is known that asymmetric GARCH models are not essentially different from each other in their results, but i preferred to use another asymmetric model to confirm the results from the EGARCH model.

The Threshold GARCH model was proposed by Glosten, Jagannathan, & Runkle (1993) and Zakoian (1994). The model has a special modeling structure that add a further term (dummy variable) to capture potential asymmetries in terms of negative and positive shocks. The TGARCH(1,1) model can be written as:

$$\sigma_t^2 = \omega + \alpha_1 \varepsilon_{t-1}^2 + \gamma_1 d_{t-1} \varepsilon_{t-1}^2 + \beta_1 \sigma_{t-1}^2 \quad (4.9)$$

Where the dummy variable  $d_{t-1} = \begin{cases} 1 & \text{if } \varepsilon_{t-1} < 0 \\ 0 & \text{if otherwise} \end{cases}$

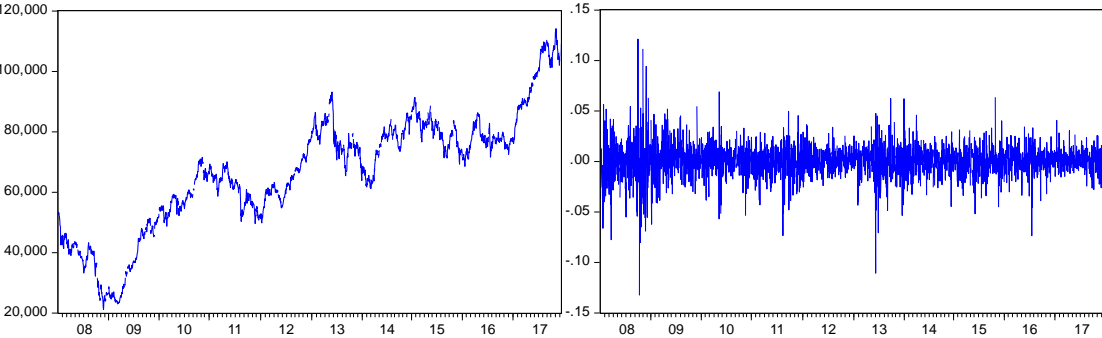
In other words, "bad news" and "good news" are having a different impact on volatility. Good news has an impact  $\alpha_1$ , while bad news has an impact of  $\alpha_1 + 0$ . So when the asymmetry term  $\gamma_1 > 0$ , this means that there is a leverage effect, or the impact of news is asymmetric, but when  $\gamma_1 = 0$ , the effect of news is symmetric (Asteriou & Hall, 2007).

### 4.5. Preliminary Data Analysis

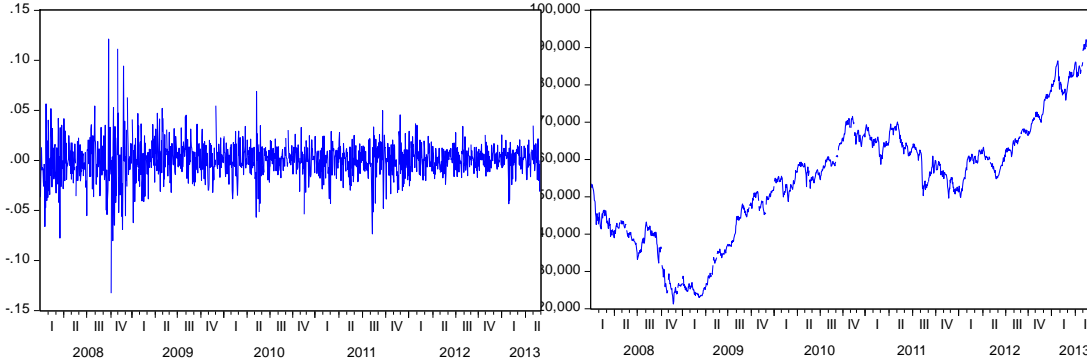
The aim of this analysis is to check the competency of the model and the readiness of the data for the next analysis. The preliminary analysis here includes some graphical figures for analysing BIST-100 index data over the studied periods. This section also includes summary descriptive statistics and some preliminary tests, such as the tests of normality, stationarity and heteroscedasticity.

#### 4.5.1 BIST-100 index prices & returns

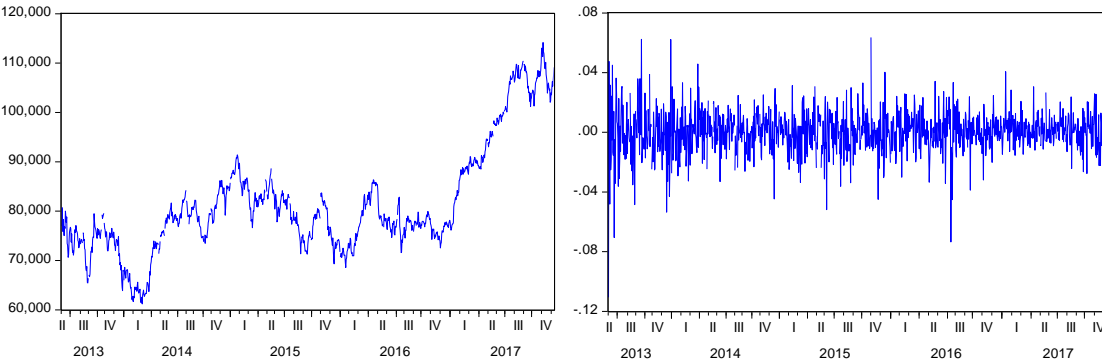
From a technical analysis point of view, taking a look at the graphs of a security as a starting point of the analysis is very essential, since it can help provide key information about the dynamic behavior of the data in hand. From the figures below (4.2-4.4), we can clearly see that when the global financial crisis had struck in 2008, BIST-100 prices witnessed a sharp decline and huge volatility. The other sharp decline occurred in the beginning of 2013, when the Federal Reserve signaled that the tapering of asset purchases could begin very early.



**Figure 4.2.** *BIST-100 index closing prices and returns (Jan, 2008 – Dec, 2017)*



**Figure 4.3.** *BIST-100 index closing prices and returns (Jan, 2008 – May, 2013)*



**Figure 4.4.** *BIST-100 index closing prices and returns (June, 2013 – Dec, 2017)*

When I returned back to the collected political news and flipped through the events happened in that two periods, I concluded that none of the collected news at that time was at the same importance level as the news of both the global financial crisis and Fed tapering (this is confirmed in the next chapter). Whereas, the period from mid 2013 to the end of 2017 was much influenced by Turkey related political events. The withdrawal of PKK fighters from Turkish territory in March 2013 and the victory in the constitutional referendum of April 2017 are examples of good events in which accompanied by periods of low volatility, whereas, the Turkish downing of the Russian jet in November 2015 and the failed coup attempt of July 2016, are examples of bad events in which accompanied by periods of high volatility.

Another important feature of the graphs is that volatility clustering is strongly discernible in all the series and can be observed through the periods of high volatility followed by periods of high volatility and vice versa. Thus, one can say that there is some empirical evidence that volatility is autocorrelated.

#### 4.5.2. Summary descriptive statistics

Descriptive statistics can help in characterizing the main features of our data. Table 4.1 summarizes some statistical properties of the daily returns of the BIST-100 index in the three periods studied. As we can see from the table, mean returns are all positive, but vary slightly across periods. The second sub-period appear to present smaller mean return and standard deviation than the first sub-period.

**Table 4.1.** *Descriptive Statistics of the daily returns of the BIST-100 index*

<b>Statistical Indicator</b>	<b>Full Sample Period</b> (Jan. 2008 – Dec. 2017)	<b>Frist Sub-Period</b> (Jan. 2008 – May. 2013)	<b>Second Sub-Period</b> (June. 2013 – Dec. 2017)
<b>Mean</b>	0.000277	0.000327	0.000216
<b>Median</b>	0.000737	0.000914	0.000526
<b>Maximum</b>	0.121272	0.121272	0.063602
<b>Minimum</b>	-0.132585	-0.132585	-0.110638
<b>Std. Dev.</b>	0.016851	0.018572	0.014508
<b>Skewness</b>	-0.288541	-0.177630	-0.556939
<b>Kurtosis</b>	9.147130	8.798611	8.232316
<b>Jarque-Bera</b>	3877.145	1878.755	1317.614

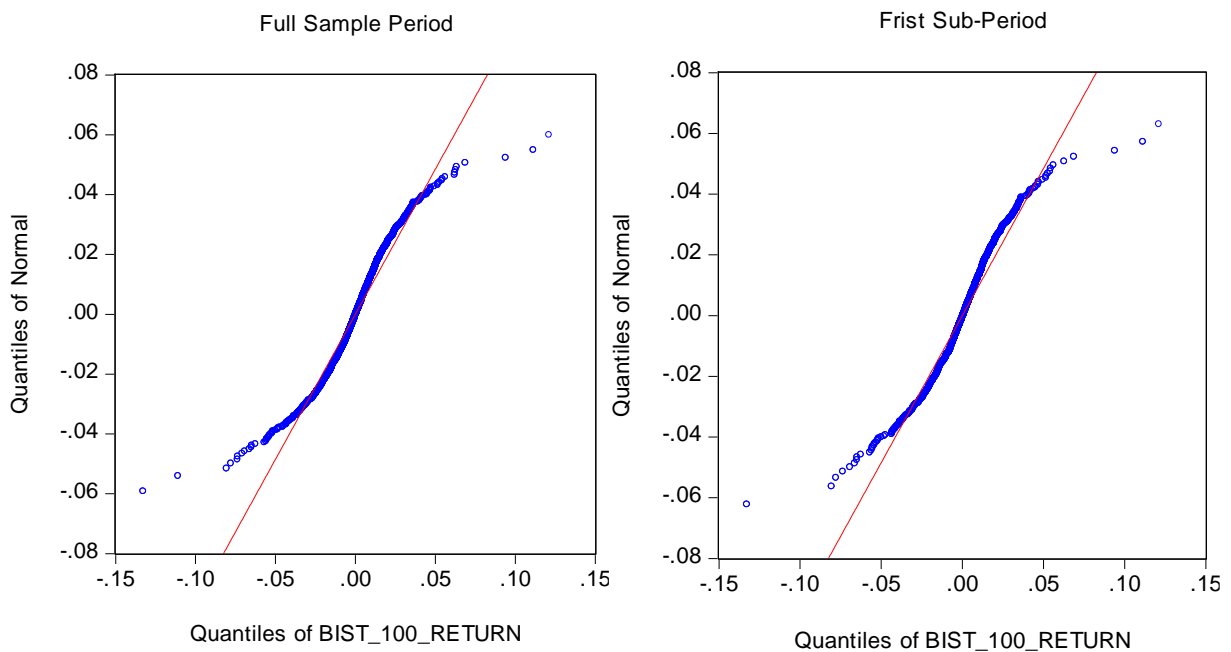
<b>Probability</b>	0.000000	0.000000	0.000000
<b>Sum</b>	0.675713	0.437161	0.238551
<b>Sum Sq. Dev.</b>	0.692872	0.460487	0.232378
<b>Observations</b>	2441	1336	1105

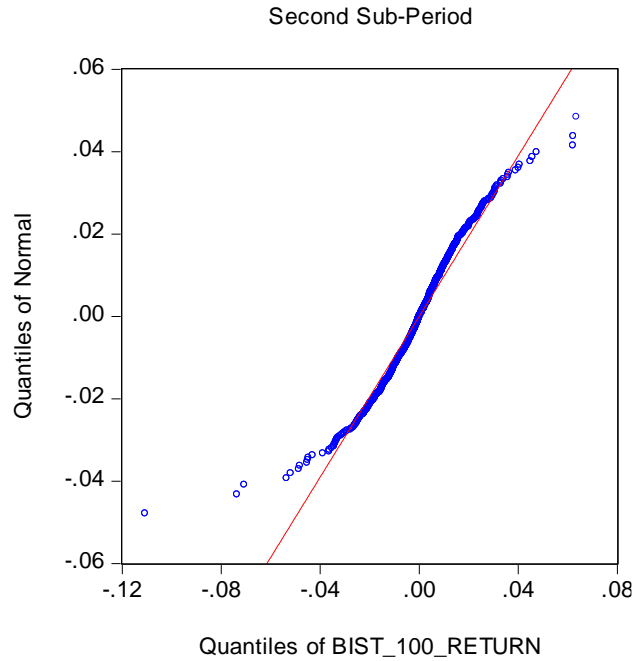
Moreover, skewness is negative, which means that the more of the returns lying on the left side of the average return. The kurtosis is positive and extremely large (more than three) and this means there is a high probability for extreme values in the series.

According to the Jarque-Bera value, the null hypothesis of normality can be rejected since its p-value is less than 0.001. One additional test is conducted in the next section to confirm the non-normality of return distribution.

### 4.5.3. Normality test

Additional testing for normality can be done using graphical examinations such as the Quantile-Quantile (Q-Q) Plots. Figure 4.5 present the results of this examination.





**Figure 4.5.** *Quantile-Quantile (Q-Q) Normal Distribution Plots*

The guideline for this test states that; the data set is following a normal distribution if the (blue) points are falling on the 45-degree-angle reference line (red). Seemingly, all the three quantiles each appear to be non-normally distributed and have heavy tails, since the pattern is (above, below, above and below the reference line). Consequently, the blue points crossed the reference line three times, which indicates that our data are leptokurtic.

#### **4.5.4. Stationarity test**

In this section, one unit root test has been applied for testing whether the return series are stationary or not. Augmented Dickey-Fuller (ADF) test is the most widely used test for this purpose. The test statistics rejects the null hypothesis of the existence of unit root (non-stationarity in series) at 1% level of significance. Table 4.6 reports the results of the ADF unit root test with an automatically selected maximum lag length (used by the Akaike Information Criterion) of 26 for the full sample period, 22 for the first sub-period and 21 for the second sub-period.

**Table 4.2.** *ADF unit root test for the BIST-100 return series*

<b>BIST-100 Return Series</b>			<b><u>Critical Values</u></b>		
<b>Unit root test</b>	<b>ADF statistic</b>	<b>Prob.*</b>	<b>1%</b>	<b>5%</b>	<b>10%</b>
Full period	-48.34709	0.0001	-3.433	-2.862	-2.567
1 <sup>st</sup> sub-period	-34.458	0.0000	-3.435	-2.863	-2.568
2 <sup>nd</sup> sub-period	-36.152	0.0000	-3.436	-2.864	-2.568

**Notes:** (1). MacKinnon (1996) one-sided p-values. (2). Test equations includes only constant term.

The main result of the test is that the ADF statistics are statistically significant at 1% level and smaller than all their corresponding critical values, signalling that we can convincingly reject the null hypothesis of unit root in series, and therefore, conclude that return series of the three periods seem to be stationary.

#### **4.5.5. Heteroscedasticity test**

Performing a test for conditional heteroscedasticity and non-linearity is an essential step when we think of using volatility models. In this section, our focus relies on the ARCH Lagrange Multiplier (LM) test proposed by Engle (1982). According to Engle (1982), a time series is said to have autoregressive conditional heteroskedastic effects when conditional heteroscedasticity or autocorrelation in the squared series is present. The aim of this test, then, is to reveal the presence of ARCH effect in the residual series of the initial regression. Table 4.7 reports the results of ARCH-LM test. The examination was done after obtaining a least squares estimation with a simple ARMA(1,1) regression model. It is important to mention that different ARMA models were run, and it was seen that all models have near similar values of Akaike information criterion (AIC), Schwarz criterion (SC) and ARCH-LM statistic.

**Table 4.3.** *ARCH-LM test for residuals of BIST-100 index returns*

	<b>Full Sample</b>	<b>Frist Sub-Period</b>	<b>Second Sub-Period</b>
<b>ARCH-LM test statistic</b>	160.20	96.011	38.601
<b>Prob. Chi-Square(5)</b>	0.0000	0.0000	0.0000

**Notes:** (1). The equations includes up to 5 lags. (2). Null Hypothesis: There is no ARCH effect in the residuals. (3). Null Hypothesis rejected at 1%.

The ARCH-LM test results for the equation with 5 lags in the test strongly reject the null hypothesis in all periods, indicating that there is an ARCH effect in the returns of BIST-100, and therefore, GARCH models are appropriate to be used for modeling and forecasting the volatility of BIST-100 index returns.



## 5. EMPIRICAL RESULTS

This chapter shows and discusses the empirical results obtained from the symmetric and asymmetric volatility specifications used to model the previously observed conditional heteroscedasticity. Given that the main objective of the research is to examine the impact of political news (good and bad) on the return and volatility of the Turkish stock market, as previously done by Kongprajya (2010), dummy variables were added to both mean and variance equations at the same time, in order to examine the impact of every news category on both return and volatility levels, with the understanding that there were no significant difference (in magnitude and most importantly direction) when adding dummy variables to one equation (variance) or both equations (mean and variance).

At the end of the chapter, residual diagnostic checking was conducted to confirm the absence of serial correlation and ARCH effect in the residuals. It is worth mentioning that all models were estimated with normal Gaussian error distribution and the data were analyzed based on the assumption that investors' responses regarding political news headlines are reflected in the closing prices of BIST-100 on the same day.

### 5.1. Results from Symmetric Models

In this part of the analysis, both GARCH(1,1) and GARCH-M(1,1) models were used to test the first hypothesis that, political news releases have an impact on the returns and volatilities of BIST-100 index. To indicate the occurrence and non-occurrence of political events, several modifications were made to the mean and variance equations of the two models. Therefore, the equations became as follows:

GARCH(1,1) equations:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_N + \varepsilon_t \quad (5.1)$$

$$\sigma_t^2 = \omega + \alpha_1u_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_N \quad (5.2)$$

GARCH-M(1,1) equations:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_N + \alpha_3\lambda\sigma_t^2 + \varepsilon_t \quad (5.3)$$

$$\sigma_t^2 = \omega + \alpha_1u_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_N \quad (5.4)$$

From the above equations, one dummy variable was added to both models.  $D_N$  is the political news dummy which equals "1" when there is political news and "0" when there is no political news. Table 5.1 presents the parameter estimates of both models for the three periods.

**Table 5.1.** Estimation of GARCH(1,1) and GARCH-M(1,1) for BIST-100 with Political News

Model	GARCH(1,1)			GARCH-M(1,1)		
	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period
<b>Mean Equation</b>						
$\alpha_0$	0.001111***	0.001128**	0.000948**	0.001978*	0.002472*	0.002450
Prob.	(0.0003)	(0.0104)	(0.0322)	(0.0775)	(0.0551)	(0.2661)
$\alpha_1$	-0.002174	0.031160	-0.054024*	-0.002785	0.029342	-0.055269*
Prob.	(0.9214)	(0.2885)	(0.0995)	(0.9009)	(0.3298)	(0.0932)
$\alpha_2(D_N)$	-0.000760	0.002617**	-0.001916*	-0.000780	0.002426*	-0.001862*
Prob.	(0.3287)	(0.0500)	(0.0521)	(0.3153)	(0.0641)	(0.0615)
$\alpha_3$ (RISK PREMIUM)				-0.061635	-0.091964	-0.118868
Prob.				(0.4222)	(0.2692)	(0.4881)
<b>Variance Equation</b>						
$\omega$	7.41E-06***	1.00E-05***	6.43E-07	7.36E-06***	9.94E-06***	6.57E-07
Prob.	(0.0000)	(0.0000)	(0.3164)	(0.0000)	(0.0000)	(0.3096)
$\alpha_1$	0.076551***	0.102251***	0.015308***	0.076102***	0.102292***	0.015462***
Prob.	(0.0000)	(0.0000)	(0.0005)	(0.0000)	(0.0000)	(0.0006)
$\beta_1$	0.898723***	0.874146***	0.972044***	0.899766***	0.874655***	0.972123***
Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\alpha_2(D_N)$	-4.46E-06	-2.31E05***	7.00E-06***	-5.14E06	-2.37E-05***	6.71E-06***
Prob.	(0.2700)	(0.0000)	(0.0060)	(0.2019)	(0.0000)	(0.0092)
$\alpha_1 + \beta_1$	0.975274	0.976397	0.987352	0.975868	0.976947	0.987585
AIC	-5.526698	-5.393872	-5.765890	-5.526090	-5.393065	-5.764631
SC	-5.510059	-5.366623	-5.734145	-5.507075	-5.361924	-5.728350

**Notes:** The results in the table are derived based on the following symmetric GARCH(1,1) and GARCH-M(1,1) models:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_N + \varepsilon_t$$

$$\sigma_t^2 = \omega + \alpha_1u_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_N$$

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_N + \alpha_3\lambda\sigma_t^2 + \varepsilon_t$$

$$\sigma_t^2 = \omega + \alpha_1 u_{t-1}^2 + \beta_1 \sigma_{t-1}^2 + \alpha_2 D_N$$

The dummy variable  $D_N$  used as a proxy for political news. Significance is denoted with asterisks. \*, \*\* and \*\*\* indicate significance at the 10%, 5%, and 1% levels respectively.

The empirical results from GARCH(1,1) model (5.1) & (5.2) for the full sample period indicate that political news releases have no significant impact on the returns and volatility of BIST-100 index, since the coefficients of the dummy variable  $D_N$  in the mean and variance equations are not statistically significant at any level.

However, when the full sample period is divided into two sub-periods, the coefficients of the dummy variable  $D_N$  for the first sub-period are; positive (0.002617\*\*) and statistically significant at 5% in the mean equation, and negative (-2.31E05\*\*\*) and statistically significant at 1% in the variance equation, suggesting that political news releases had a significant impact on both BIST-100 returns and volatility during that period, a positive impact on returns and a negative impact on volatility.

For the second sub-period, the coefficients of the dummy variable  $D_N$  are; negative (-0.001916\*), however, not statistically significant at 5% in the mean equation, and positive (7.00E-06\*\*\*) and statistically significant at 1% in the variance equation, indicating a close similar impact result as the first sub-period, but with opposite signs.

The coefficients of the estimated ARCH  $\alpha_1$  and GARCH  $\beta_1$  terms are positive and highly significant at the 1% level for all periods, suggesting the high existence of ARCH and GARCH effects in the returns of BIST-100 index. Further, the coefficients of GARCH term is quite larger than that of the ARCH term, indicating that the market has a memory lasting for more than one period.

Moreover, persistence in volatility clustering was also tested by calculating the sum of the coefficients of the estimated parameters  $\alpha_1$  and  $\beta_1$ . The coefficients of  $\alpha_1 + \beta_1$  are close to unity for all periods, indicating a relatively high level of persistence in volatility clustering. In other words, the effect of volatility shocks tend to die out slowly, which in term, might imply an inefficiency of the studied stock market (Arora, 2013).

Results from GARCH-M(1,1) model (5.3) & (5.4) showed near similar results as were seen with GARCH(1,1) model. The model, as known, allows the conditional mean to depend on its own conditional variance or standard deviation. From estimation results in Table 5.1, the time-varying risk premium parameter  $\alpha_3$  in the mean equation is negative for all periods, meaning that the thesis failed to prove the expected positive relationship between the returns

and volatility of BIST-100 index. Yet, it is worth mentioning that, if there was a positive relationship between volatility and returns of BIST-100 index, it was better captured by the standard deviation.

Results from symmetric GARCH models (after dividing the main sample into two sub-periods) are in line with those of Kim & Mei (1994) who found that political events have a significant and measurable impact on the returns and volatility of Hang Seng index for the period 1989-1993.

## 5.2. Results from Asymmetric Models

Results from asymmetric GARCH models are more detailed and tend to be of superior accuracy than the results from symmetric models, because they help in quantifying the magnitude of the impact of both news categories, and testing if one category has the dominant impact on the results among the other category.

Here, both EGARCH(1,1) and TGARCH(1,1) models were used to test the second hypothesis that, bad political news have a greater effect on stock market returns and volatility than good news.

Accordingly, and as previously done by Suleman (2012), two dummy variables were added individually to both models, so that one could independently investigate the impacts of bad news and good news on BIST-100 index. After adding the dummy variables, the asymmetric EGARCH and TGARCH models become as follows:

EGARCH(1,1) equations:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_G + \varepsilon_t \quad (5.5)$$

$$\ln(\sigma_t^2) = \omega + \alpha_1 \left\{ \left| \frac{\varepsilon_{t-1}}{\sigma_{t-1}} \right| - \sqrt{\frac{2}{\pi}} \right\} + \gamma_1 \frac{\varepsilon_{t-1}}{\sigma_{t-1}} + \beta_1 \ln(\sigma_{t-1}^2) + \alpha_2 D_G \quad (5.6)$$

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_B + \varepsilon_t \quad (5.7)$$

$$\ln(\sigma_t^2) = \omega + \alpha_1 \left\{ \left| \frac{\varepsilon_{t-1}}{\sigma_{t-1}} \right| - \sqrt{\frac{2}{\pi}} \right\} + \gamma_1 \frac{\varepsilon_{t-1}}{\sigma_{t-1}} + \beta_1 \ln(\sigma_{t-1}^2) + \alpha_2 D_B \quad (5.8)$$

TGARCH(1,1) equations:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_G + \varepsilon_t \quad (5.9)$$

$$\sigma_t^2 = \omega + \alpha_1\varepsilon_{t-1}^2 + \gamma_1d_{t-1}\varepsilon_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_G \quad (5.10)$$

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_B + \varepsilon_t \quad (5.11)$$

$$\sigma_t^2 = \omega + \alpha_1\varepsilon_{t-1}^2 + \gamma_1d_{t-1}\varepsilon_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_B \quad (5.12)$$

### 5.2.1. The impact of good news

Table 5.2 reports the empirical results from EGARCH(1,1) model (5.5 & 5.6) and TGARCH(1,1) model (5.9 & 5.10) for the impact of good political news on BIST-100 index. The results from both models indicate that good political news have no significant impact on the returns of BIST-100 index for all the studied periods. This is evidenced by the coefficients of good news dummy variable  $D_G$  in the mean equation part, which is insignificant in all models and periods.

However, some interesting results arose from the variance equations of both models. Results from EGARCH show that good political news have a negative (-0.071438\*\*) and significant impact on the volatility of BIST-100 during the second sub-period. Moreover, results from TGARCH also show a negative (-2.17E-05\*\*) and significant impact of good news on volatility during the full sample period. Hence, good news, as was expected, decreased BIST-100 index's return volatility during the full sample period and the second sub-period. This result is in line with the findings of Suleman (2012), who analyzed the consequences of political news on Karachi Stock Exchange between 1992-2010, and found that good news have decreased KSE-100 index's return volatility.

**Table 5.2.** Estimation of EGARCH(1,1) and TGARCH(1,1) for BIST-100 with Good News

Model	EGARCH(1,1)			TGARCH(1,1)		
	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period
<b>Mean Equation</b>						
$\alpha_0$	0.000724***	0.000906**	0.000333	0.000729**	0.000934**	0.000522
Prob.	(0.0078)	(0.0285)	(0.4220)	(0.0125)	(0.0297)	(0.2139)
$\alpha_1$	0.005798	0.057195*	-0.040277	0.008394	0.043277	-0.050734
Prob.	(0.7903)	(0.0512)	(0.2169)	(0.7133)	(0.1558)	(0.1285)
$\alpha_2(D_G)$	-0.000510	-0.000947	0.000183	-0.000632	-0.000833	0.000335
Prob.	(0.7600)	(0.7395)	(0.9224)	(0.6930)	(0.7523)	(0.8567)
<b>Variance Equation</b>						
$\omega$	-0.366020***	-0.433170***	-0.138736***	1.02E-05***	1.02E-05***	3.25E-06***

Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\alpha_1$	0.147939***	0.192757***	0.003007	0.035126***	0.053410***	-0.008972*
Prob.	(0.00000)	(0.0000)	(0.7509)	(0.0000)	(0.0001)	(0.0964)
$\gamma_1$	-0.07549***	-0.084255***	-0.058738***	0.092297***	0.105968***	0.040310***
Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\beta_1$	0.969516***	0.965389***	0.984060***	0.881138***	0.863366***	0.970516***
Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\alpha_2 (D_G)$	-0.047879	0.012282	-0.071438**	-2.17E-05**	-2.13E-05	-1.08E-05
Prob.	(0.2983)	(0.8920)	(0.0302)	(0.0106)	(0.2436)	(0.1597)
$\alpha_1 + \beta_1$	1.117455	1.158146	0.987067	0.916264	0.916776	0.961544
AIC	-5.540874	-5.395254	-5.785344	-5.540191	-5.400103	-5.769109
SC	-5.521858	-5.364113	-5.749063	-5.521175	-5.368962	-5.732828

*Notes:* The results in the table are derived based on the following asymmetric EGARCH(1,1) and TGARCH(1,1) models:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_G + \varepsilon_t$$

$$\ln(\sigma_t^2) = \omega + \alpha_1 \left\{ \left| \frac{\varepsilon_{t-1}}{\sigma_{t-1}} \right| - \sqrt{\frac{2}{\pi}} \right\} + \gamma_1 \frac{\varepsilon_{t-1}}{\sigma_{t-1}} + \beta_1 \ln(\sigma_{t-1}^2) + \alpha_2 D_G$$

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_G + \varepsilon_t$$

$$\sigma_t^2 = \omega + \alpha_1\varepsilon_{t-1}^2 + \gamma_1d_{t-1}\varepsilon_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_G$$

The dummy variable  $D_G$  used as a proxy for good political news. Significance is denoted with asterisks. \*, \*\* and \*\*\* indicate significance at the 10%, 5%, and 1% levels respectively.

Table 5.2 also presents the results of asymmetry and leverage effect in the returns of BIST-100 index. As seen in the variance equation part for all periods tested, the value of  $\gamma_1$  is negative in EGARCH estimations and positive in TGARCH estimations, indicating the presence of leverage effect, which means that the impact of the positive shocks to the volatility of BIST-100 index is smaller than that of the negative shocks of the same magnitude.

### 5.2.2. The impact of bad news

After testing BIST-100 index reaction to political news, and quantifying the impact of good news on stocks, it is time to check the impact of bad news to better understand why the results of the "full sample" period have indicated an insignificant impact of political news on

the returns and volatilities of the studied index. This will help in determining if the impact of bad news variable was absorbed by the impact of good news variable when the two variables were combined into one inclusive or general variable (political news).

Table 5.3 reports the empirical results from EGARCH(1,1) model (5.7 & 5.8) and TGARCH(1,1) model (5.11 & 5.12) for the impact of bad political news on BIST-100 index. The results from both models for the full sample period indicate that bad political news have no significant impact on the returns and volatilities of BIST-100 index, which is evidenced by the insignificant coefficients of the bad news dummy variable  $D_B$  in the mean and variance equations.

Nevertheless, results from both models for the first and second sub-periods suggest that there is a statistically significant impact of bad news on the returns and volatility of BIST-100 (with a relatively higher significance level associated with the second sub-period), which is clearly shown by the coefficients of  $D_B$  in the mean and variance equations in Table 5.3 below.

To sum up, it can be concluded that 1) The impact of the bad news variable might be absorbed by the impact of the good news variable when the "general" political news variable was analyzed alone, 2) It seems that the assumption of the impacts of both the 2008 Global Financial Crisis and 2013 Federal Reserve Tapering on the BIST-100 is justified, evidenced by the significant results obtained when the full sample period was split into two sub-periods, 3) Political news, both good and bad, can affect stock return and stock return volatility in different ways or directions, and this direction differs across periods (a time varying direction). Accordingly, in our case, the impact direction during the first sub-period was positive for the returns and negative for the volatility, whereas it was negative for the returns and positive for the volatility during the second sub-period. This conclusion, is to some extent, in line with the findings of (Kulwarothai, 2013) who studied Thai stock exchange between 2006-2011, and found that stock return and volatility vary according to political parties and their policies, and political news, both favorable and unfavorable, increase the volatility of stock return and affect stock return in different ways.

**Table 5.3.** Estimation of EGARCH(1,1) and TGARCH(1,1) for BIST-100 with Bad News

Model	EGARCH(1,1)			TGARCH(1,1)		
	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period
<b>Mean Equation</b>						
$\alpha_0$	0.000821***	0.000743*	0.000744*	0.000774**	0.000716*	0.000934**

Prob.	(0.0044)	(0.0798)	(0.0883)	(0.0122)	(0.0998)	(0.0295)
$\alpha_1$	0.006147	0.059654**	-0.046279	0.008156	0.042385	-0.054156*
Prob.	(0.7787)	(0.0395)	(0.1530)	(0.7193)	(0.1605)	(0.0947)
$\alpha_2(D_B)$	-0.001054	0.003145**	-0.002748***	-0.001045	0.003549**	-0.003142***
Prob.	(0.2063)	(0.0438)	(0.0084)	(0.2192)	(0.0149)	(0.0032)
<b>Variance Equation</b>						
$\omega$	-0.335437***	-0.380741***	-0.142205***	8.82E-06***	1.06E-05***	7.00E-07
Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.1009)
$\alpha_1$	0.139369***	0.184271***	0.013892	0.033089***	0.049834***	-0.014458**
Prob.	(0.0000)	(0.0000)	(0.1828)	(0.0001)	(0.0002)	(0.0103)
$\gamma_1$	-0.071022***	-0.079453***	-0.050282***	0.092487***	0.100430***	0.039582***
Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\beta_1$	0.972227***	0.969907***	0.985540***	0.886495***	0.870900***	0.978532***
Prob.	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
$\alpha_2(D_B)$	-0.030995	-0.145424***	0.034923**	-1.11E-06	-2.82E-05***	1.18E-05***
Prob.	(0.1406)	(0.0019)	(0.0191)	(0.8254)	(0.0005)	(0.0000)
$\alpha_1 + \beta_1$	1.111596	1.154178	0.999432	0.919584	0.920734	0.964074
<b>AIC</b>	-5.541641	-5.401561	-5.789227	-5.539515	-5.406895	-5.782023
<b>SC</b>	-5.522625	-5.370420	-5.752947	-5.520500	-5.375754	-5.745742

**Notes:** The results in the table are derived based on the following asymmetric EGARCH(1,1) and TGARCH(1,1) models:

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_B + \varepsilon_t$$

$$\ln(\sigma_t^2) = \omega + \alpha_1 \left\{ \left| \frac{\varepsilon_{t-1}}{\sigma_{t-1}} \right| - \sqrt{\frac{2}{\pi}} \right\} + \gamma_1 \frac{\varepsilon_{t-1}}{\sigma_{t-1}} + \beta_1 \ln(\sigma_{t-1}^2) + \alpha_2 D_B$$

$$r_t = \alpha_0\mu + \alpha_1r_{t-1} + \alpha_2D_B + \varepsilon_t$$

$$\sigma_t^2 = \omega + \alpha_1\varepsilon_{t-1}^2 + \gamma_1d_{t-1}\varepsilon_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \alpha_2D_B$$

The dummy variable  $D_B$  used as a proxy for bad political news. Significance is denoted with asterisks. \*, \*\* and \*\*\* indicate significance at the 10%, 5%, and 1% levels respectively.

Finally, the asymmetric effect in the returns of BIST-100 index is tested again for more accuracy, and as observed in Table 5.3, the value of  $\gamma_1$  is negative in EGARCH estimations and positive in TGARCH, which ensures the presence of leverage effect in stock returns. In



other words, it can be concluded again that the impact of the negative shocks to the volatility of BIST-100 index is greater than that of the positive shocks.

### 5.3. Residual Diagnostic and Model Robustness

In this part, two serial correlation tests (Correlogram-Q-statistics and Correlogram Squared Residuals) and one heteroscedasticity test (ARCH Lagrange Multiplier) were implemented to confirm the absence of both serial correlation and ARCH effect in the residuals after estimating GARCH models. Residual Diagnostic tests were conducted using a maximum lag length of 18 for serial correlation tests, and 12 lags for heteroscedasticity test.

**Table 5.4** Residual Diagnostic of GARCH(1,1) and GARCH-M(1,1) for BIST-100 with Political News

Model	GARCH(1,1)			GARCH-M(1,1)		
	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period
<b>Standardized Residuals (12)</b>						
AC	0.050	0.062	0.030	0.048	0.060	0.029
Prob.	(0.126)	(0.318)	(0.940)	(0.145)	(0.359)	(0.937)
<b>Standardized Residuals (18)</b>						
AC	0.027	0.023	0.034	0.026	0.022	0.032
Prob.	(0.236)	(0.513)	(0.855)	(0.261)	(0.566)	(0.830)
<b>Standardized Residuals Squared (12)</b>						
AC	0.012	0.012	0.052	0.012	0.012	0.051
Prob.	(0.647)	(0.731)	(0.295)	(0.647)	(0.752)	(0.287)
<b>Standardized Residuals Squared (18)</b>						
AC	0.003	-0.029	0.026	0.003	-0.030	0.026
Prob.	(0.578)	(0.606)	(0.094)	(0.578)	(0.607)	(0.086)
<b>ARCH-LM Test (12)</b>						
F-statistic	0.831006	0.809865	1.107292	0.828966	0.784761	1.115844
Prob.	(0.6184)	(0.6406)	(0.3499)	(0.6205)	(0.6668)	(0.3417)
Obs*R-squared	9.984522	9.742550	13.28401	9.960117	9.442707	13.38535
Prob.	(0.6173)	(0.6385)	(0.3487)	(0.6195)	(0.6647)	(0.3417)

Results from Tables (5.4-5.6) show that the null hypothesis that there is no serial correlation in the residuals cannot be rejected, since the p-values are greater than 0.05 for all

lags (except for one lag in TGARCH(1,1) model/2<sup>nd</sup> sub-period/good news) in table 5.6. The results also show that all models do not longer exhibit any ARCH effect in the residuals, evidenced by the p-values in all cases which are greater than 0.05.

**Table 5.5** Residual Diagnostic of EGARCH(1,1) and TGARCH(1,1) for BIST-100 with Good News

Model	EGARCH(1,1)			TGARCH(1,1)		
	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period
<b>Standardized Residuals (12)</b>						
AC	0.052	0.060	0.043	0.055	0.028	0.048
Prob.	(0.134)	(0.372)	(0.825)	(0.134)	(0.494)	(0.809)
<b>Standardized Residuals (18)</b>						
AC	0.031	0.028	0.038	0.033	-0.029	0.042
Prob.	(0.239)	(0.596)	(0.643)	(0.215)	(0.397)	(0.610)
<b>Standardized Residuals Squared (12)</b>						
AC	0.032	0.032	0.061	0.028	0.028	0.073
Prob.	(0.279)	(0.198)	(0.133)	(0.483)	(0.494)	(0.284)
<b>Standardized Residuals Squared (18)</b>						
AC	0.006	-0.023	0.028	0.009	-0.029	0.038
Prob.	(0.269)	(0.175)	(0.056)	(0.394)	(0.397)	(0.010)
<b>ARCH-LM Test (12)</b>						
F-statistic	1.299760	1.515292	1.411823	1.015377	1.099404	1.123770
Prob.	(0.2113)	(0.1119)	(0.1539)	(0.4314)	(0.3563)	(0.3363)
Obs*R-squared	15.58045	18.11254	16.88094	12.18862	13.19092	13.47925
Prob.	(0.2112)	(0.1123)	(0.1541)	(0.4307)	(0.3553)	(0.3352)

Finally, fitness and robustness of the models were examined by comparing the values of Akaike Information Criterion (AIC) and Schwarz Criterion (SC). The guideline for this examination is that the lower the AIC or SC, the better is the fit of the model. The values of AIC and SC for every specification are reported in the previous tables. According to those values, it can be said that GARCH(1,1) model is better than GARCH-M(1,1) model in capturing the symmetric effect of political news on the returns and volatility of BIST-100 index. While EGARCH(1,1) model is better than TGARCH(1,1) model in capturing the asymmetric effects

of good and bad political news on the returns and volatility of BIST-100 index during the study periods.

**Table 5.6** Residual Diagnostic of EGARCH(1,1) and TGARCH(1,1) for BIST-100 with Bad News

Model	EGARCH(1,1)			TGARCH(1,1)		
	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period	Full sample	1 <sup>st</sup> sub-period	2 <sup>nd</sup> sub-period
<b>Standardized Residuals (12)</b>						
AC	0.050	0.059	0.033	0.053	0.064	0.036
Prob.	(0.160)	(0.434)	(0.937)	(0.169)	(0.347)	(0.929)
<b>Standardized Residuals (18)</b>						
AC	0.032	0.031	0.038	0.034	0.030	0.038
Prob.	(0.267)	(0.645)	(0.782)	(0.255)	(0.517)	(0.777)
<b>Standardized Residuals Squared (12)</b>						
AC	0.031	0.025	0.058	0.026	0.022	0.063
Prob.	(0.271)	(0.264)	(0.284)	(0.497)	(0.589)	(0.384)
<b>Standardized Residuals Squared (18)</b>						
AC	0.006	-0.026	0.022	0.010	-0.033	0.021
Prob.	(0.267)	(0.199)	(0.169)	(0.423)	(0.432)	(0.087)
<b>ARCH-LM Test (12)</b>						
F-statistic	1.311730	1.411884	1.126592	1.001496	1.004893	0.994055
Prob.	(0.2043)	(0.1535)	(0.3340)	(0.4446)	(0.4417)	(0.4523)
Obs*R-squared	15.72301	16.89227	13.51268	12.02281	12.06731	11.94038
Prob.	(0.2043)	(0.1537)	(0.3329)	(0.4438)	(0.4403)	(0.4505)

## 6. CONCLUSION AND RECOMMENDATIONS

Turkey's political uncertainty arises from its geopolitical position and strategic location as a bridge between west and east. Since the election of Abdullah Gül as the president in August 2007, Turkey has entered a new era in its internal and external politics and relationships to other countries. However, the question is; does this new era characterized by political uncertainty adversely affect the Turkish stock market ? or one can say that political uncertainty is no longer a problem for the Turkish stock market ?. In this thesis, I attempted to empirically answer the previous questions through examining the impact of political news on the returns and volatility of the Turkish stock market represented by the BIST-100 index. Different nonlinear volatility models (symmetric and asymmetric GARCH type models) were used to test the hypotheses, since they have the ability to explain main features prevalent in financial market.

The data on political news events were collected from the Guardian newspaper and split into two categories (good and bad) news. Time series data of the study consists of daily closing prices, presented in local currency (TRY) and collected from the EVDS Web-Service developed by the Central Bank of the Republic of Turkey. Stock market data covers the period from January 2008 to December 2017. The main sample was also divided into two sub-periods to insulate the dominating impacts of both the 2008 Global Financial Crisis and 2013 Federal Reserve Tapering on the overall Turkish economy, especially BIST-100 index. Thus, the first sub-period spans the time from January 2008 to May 2013, while the second sub-period runs from June 2013 to December 2017.

The findings of the thesis highlight four main results. First, there seems to be a significant impact of political news on the returns and volatility of BIST-100 index. Second, negative shocks derived from bad news tend to have a significant impact on the returns and volatility of BIST-100, while positive shocks derived from good news do not tend to have any significant impact on the returns, but decreased return volatility. Third, political news, both good and bad, can affect stock returns and stock return volatility in different ways or directions, and this direction is time-varying. Fourth, the findings strongly reveal the presence of “Leverage Effect” in the returns of BIST-100 index.

Broadly, the implication of the study is that; in spite of Turkey's fast-growing economy and regional political influence, domestic and foreign investors who plan to invest in the Turkish stock market still need to carefully take into consideration political risk. The research contributes to the existing literature mainly by covering a critical period in the modern political

history of Turkey, since two fateful events occurred; July 15, 2016 the coup attempt and April 16, 2017 the constitutional referendum. This research can be expanded to include further analysis on the industry or individual stock level, or by including other BIST indices, such as BIST 50 & BIST 30, or even other countries' indices. Moreover, additional variables such as the economic variables and global factors could be included.

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## Appendix

The Guardian' political news headlines that were collected over the study period after being categorized as good or bad news.

Date	Headline	Good News (+) / Bad News (-)
03/01/2008	Five killed in Turkish bomb attack	-
24/01/2008	Five dead after Turkish raid on suspected al-Qaida cells	-
22/02/2008	Turkish forces enter northern Iraq	-
28/02/2008	Turkey to pull out of Iraq in days as US calls for swift end to conflict	+
29/02/2008	Turkey withdraws troops from northern Iraq, military says	+
01/04/2008	Supreme court threatens Islamic party's government in Turkey	-
02/05/2008	Turkey bombs Kurdish rebel bases in Iraq	-
29/05/2008	Secular Turks attack religious council's code for women	-
02/06/2008	Turkish star faces jail for criticising army	-
30/06/2008	Turkey's slow-motion coup	-
03/07/2008	Turkish party fights for survival after foiled coup attempt	-
09/07/2008	Six dead in gun battle outside Istanbul's US consulate	-
14/07/2008	86 charged over 'coup plot' in Turkey	-
25/07/2008	Cyprus leaders make date for reunification talks	+
27/07/2008	Turkey: At least 15 killed in two explosions in Istanbul	-
28/07/2008	Tension between secular state and religious faith	-
29/07/2008	Turkey: PKK denies Istanbul blasts	-
30/07/2008	Turkish court rules against banning AK party	-
20/08/2008	Father and daughter killed in holiday safari crash in Turkey	-
29/08/2008	Turkish military will defend secular state, government warned	-
01/09/2008	Trade war looms between Moscow and Ankara	-
04/09/2008	Rival Cypriot leaders upbeat as they start reunification talks	+
18/09/2008	Turkish court bans Richard Dawkins website	-
26/09/2008	Turkish court acquits British artist over portraying PM as US poodle	+

15/10/2008	Turkish minister apologises after 'tortured' activist dies in prison	-
21/10/2008	Turkish courtroom chaos delays trial of alleged coup plotters	-
24/10/2008	Turkish prime minister's attempt to lift ban on headscarves ruled anti-secular	-
18/12/2008	Turkish PM dismisses apology for alleged Armenian genocide	-
09/01/2009	Turkish government holds crisis talks as former generals arrested	-
19/01/2009	Erdogan in Brussels as Turkey's EU ambitions face decisive year	+
30/01/2009	Recep Erdogan storms out of Davos after clash with Israeli president over Gaza	-
25/02/2009	At least nine killed as Turkish Airlines plane crashes near Amsterdam	-
07/03/2009	Obama to visit Turkey 'within weeks'	+
07/04/2009	Turkish police arrest man who plotted to kill Obama, US authorities say	-
23/04/2009	Armenia and Turkey agree diplomatic thaw	+
29/04/2009	Turkish soldiers killed in roadside bombing	-
01/05/2009	Turkish police use teargas after clashes at May Day march	-
11/05/2009	Gas deal between Turkey and European Union breaks Russian stranglehold	+
26/06/2009	Leaders of divided Cyprus agree to new crossing	+
22/07/2009	The Nabucco and South Stream projects will secure gas for the EU – and change the power balance in the Balkans	+
17/09/2009	Iranians urge IMF to investigate Turkey's £11bn 'windfall'	+
11/10/2009	Turkey and Armenia sign landmark accord... eventually	+
12/10/2009	Turkey confirms it barred Israel from military exercise because of Gaza war	-
19/10/2009	Greek cafe in heart of Turkey signals a thaw in relations	+
26/10/2009	'Iran is our friend,' says Turkish PM Recep Tayyip Erdogan	+
17/11/2009	Turkey ends years of isolation for jailed Kurdish leader Abdullah Ocalan	+

24/11/2009	Greek Orthodox church sues Turkey over access to religious sites in Cyprus	-
03/12/2009	Iranian protesters claim intimidation in Turkey	-
12/12/2009	Turkey bans main Kurdish party over alleged terror links	-
17/12/2009	Woman who fled after Iran's summer unrest tells of 'revenge' attack in Turkey	-
22/01/2010	Turkish police arrest 120 al-Qaida suspects	-
31/01/2010	Turkish Kurd, 15, jailed for eight years over 'terror' crimes at protest rally	-
17/02/2010	European court rules against Turkey's Apollinaire ban	-
22/02/2010	Turkish military high command detained over fears of secular 'coup'	-
25/02/2010	Turkish PM rules out early elections despite alleged coup plot	+
05/03/2010	Turkey threatens 'serious consequences' after US vote on Armenian genocide	-
18/03/2010	Turkish PM threatens to expel 100,000 Armenians over genocide vote	-
22/03/2010	Turkish constitutional reform plans anger judges	-
29/03/2010	Turkish prime minister accuses German chancellor after Merkel repeats opposition to Turkish EU membership	-
18/04/2010	Hardliner wins Turkish Cypriot leadership election	+
17/05/2010	Iran-Turkey nuclear swap deal 'means new sanctions are unnecessary'	+
31/05/2010	Israeli commandos kill activists on flotilla bound for Gaza	-
01/06/2010	Gaza flotilla raid draws furious response from Turkey's prime minister	-
16/06/2010	Turkish troops' incursion may raise tensions	-
22/06/2010	Kurdish rebels admit Istanbul bus bombing	-
05/07/2010	Turkey threatens to cut ties with Israel over Gaza flotilla	-
19/07/2010	Turkey indicts 196 people over alleged coup plot	-
27/07/2010	David Cameron shows he is prepared for an EU battle over Turkey	-
09/08/2010	Netanyahu accuses Turkey of ignoring Gaza flotilla warnings	-



17/08/2010	Security forces surround Turkish embassy in Tel Aviv after shots fired	-
01/09/2010	Mystery over Russian general found dead on Turkish beach	-
10/09/2010	Turkey voters 'moving towards supporting government reforms'	+
05/10/2010	Turkish reporter faces 79 years in jail	-
31/10/2010	Suicide bomb attack on Istanbul's main square	-
10/12/2010	WikiLeaks cables: Pope wanted Muslim Turkey kept out of EU	-
16/12/2010	Turkish officers go on trial for 'coup plot'	-
26/12/2010	Gaza flotilla ship welcomed back to Turkey by thousands of activists	+
18/01/2011	US embassy cables: Turkey used as base to transport terrorism suspects	-
14/02/2011	Turkish journalist arrested over alleged conspiracy to topple government	-
04/03/2011	Seven journalists arrested in Turkey	-
24/03/2011	Turkey and France clash over Libya air campaign	-
26/04/2011	Turkey dismantles Armenia reconciliation statue	-
09/06/2011	Kurds threaten Turkish government with civil disobedience	-
13/06/2011	Recep Erdogan wins by landslide in Turkey's general election	+
23/06/2011	Turkey tells Bashar al-Assad to cease Syria repression	-
25/06/2011	Syria reinforces northern border as Turkey loses patience with Assad	-
30/07/2011	Turkey military chiefs resign over Sledgehammer 'coup plot' arrests	-
19/08/2011	Turkish planes launch attacks on Kurdish rebels in Iraq	-
23/08/2011	Turkey says it had killed up to 100 Kurdish fighters in Iraq air strikes	-
02/09/2011	Turkey expels Israel's ambassador over refusal to apologise for Gaza flotilla raid	-
20/09/2011	Three killed as explosion outside school rocks Turkish capital Ankara	-
21/09/2011	Turkey bombs Kurdish rebels in Iraq	-

29/09/2011	Turkey to press ahead with sanctions against Syria	-
02/10/2011	Turkey natural gas search stokes tensions with Cyprus	-
19/10/2011	Turkish troops enter northern Iraq in pursuit of Kurdish rebels	-
12/11/2011	Turkish forces shoot dead lone hijacker	-
30/11/2011	Turkey imposes sanctions on Syria	-
13/12/2011	Turkey cracks down on the 'parallel' Kurdish administration	-
22/12/2011	Turkey freezes all political relations with France over genocide row	-
29/12/2011	Turkish air strikes kill dozens of villagers near Iraq border	-
06/01/2012	Turkey arrests former army chief over 'plot to bring down government'	-
29/03/2012	Turkish PM Erdogan holds Tehran talks with Ahmadinejad	+
09/04/2012	Turkish prime minister visits China	+
16/05/2012	Turkey to renew talks over European Union membership	+
22/05/2012	Turkey hopeful that US will sell it armed drones	+
24/05/2012	Israel offers compensation to Mavi Marmara flotilla raid victims	+
25/05/2012	Turkish police station hit by suspected suicide bomb	-
24/06/2012	Turkey goes to Nato over plane it says Syria downed in international airspace	-
26/06/2012	Turkey threatens Syria with military retaliation over downed jet	-
29/06/2012	At Syria's border, after months of waiting, the weapons arrive	-
03/07/2012	Assad says he regrets Syria forces shot down Turkish fighter jet	+
04/07/2012	Turkish firefighters battle blazes 'deliberately started' on Syria border	-
14/07/2012	Visa restrictions are shutting Turkey out of the EU	-
30/07/2012	Syria accuses Turkey, Qatar and Saudi Arabia of helping rebels	-
05/08/2012	Turkish troops kill 115 Kurdish rebels as offensive blocks escape routes to Iraq	-

07/08/2012	Turkish security forces blamed for killing 501st child since 1988	-
10/08/2012	US planning new sanctions on Syria and Assad as Clinton travels to Turkey	+
18/08/2012	Syrian rebels foil army attempt to take Turkish border gate, as Lakhdar Brahimi becomes new envoy	+
20/08/2012	Bomb in Turkish town of Gaziantep kills eight	-
30/08/2012	Bashar al-Assad blames Turkey for bloodshed in Syria	-
17/09/2012	500 Kurdish rebels killed or captured in past month, says Turkish PM	-
03/10/2012	Turkey strikes Syrian targets after cross-border mortar bomb kills five	-
04/10/2012	Turkey's parliament authorises military operations against Syria	-
05/10/2012	Turkey issues new warnings to Syria	-
06/10/2012	Syria agrees to buffer zone along Turkish border, say reports	+
07/10/2012	Turkey returns fire across Syrian border for fifth day	-
08/10/2012	Turkey ready for war, says PM Erdogan	-
09/10/2012	Nato backs Turkey in standoff with Syria	+
11/10/2012	Turkey accuses Russia of supplying Syria with munitions	-
12/10/2012	Turkey scrambles warplanes to Syrian border	-
13/10/2012	Turkey calls for UN security council reform over failure to pressure Syria	-
19/10/2012	Turkey calls on major powers to intervene in Syria	-
25/10/2012	Iran and Turkey's meeting reveals new approach to Syria	+
29/10/2012	Turkish police use teargas to break up pro-secular march	-
21/11/2012	Turkey requests Nato Patriot missiles	-
16/12/2012	Spurned Turkey looks east after EU courtship falters	-
31/12/2012	Turkish talks offer hope of peace with Kurdish militants	+
24/01/2013	11 Turkish journalists arrested	-
01/02/2013	Suspected suicide bombing kills two at US embassy in Turkey	-
01/03/2013	Turks and Kurds look to Good Friday accords as template for peace	+

13/03/2013	PKK free Turkish hostages to reinforce peace talks with Erdogan government	+
21/03/2013	Kurdish leader Abdullah Ocalan declares ceasefire with Turkey	+
22/03/2013	Netanyahu apologises to Turkish PM for Israeli role in Gaza flotilla raid	+
08/05/2013	PKK begins to withdraw from Turkey	+
12/05/2013	Turkey blames Syria over Reyhanli bombings	-
31/05/2013	Istanbul clashes rage as violence spreads to Ankara	-
01/06/2013	Turkey protests rage for second day	-
03/06/2013	Turkey protests unite a colourful coalition of anger against Erdogan	-
04/06/2013	Turkey: deputy PM apologises for 'excessive violence' against protesters	+
05/06/2013	Turkish police arrest 25 people for using social media to call for protest	-
07/06/2013	Erdoğan accuses EU members of hypocrisy over Turkey protests	-
10/06/2013	Turkey's prime minister to meet Gezi Park occupiers as protests begin to ebb	+
11/06/2013	Turkey protests: police use teargas and water cannon to clear Taksim Square	-
13/06/2013	Turkey: Erdoğan threatens to 'clean' Gezi Park of 'terrorists'	-
21/06/2013	Turkey's EU membership bid falters as diplomatic row with Germany deepens	-
28/06/2013	British teenager stabbed in Turkey	-
25/07/2013	Syrian refugee crisis raises tensions in Turkish border towns	-
05/08/2013	Turkish leader accused of witch-hunt as army coup plotter is jailed for life	-
03/09/2013	Syrian conflict brings sectarian tensions to Turkey's tolerant Hatay province	-
10/09/2013	British woman shot dead in Turkish holiday villa	-
18/09/2013	Car bomb hits Syria-Turkey border	-
30/09/2013	Turkish PM unveils reforms after summer of protests	+

04/10/2013	Bashar al-Assad: 'Turkey will pay a heavy price' for Syrian involvement	-
21/10/2013	EU to restart Turkey membership talks in move to encourage reforms	-
04/11/2013	Kurdish protesters clash with Turkish police near Syrian border	-
17/12/2013	Turkish ministers' sons arrested in corruption and bribery investigation	-
19/12/2013	Istanbul police chief dismissed after arrests in corruption case	-
20/12/2013	Turkey corruption inquiry: eight arrested	-
28/12/2013	Turkey: Erdogan under new pressure to quit as protesters take to the streets	-
09/02/2014	Turkish police crack down on internet freedom protest	-
10/02/2014	High stakes as Greeks and Turks revive Cyprus peace talks	+
25/02/2014	Turkish opposition calls for Erdogan to be investigated for corruption	-
26/02/2014	Chelsea and British Consulate investigate fan stabbings in Istanbul	-
11/03/2014	Turkish police fire teargas to quell protests after boy, 15, dies	-
13/03/2014	Turkey protests: two more deaths feed growing discontent	-
21/03/2014	Turkey blocks use of Twitter after prime minister attacks social media site	-
23/03/2014	Turkey shoots down Syrian warplane	-
30/03/2014	Turkish local elections: AKP set for victory	+
08/04/2014	Turkish opposition leader punched in parliament hallway	-
24/04/2014	Armenian president accuses Turkey of genocide denial	-
01/05/2014	Riot police clash with May Day protesters in Istanbul	-
12/05/2014	European court orders Turkey to pay damages for Cyprus invasion	-
15/05/2014	Explosion near Syria-Turkey border crossing kills dozens	-
22/05/2014	Man shot dead at funeral as police and protesters clash in Istanbul	-
23/05/2014	Istanbul clashes leave second person dead	-
01/06/2014	Turkish police use teargas against protesters in Istanbul	-

11/06/2014	Isis militants kidnap Turkish diplomats after seizing consulate in Mosul	-
17/06/2014	Turkish journalist faces jail for insulting the prime minister	-
23/06/2014	Two British people killed while on Jeep safari in Turkey	-
22/07/2014	Turkish police accused of spying on prime minister are arrested	-
06/08/2014	Greek newspaper in Turkey to close after 89 years	-
11/08/2014	Turkish people celebrate the victory of Recep Tayyip Erdoğan in Turkey's first presidential election	+
19/08/2014	25 Turkish police officers arrested amid Erdoğan wiretapping scandal	-
21 August	Turkey's PM Erdogan nominates successor as he plots presidency overhaul	+
23/08/2014	Isis surges towards the borders of Turkey as west mulls options	-
27/08/2014	Ahmet Davutoglu, Turkey's foreign minister, to 'succeed' Erdogan	+
28/08/2014	Erdoğan declares his election is 'day Turkey is born from its ashes'	+
02/09/2014	Syrian refugees trigger child labour boom in Turkey	-
20/09/2014	Turkish hostages held by Isis have been freed and returned home, PM says	+
29/09/2014	Turkey prepares for bigger role in fight against Islamic State	-
01/10/2014	Turkish MPs to vote on military action against Isis	-
04/10/2014	US jets attack Isis as Biden apologises to Turkish president for remarks about foreign fighters	+
06/10/2014	Isis flags raised in Kobani near Turkish-Syrian border	-
08/10/2014	Battle for Kobani between Isis and Syrian Kurds sparks unrest in Turkey	-
09/10/2014	UK calls on Turkey to join international fight against Islamic State	-
13/10/2014	Turkey opens its bases for US and coalition forces in fight against Isis	-
14/10/2014	Turkish jets bombard Kurdish positions	-

31/10/2014	Turkey to allow Kurdish peshmerga across its territory to fight in Kobani	-
05/11/2014	Striker Deniz Naki leaves club in Turkey after alleged racist attack	-
12/11/2014	Three US sailors ambushed in Turkey by anti-American protesters	-
22/11/2014	US to devote \$135m in aid to feed Syrian refugees, Biden announces in Turkey	+
29/11/2014	Pope Francis prays alongside Grand Mufti in Istanbul's Blue Mosque	+
09/12/2014	Cameron says UK and Turkey working hand in glove to stop Isis fighters	+
12/12/2014	Turkish novelists Orhan Pamuk and Elif Shafak accused of being Western stooges by pro-government press	-
14/12/2014	Turkish police arrest 23 in raids on opposition media	-
19/12/2014	Turkey issues arrest warrant for Erdoğan rival Fethullah Gülen	-
29/12/2014	Turkey's Erdoğan to chair first cabinet meeting as president	+
06/01/2015	Suicide bomber kills police officer in Istanbul	-
19/01/2015	Erdoğan holds first cabinet meeting as Turkish president	+
30/01/2015	Woman opens fire with machine gun on police in Istanbul, say reports	-
3-Feb-15	Turkey revokes passport of exiled Muslim cleric Fethullah Gulen	-
13/02/2015	Turkish police use water cannon on protesters denouncing 'Islamisation' of schools	-
19/02/2015	Turkey and US agree to train and arm Syrian rebels in fight against Isis	-
20/02/2015	Mass brawl in Turkish parliament over controversial police bill	-
03/03/2015	Erdogan's meals tested for poison amid security fears	-
05/03/2015	Turkish journalist arrested over military coup scoop he wrote in 2010	-

06/03/2015	Tajik opposition leader Umarali Kuvatov shot dead in Istanbul	-
13/03/2015	Turkish coastguards open fire to stop Syrian migrant ship	-
31/03/2015	Turkish prosecutor taken hostage dies after police shootout kills two leftist militants	-
01/04/2015	Turkish police shoot attackers outside Istanbul headquarters	-
07/04/2015	Rouhani meets Erdoğan as regional conflicts strain Iranian-Turkish ties	+
11/04/2015	Turkey mobilises troops to border region after clash with Kurdish militants	-
12/04/2015	Pope boosts Armenia's efforts to have Ottoman killings recognised as genocide	-
13/04/2015	Unrest as Turkey begins Soma mine disaster trial	-
15/04/2015	Turkey cannot accept Armenian genocide label, says Erdoğan	-
22/04/2015	Barack Obama will not label 1915 massacre of Armenians a genocide	+
29/04/2015	Gezi Park protest trial: Turkish court acquits all 26 defendants	-
01/05/2015	Turkish protesters clash with police at May Day rally in Istanbul	-
25/05/2015	Turkey and US 'agree in principle' to provide air support for Syrian rebels	-
05/06/2015	Two explosions hit Kurdish political rally in Turkey	-
08/06/2015	Record number of women elected to Turkish parliament	+
11/06/2015	Recep Tayyip Erdoğan urges speedy formation of new Turkish government	+
15/06/2015	Several hundred Syrian refugees flee into Turkey to escape Isis fighting	-
13/07/2015	Turkish PM Ahmet Davutoğlu begins talks on forming coalition government	+
14/07/2015	Turkish court rejects Erdoğan's ban on his enemy's schools	-
20/07/2015	'Isis suicide bomber' strikes Turkish border town as Syrian war spills over	-



23/07/2015	Turkey to let anti-Isis coalition use airbase after soldier's death	-
24/07/2015	Turkey carries out first ever strikes against Isis in Syria	-
25/07/2015	Turkish jets hit Kurdish militants in Iraq and Isis targets in Syria	-
26/07/2015	Car bomb kills two Turkish soldiers in attacks blamed on Kurdish rebels	-
27/07/2015	Turkey agrees plan for 'Isis-free zone' along Syrian border	+
28/07/2015	Turkey says Kurdish peace process impossible as Nato meets	-
02/08/2015	Turkish troops killed in Kurdish militant 'suicide attack'	-
05/08/2015	Turkey will launch 'comprehensive battle' against Isis, foreign minister says	-
13/08/2015	Turkish hotel's mock terror attack upsets British holidaymakers	-
16/08/2015	Three Turkish soldiers and one police officer killed in Kurdish militant attacks	-
19/08/2015	Turkish police arrest two after shots fired at Istanbul palace	-
21/08/2015	Turkey to form interim government before snap election on 1 November	+
24/08/2015	Turkey's president calls for new election after government deadline passes	+
25/08/2015	Turkey PM appointed to form interim government in run-up to election	+
29/08/2015	Turkey carries out first air strikes as part of anti-Isis US coalition	-
07/09/2015	Turkish jets hit PKK targets after Kurdish ambush kills 15 soldiers	-
08/09/2015	Turkish police officers killed in bomb attack	-
09/09/2015	Violence in Turkey threatens election, says pro-Kurdish party	-
11/09/2015	Kurdish militants fire on restaurant killing waiter and wounding police	-
15/09/2015	Turkey on the verge of civil war, says Kurdish leader	-
17/09/2015	Turkey threatens to oust refugees camped near Greek border	-
20/09/2015	More than 100,000 gather for pro-Erdoğan rally in Istanbul	+

28/09/2015	British lawyers warn of human rights violations in Turkey	-
06/10/2015	Turkey 'cannot endure' Russian violation of airspace, president says	-
08/10/2015	Nato ready to 'defend' Turkey as Russia strikes Syria	+
10/10/2015	Turkey hit by protests over government response to suicide bombings	-
11/10/2015	Turkey bomb blasts: government blamed as thousands take to streets in Ankara	-
19/10/2015	British journalist found dead at Turkish airport	-
26/10/2015	Turkey says nine dead in clash with Isis suspects	-
31/10/2015	Stability and security dominate Turkish election debates	+
01/11/2015	Turkey election: Erdoğan's AKP wins outright majority – as it happened	+
10/11/2015	Turkey criticised over media freedoms and judicial independence in EU report	-
12/11/2015	EU leaders race to secure €3bn migrant deal with Turkish president	+
24/11/2015	Vladimir Putin: Turkey's downing of Russian jet 'a stab in the back'	-
26/11/2015	Russia imposes sanctions on Turkey over downed plane	-
27/11/2015	Turkey putting Syrian refugees 'at serious risk of human rights abuse'	-
28/11/2015	Vladimir Putin announces Russian sanctions against Turkey	-
30/11/2015	Turkey will not apologise for shooting down Russian jet	-
03/12/2015	Russia won't forget downed jet, Putin warns Turkey in annual address	-
05/12/2015	Iraq orders Turkey to 'immediately' withdraw troops sent across border	-
06/12/2015	Russian serviceman with shouldered rocket launcher 'seen on Bosphorus'	-
07/12/2015	Turkey refuses to withdraw troops sent to north Iraq base	-
13/12/2015	Russia warns Turkey after firing warning shots at vessel	-
14/12/2015	Seven people killed in Turkey amid protests against curfews	-

18/12/2015	Turkish forces' crackdown on Kurdish militants leaves over 60 dead	-
20/12/2015	Turkish troops move out of northern Iraq after Obama appeal for calm	+
23/12/2015	One person dead after mysterious explosion at Istanbul airport	-
11/01/2016	Turkish forces kill 32 Kurdish militants in bloody weekend as conflict escalates	-
12/01/2016	Deadly Istanbul blast 'caused by Isis suicide bomber'	-
14/01/2016	Turkey police headquarters hit by fatal car bomb attack	-
22/01/2016	Iraqi Kurdistan president: time has come to redraw Middle East boundaries	-
27/01/2016	Hundreds flee Turkish city amid fighting with Kurdish militants	-
30/01/2016	Turkey says another Russian jet has invaded airspace despite warnings	-
05/02/2016	Aid agencies scramble as 20,000 Syrians reach Turkish border crossing	-
07/02/2016	Tens of thousands of Syrian refugees remain stranded at Turkish border	-
11/02/2016	Nato launches naval patrols to return migrants to Turkey	-
14/02/2016	Syria: Turkey and Saudi Arabia consider ground campaign following border strikes	-
16/02/2016	Turkey revives plan for safe zone in Syria to stem flow of refugees	+
17/02/2016	At least 28 killed by Ankara car bomb targeting military personnel	-
03/03/2016	Two women killed after attacking police bus in Istanbul	-
05/03/2016	Turkish police fire teargas at protesters at seized newspaper	-
07/03/2016	Migration summit: EU prepared to give Turkey extra €3bn – as it happened	+
08/03/2016	Turkey and EU agree outline of 'one in, one out' deal over Syria refugee crisis	+

14/03/2016	Australian ambassador was 20 metres from deadly bomb blast in Ankara	-
18/03/2016	EU leaders to meet Turkish prime minister as refugee deal falls short	-
19/03/2016	Istanbul hit by suicide attack	-
20/03/2016	Israel warns against travel to Turkey after Istanbul bombing	-
29/03/2016	Cyprus peace deal could come this year, confirm Turkey and US	+
31/03/2016	Deadly blast targets police vehicle in southern Turkish city	-
09/04/2016	US warns of 'credible threats' to citizens in Turkey as it launches strikes on Isis	-
11/04/2016	Several injured by car bomb attack in south-east Turkey	-
12/04/2016	Opulence and paranoia as Saudi king visits Turkey	+
14/04/2016	Thousands of refugees flee for Turkish border after surprise Isis attack	-
19/04/2016	Turkish police chiefs on trial over murder of journalist Hrant Dink	-
23/04/2016	Angela Merkel to launch EU aid programme for Syrians on Turkey visit	+
28/04/2016	Brawl breaks out in Turkey's parliament	-
01/05/2016	Isis suspected as car bomb kills two police and injures 18 in Turkey	-
02/05/2016	Turkish politicians brawl over lawmaker immunities	-
06/05/2016	EU-Turkey visa deal on brink as Erdoğan refuses to change terror laws	-
12/05/2016	Four suspected militants killed by their own bomb in Turkey	-
17/05/2016	Former MI6 chief warns against visa-free Turkish immigration	-
20/05/2016	Syrian refugee wins appeal against forced return to Turkey	-
24/05/2016	Turkey threatens to block EU migration deal without visa-free travel	-
27/05/2016	'Unacceptable' for US soldiers in Syria to wear Kurdish insignia, Turkey says	-

02/06/2016	Turkey recalls ambassador after German MPs' Armenian genocide vote	-
07/06/2016	Istanbul bomb attack on police vehicle kills 11	-
15/06/2016	Turkey fails to meet criteria for visa-free EU travel	-
19/06/2016	Police use teargas against LGBT activists in Istanbul	-
20/06/2016	Erdoğan dined with Turkish transgender star after clashes at LGBT rally	+
26/06/2016	'Mentality of the Crusades': Turkey and Pope Francis in row over Armenian genocide	-
27/06/2016	Israel and Turkey end six-year standoff	+
29/06/2016	Turkey airport attack: 41 killed in explosions at Istanbul Atatürk	-
16/07/2016	Turkey military coup attempt: what we know so far – video explainer	-
17/07/2016	Turkey detains 6,000 over coup attempt as Erdoğan vows to 'clean state of virus'	-
18/07/2016	Europe and US urge Turkey to respect rule of law after failed coup	-
20/07/2016	Turkey sacks 15,000 education workers in purge after failed coup	-
21/07/2016	Turkey coup attempt: Erdoğan declares three-month state of emergency	-
23/07/2016	Turkey's president orders closure of 1,000 private schools linked to Gülen	-
25/07/2016	Turkey issues warrants for 42 journalists in relation to failed coup	-
28/07/2016	Turkish generals resign as government prepares to overhaul armed forces	-
01/08/2016	Turkey arrests 11 soldiers over alleged Erdoğan kidnap bid	-
09/08/2016	Erdoğan and Putin agree better relations between Turkey and Russia	+
10/08/2016	Seven people killed in two bomb attacks in south-east Turkey	-
17/08/2016	Turkey to free 38,000 people from prisons to make space for alleged coup plotters	+

18/08/2016	Security forces killed and scores injured in Turkey bombings	-
20/08/2016	Turkey announces more active role in Syria conflict	-
22/08/2016	Erdoğan blames Isis for suspected suicide attack at wedding in Turkey	-
24/08/2016	Turkey sends tanks into Syria in operation aimed at Isis and Kurds	-
25/08/2016	EU and Turkey restart talks over migrant pact	+
26/08/2016	Aftermath of deadly truck bomb at checkpoint in Turkish border town Cizre	-
15/09/2016	British Embassy in Ankara to close on Friday for security reasons	-
16/09/2016	Four held in Turkey over fears of Isis threat to UK and German embassies	-
19/09/2016	Turkish schools reopen after purge of teachers suspected of coup links	+
27/09/2016	Boris Johnson seeks to mend fences in talks with Turkish leadership	+
30/09/2016	Turkey closes 20 TV and radio stations in post-coup clampdown	-
02/10/2016	Brother of Fethullah Gülen detained by Turkish police	-
09/10/2016	18 dead in car bombing attack at Turkish military checkpoint	-
14/10/2016	Rockets land near Turkish Mediterranean resort town	-
31/10/2016	Turkey detains editor and staff at opposition Cumhuriyet newspaper	-
04/11/2016	Turkey arrests pro-Kurdish party leaders amid claims of internet shutdown	-
05/11/2016	Turkish police use water cannon to disperse protest over journalists' arrests	-
11/11/2016	Turkish newspaper chairman detained at Istanbul airport	-
24/11/2016	Turkey reacts angrily to symbolic EU parliament vote on its membership	-
11/12/2016	Twin bomb blasts in Istanbul kill 38, injure 166 – video report	-

12/12/2016	Turkish police carry out mass arrests in wake of Istanbul bombings	-
18/12/2016	Turkey PM blames PKK for car bomb that killed 13 soldiers on bus	-
17/12/2016	Car bomb kills soldiers on public bus in Turkey	-
19/12/2016	Andrei Karlov: Russia's ambassador to Turkey at time of diplomatic thaw	+
20/12/2016	Russian ambassador to Turkey shot dead by police officer in Ankara gallery	-
28/12/2016	Turkey and Russia 'agree terms of Syria ceasefire'	+
31/12/2016	Wall Street Journal reporter was held for three days in Turkey, paper says	-
01/01/2017	Turkey nightclub shooting: Istanbul on alert after gunman kills dozens	-
05/01/2017	Car bomb kills two outside courthouse in Turkish city of İzmir	-
11/01/2017	Cyprus's Greek and Turkish leaders edge closer to ending conflict	+
18/01/2017	Turkey seeks arrest of 243 military personnel in ongoing crackdown	-
26/01/2017	Turkey and Russia skeptical of Trump's plan to create safe havens in Syria	+
08/02/2017	Turkey dismisses 4,400 public servants in latest post-coup attempt purge	-
09/02/2017	Russian airstrikes accidentally kill three Turkish soldiers	-
10/02/2017	Turkey's Erdoğan paves way for April vote on consolidation of power	+
22/02/2017	Turkey lifts military ban on Islamic headscarf	+
27/02/2017	Journalist for German newspaper arrested in Turkey	-
05/03/2017	Erdoğan accuses Germany of 'Nazi practices' over blocked political rallies	-
12/03/2017	Turkish PM threatens sanctions against Dutch over minister's expulsion	-

25/03/2017	British MPs say Turkish president using attempted coup to suppress human rights	-
16/04/2017	Erdoğan clinches victory in Turkish constitutional referendum	+
18/04/2017	Trump congratulates Erdoğan after Turkey vote grants sweeping powers	+
26/04/2017	Turkish forces clash with Kurdish militia one day after deadly airstrikes	-
27/04/2017	Turkey arrests 1,000 and suspends 9,100 police in new crackdown	-
30/04/2017	Iranian TV executive shot dead in Istanbul, Turkish media report	-
09/05/2017	US to arm Kurdish fighters against Isis in Raqqa, despite Turkish opposition	-
16/05/2017	Trump and Turkey's president show strained unity at White House meeting	+
18/05/2017	John McCain: Turkish ambassador should be 'thrown out' for violence	-
07/06/2017	Turkey arrests Amnesty International head and lawyers in Gulenist sweep	-
15/06/2017	Erdoğan decries 'unacceptable' US arrest warrants for staff in Washington brawl	-
19/06/2017	Turkish troops take part in joint military exercises in Qatar	+
25/06/2017	Erdoğan rejects Saudi demand to pull Turkish troops out of Qatar	-
03/07/2017	Cyprus reunification talks enter critical phase as leaders submit plans	+
06/07/2017	Amnesty says Turkey director and activists detained in Istanbul	-
07/07/2017	Cyprus reunification talks collapse amid angry scenes	-
09/07/2017	Turks stage largest show of opposition against Erdoğan government in years	-
15/07/2017	Turkey sacks more than 7,000 civil servants one year on from failed coup	-



18/07/2017	Turkey holds six rights activists on charges of aiding terror group	-
20/07/2017	Turkey holds six rights activists on charges of aiding terror group	-
25/07/2017	EU minister says Turkey still on track to join bloc despite calls to stop accession	-
28/07/2017	Turkish court frees seven journalists, but others remain behind bars	+
31/08/2017	Victory for Assad looks increasingly likely as world loses interest in Syria	-
04/09/2017	Turkey hits back after Merkel says EU should scrap accession talks	-
10/09/2017	Hundreds of British Kurds protest at arms fair over sales to Turkey	-
11/09/2017	Turks detained for using encrypted app 'had human rights breached'	-
20/09/2017	Turkish president: Trump apologized for indictment of security staff in brawl	+
22/09/2017	Syrian opposition activist and her journalist daughter murdered in Turkey	-
26/09/2017	Iraq: Kurdish leader Barzani claims win in independence referendum	-
04/10/2017	Turkish court hands down 40 life sentences over plot to kill Erdoğan	-
07/10/2017	Syria: Turkish forces prepare to support anti-Assad rebels in Idlib	-
11/10/2017	Erdoğan says Turkey to boycott US ambassador over visa row	-
24/10/2017	Turkey investigates Galatasaray fans over 'Gülenist' Rocky poster	-
25/10/2017	Senior Amnesty figures among 11 on trial in Turkey on terror charges	-
18/11/2017	Nato apologises to Turkey after Erdogan and Ataturk appear on 'enemy chart'	+

21/11/2017	Vladimir Putin briefs Donald Trump on plan to end Syrian civil war	+
22/11/2017	Putin brings Iran and Turkey together in bold Syria peace plan	+
27/11/2017	Turkish PM warns EU over refugee deal ahead of Syrian peace talks	-
05/12/2017	Democracy in Turkey is going on trial	-
07/12/2017	Confrontational Erdoğan stuns Greek hosts on Athens visit	+
11/12/2017	In Turkey, academics asking for peace are accused of terrorism	-