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Opinion Article

As the Volatility Magnitude of the Istanbul Stock Exchange as Same as the Earthquakes?

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Abstract

Natural disasters such as earthquakes have significant short-term effects on stock markets. On the 6th of February, 2023, the epicenters of Kahramanmaras and 11 neighboring cities in Southern Turkey, were hit by 7.7 and 7.6 magnitude earthquakes. A well-known stock market is the first and most highly affected economic component by disasters. This paper provides the effect of these earthquakes on the Borsa Istanbul (BIST) as the sole exchange entity of Turkey, and the policy responses to reduce the volatility in the BIST. The stock market plays a critical role in disaster rescue efforts by providing funds. This may also lead to interrupting the disaster support supply chain mechanisms. The lessons learned can provide suggestions to strengthen disaster response mechanisms.

Keywords: Earthquake; Financial markets; Stock market

Abbreviations

BES: Private Retirement Fund; BIST: Borsa Istanbul; IPO: Initial Public Offering; WFE: World Federation of Exchange

Introduction

On February 6, 2023, Southern Turkey was struck by two earthquakes of magnitudes 7.7. and 7.69 Earthquakes can cause significant widespread economic effects as a result in supply chain disruptions, decrease in output level and capital loss. As well known, stock market and foreign exchange market are two core financial markets and the driver of the economic growth. Financial economic theory indicates that any unexpected situation affects the stock market or foreign exchange market in an economy at the first stage. Later on, this effect spreads to the other financial markets. Not only financial market players such as investment companies, financial institutions, or investors and portfolio managers but also all economic units mainly focus on stock market as a barometer of an economy. These decision-making units expect that the natural disaster like earthquake may lead to decrease in stock returns followed by the reduction in output level. Additionally, a large proportion of fund inflow is taken out by government securities. Investors also fled flow stock market to exchange rate market as relatively more safely, and liquid assets. Thus, stock market is at the core of the system which provides fund to economic agents to support emergency responses in different aspects of the disaster.

This study is one of the pioneering interdisciplinary studies covering disaster and financial economics. The study aims to provide brief information about the effects of natural disasters on financial markets, mainly stock markets, and the characteristics of BIST, the effects of earthquakes on BIST in the light of policy implications, existing limited literature and the data. This field report ends with a conclusion and discussion.

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The Overview of the BIST

Borsa Istanbul is founded in 1985 as Istanbul Stock Exchange, to aim at serving as exchange in financial securities in the Turkish Capital Markets as a whole while the securities market is rooted in year 1866. BIST operates four markets; Equity Market, Debt Securities Market, Derivatives Market, and Precious Metals & Diamond Markets.

In 2021, Borsa Istanbul had the highest turnover velocity among all the members of the World Federation of Exchanges (WFE), ranked first in single stock futures and precious metals futures trading volume with 859 billion USD total traded values [1]. In 2020, International Capital Market Association reports that BIST was the most liquid stock market with a share turnover ratio of 381, and followed by the BIST, Chinese Shenzhen was the second with the ratio of 341 and Nasdaq was the third with the ratio of 267 [2]. Among the world's stock exchange markets, Borsa Istanbul is the 13th ranking in terms of IPOs as one of the funding members of United Nations Sustainable Stock Exchanges Initiatives. Moreover, an average of % 65 of all equities, about 66 billion USD worth are held by foreign investors in Borsa Istanbul.

Currently, 640 companies are total issued their stocks mostly based on 47% financial sector, 27% manufacturing industry, and 13% transportation telecom, and storage as top three sectors by equity market capitalization [3].

The Effects of Earthquakes in 2023 Turkey on the BIST

It is crucial to understand between the interaction between natural disasters and the stock markets for economic policy makers as well as the investors. As mentioned before, due to the new issue, there are very limit studies in the literature which try to find out the effects of these earthquakes not only on financial markets but also on economy. The empirical studies and financial reports indicate that the impact of 2023 earthquake in Turkey on BIST in several ways.

First, CNN Business reports that BIST has sunk 15% within the first three days of the earthquake, and BIST100 index, the performance of top 100 companies of National Market, has dropped 11% within the first five days. Moreover, 35 billion USD worth (16%) panic-selling is recorded on its key index until 15th of February [4]. As indicated in financial economic theory, stock exchange market is highly sensitive and volatile against unexpected situation. Due to the uncertainty and risk perception, investors flow from stock instrument to safe heavens such as gold or less risky investment instruments. Thus, panic-selling behavior leads overall loss in the stock markets.

On the other hand, this effect varies in sectoral basis. In this framework, Gursoy et al. [5] is one such study which investigate the effects of 2023 Turkey earthquakes on the BIST by applying econometric methods. The authors found that causal interaction is seen in the stocks of the following sectors; Banking, Brokerage, IT, SME and textile while no earthquake-sized effect is seen in the stocks of the Food, REIT and Mining sectors traded in the BIST. Another study conducted by Unvan and Ozdemir [6] focuses on the stock prices of stone & soil companies by applying event study methodology. They indicate that due to the expected high demand for these materials, there is a significant positive interaction between abnormal return of these stocks and the earthquake. On the other hand, Akkus and Kislalioglu [7] compare pre-earthquake and post-earthquake returns of 18 sectoral BIST indices to determine whether the abnormal return is observed or not. The results show that except telecommunication, non-metallic mineral products and tourism sectors the abnormal returns are detected. Say and Dogan [8] try to answer the same question by considering BIST30 Index, which shows the performance of top 30 companies traded in the BIST by performing event study design. They also found abnormal returns within 31 days after the earthquake.

To the best of my knowledge, there is no any other study or report conducted to investigate the effect of the 2023 Türkiye earthquake on the BIST yet.

BIST Policy Responses

BIST is a self-regulatory entity and subject to private law. The Regulation Principles of the BIST aims to regulate the operations of capital market instruments appropriate by the Capital Markets Board with in the body of the BIST, in an efficient and transparent way [9]. The main policy responses of the BIST are to stimulate stock exchange market. 8th of February, BIST is closed for five days and a temporary stop trading in equities, futures and options markets after 24 years to prevent panic-selling within a week. Additionally, stock market transactions of 8 companies located in the earthquake zone were suspended.6 During this time period Ministry of Treasury and Finance declared the following policy responses [10,11].

- Tax exemption (15% withholding tax) is introduced to increase stock buybacks,
- Stocks is purchased through capital transfer by the Wealth Fund to reduce the high volatility.
- Obligations to purchase shares in the Private Retirement System (BES) is increased from %10 to %30,
- Borsa Istanbul announced that order cancellation, price deterioration and quantity reduction will not be allowed in the stock markets in the opening session.

Conclusion

Financial economic theory indicates that any economic or non-economic event first affects the financial markets of a country. Moreover, stock markets are the most volatile financial markets. In this case, financial policy implications are core to reduce risk probability, uncertainty and high volatility as the main source of financial distress. Financial transmission mechanism explains that the stock investors prefer to invest less risky instruments by transferring their excess funds to foreign exchange market as safety heavens. If we consider the sectoral stock movements in BIST, the reports show that the stocks of construction companies and the complementary industries are highly effected sectors due to the need for reconstruction. It is clear that BIST was adversely affected by the earthquakes. However, it can be also said that BIST did not immediately and timely respond to request for investors. Because a week later BIST stopped trading in stock instruments after significant panic-selling is recorded.

In conclusion, the stock market provides funds for companies to raise capital by issuing stocks and bonds. During a disaster, rescue operations require significant financial resources mainly to support emergency response, supply chain, health services and rebuild infrastructure. However, there are still a few studies on this issue. Future studies which focus on sectoral basis effects mainly related to disaster rescue may therefore provide useful information for both researchers and policymakers.

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