**Topic of Research Should Appear Here**

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## *Abstract*

*The aim of this study is to investigate the volatility pattern in Turkish stock market following the introduction of futures trading. In an exponential GARCH (EGARCH) framework, the volatility pattern of ISE 30 index is examined before and after the inauguration of Turkish Derivatives Exchange in January 2005. In line with the previous studies, the results indicate the reducing impact of futures trading on ISE 30 index volatility. The question of whether there is any price interdependence developed between the two markets is also investigated by employing an Error Correction Model. The results suggest a change in the dynamics of causality after the 2008 financial crisis.*

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***Key Words:*** *Futures markets, volatility, causality dynamics, volatility transmission, emerging markets*

***JEL Classification:*** *C19, G13, G14*

# 1. Introduction

Derivative securities such as futures and options have being traded in developed markets for a long period of time. A special type of futures contract, financial futures is a recent innovation. There are financial futures on stock market indices, government debt securities, Eurodollar Time Deposits etc.

# 2. Literature Review

One of the pioneering studies on stock index futures was conducted by Edwards (1988a). He examined data on the S&P 500 index, the Value Line Index, T-Bills, and Eurodollar 90-day Time Deposits during the time period 1973 to 1987.

# 3. Methodology

**3.1 Participants**

As indicated in introduction, we have two major research questions. One of them is to find out whether the inception of index futures trading has destabilized the underlying stock index or not. We will examine the volatility of the underlying index before and after the introduction of futures in order to answer the first question.

**3.2 Measurements**

In this paper, we use the EGARCH model, which considers the asymmetric effects, to analyze the effect of futures trading on the volatility of ISE 30 index spot returns. An EGARCH model suggested by Nelson (1991) is modified with a dummy variable controlling the introduction of futures trading, S&P 500 volatility index (VIX), and dummy variables considering the day of the week effect. The model used for the analysis is as follows:

**3.3 Data Analysis**

In this study, the Istanbul Stock Exchange 30 index, Istanbul Stock Exchange 30 index futures and S&P 500 volatility index (VIX) series are used. We used ISE-30 futures, because this is the most heavily traded index futures and the data is more comprehensive compared with that of ISE-100.

# 4. Results and Discussion

**The most striking aspect of the results is the change in the causality relation between the two markets after the break in September 2008. It is found that prior to break point, spot market seems to have a causal effect on futures market. However, after the break, dynamics change and futures market becomes a significant leading factor in spot market. Block-exogeneity test results show the strong unidirectional causal relationship from futures to spot market in the post break period.**

# 5. Conclusions and Recommendations

The vast majority of the empirical evidence on the introduction of futures trading points to a stabilizing effect on the underlying spot market. This study extends this empirical approach to an emerging market, Turkey. Given the highly volatile characteristics of Turkish stock market among other emerging markets and the potential risk of volatility spillovers for the globally integrated financial markets, the investigation of the volatility behavior of stock returns before and after the introduction of futures is of particular interest for fund managers as well as policymakers.

**References**

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