



**Investigating Macro Drivers of the Total Stock Market Index
with a Non-linear Approach in the Form of a Threshold
Regression Model¹**

Ehsan Zangane²

Received: 2024/04/07

Accepted: 2024/12/08

INTRODUCTION

In the theoretical literature, several factors influencing the stock market's total index have been identified. Daily fluctuations in the capital market may arise from economic and political factors. However, the capital market is closely tied to both global and domestic macroeconomic conditions. Investors, directly or indirectly influenced by changes in macroeconomic variables, make stock decisions based on the general market environment (Demir, 2019).

Stock analysis techniques are traditionally divided into two categories: fundamental analysis and technical analysis. Fundamental analysis seeks to determine a stock's intrinsic or real value by examining variables at the economic, industry, and company levels. By comparing intrinsic value to market value, investors decide whether to buy or sell (Hosseini et al., 2015). Understanding the macroeconomic factors affecting the stock market index is essential for accurate company valuation. Through

1. doi: 10.22051/jfm.2024.46832.2915

2. Assistant Professor, Department of Economics, Birjand University, Birjand, Iran. Corresponding Author.
Email: e.zangane@birjand.ac.ir.

fundamental stock analysis, investors can better meet their investment needs, increase shareholder satisfaction, and improve the efficiency of their portfolios.

For example, understanding the effects of interbank interest rates, exchange rates, inflation rates, government spending, and liquidity on the Iranian stock market enables investors to make rational stock decisions at any time. The Tehran Stock Exchange's total index exhibits varying and asymmetric effects from the same drivers across different periods. Therefore, studying the factors affecting this index requires a non-linear approach, as linear models may not yield reliable results.

MATERIALS AND METHODS

This research adopts a non-linear approach to study the factors affecting the Tehran Stock Exchange's total index. Unlike previous studies, this study examines the asymmetric effects of macroeconomic drivers using a threshold regression model and monthly data from 2016 to 2023. The hypotheses tested are:

- a) The effects of macroeconomic factors on the stock market are asymmetric.
- b) The interbank interest rate and exchange rate act as threshold variables.

FINDINGS

The results confirm that the interbank interest rate and exchange rate serve as threshold variables, with asymmetric effects of macroeconomic variables observed around these thresholds. Using EViews software, the threshold value for the interbank interest rate was determined to be 18.12%, defining two regimes: low and high interest rates. For the exchange rate, three regimes were identified:

1. Monthly currency growth below 2.3%.
2. Monthly currency growth between 2.3% and 8.41%.
3. Monthly currency growth above 8.41%.

INTERBANK INTERES RATE AS THRESHOLD VARIABLE

In the first regime (below the threshold), the drivers of the Tehran Stock Exchange's total index included the interbank interest rate, liquidity, and exchange rate. In the second regime (above the threshold), the interbank interest rate and exchange rate were the primary drivers, highlighting the asymmetric effects of macroeconomic variables across these two regimes.



EXCHANGE RATE AS THRESHOLD VARIABLE

When the exchange rate was considered a threshold variable:

- In the first regime, the total index was not influenced by macroeconomic variables.
- In the second regime, interbank interest rates, exchange rates, and economic growth were key drivers.
- In the third regime, interbank interest rates, exchange rates, economic growth, and government spending influenced the total stock market index, demonstrating asymmetry in the effects of macroeconomic factors across regimes.

CONCLUSIONS AND RECOMMENDATIONS

The study highlights the importance of understanding the asymmetric effects of macroeconomic variables on the stock market. The interbank interest rate and exchange rate play significant roles as threshold variables, influencing the stock market index differently across regimes.

Practical Recommendations:

1. **Valuation Accuracy:** Investors should carefully analyze the impact of macroeconomic variables on the stock market index using fundamental stock analysis to minimize transaction errors.
2. **Focus on Threshold Variables:** Pay attention to different currency regimes and interbank interest rate thresholds when evaluating stocks and making investment decisions.
3. **Liberalization of Interest and Exchange Rates:** Liberalizing these rates can strengthen and deepen both the capital market and the debt market. A robust debt market is essential for implementing inflation-targeting mechanisms, as interest rate adjustments within a specified corridor must operate through open market mechanisms.

By adopting these strategies, both investors and policymakers can enhance decision-making processes, improve market efficiency, and contribute to the sustainable development of financial markets.

Keywords: Asymmetric Effects, Threshold Regression, Total Stock Market Index, Exchange Rate, Interbank Interest Rate.

JEL Classification: G10, G18.

COPYRIGHTS



This license allows others to download the works and share them with others as long as they credit them, but they can't change them in any way or use them commercially.

