

## THE EFFECTS OF POLICY RATE ANNOUNCEMENTS ON THE EXCHANGE RATES

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### ABSTRACT

**Purpose-** Exchange rate is the value of a country's national currency against foreign national currencies. In this context, the exchange rate is considered an important macroeconomic indicator in evaluating the country's economy. The failure to control the exchange rate may damage economy significantly. It is possible to understand this from the 2001 crisis in Turkey, known as 'Black Wednesday', and the foreign exchange crisis that started in Thailand in 1997 and affected many East Asian countries. Interest rate is one of the critical determinants affecting the exchange rates. Therefore, changes in interest rates are expected to affect the level of exchange rates. When there is an increase in interest rates, foreign capital flow is expected for that particular country. Hence, a decrease in exchange rates is expected for the excess capital flows. This study aims to analyze the relationship between exchange rates and interest rates, considering the last 10 announcements of the interest policy of the Central Bank of the Republic of Turkiye. These announcements are between January 19, 2023 and October 26, 2023. The study used the TL/USD exchange rates and 10-year government bond interest rates to measure the relationship in between these two variables.

**Methodology-**The aim of this study is to analyze the relationship between the dollar exchange rate and government bond interest rates for Turkiye. For this purpose, data is collected for the days when the last 10 policy rates published by the CBRT were announced. Data is obtained from investing.com. Vector Autoregression (VAR) is used to measure the relationship in between two variables. The VAR system is based on empirical regularities embedded in the data. The VAR model may be viewed as a system of reduced form equations in which each of the endogenous variables is regressed on its own lagged values and the lagged values of all other variables in the system. Vector Autoregressive models are widely used in time series research to examine the dynamic relationships exist in between variables that interact with one another. In addition, VAR models are viable forecasting tools used often by macroeconomic or policy-making institutions. In this study first, the stationary levels of the variables are determined by using Unit Root Test. Second, pre-tests of autocorrelation, heteroscedasticity and normality are conducted for the validity of the VAR model. Third, the short-term relationship between variables is tested by using VAR Granger Causality Test. Fourth, VAR analysis is utilized by applying Impulse-Response Analysis and Variance Decomposition Analysis. And finally, the long-term relationship between variables is tested by using Johansen Cointegration Test. Vector Autoregression model is employed in this study.

**Findings-** According to the results of Granger Causality test, government bond interest rates strongly affect the changes of exchange rate. However, there is no causality from exchange rates to interest rates. Therefore, the changes of interest rates are the main determinants of the changes of exchange rates in this short period. The results of Impulse-Response Test show that an unexpected shock (an unexpected increase) in government bond interest rates affects the exchange rates and increases it significantly. More, an unexpected increase in the exchange rates causes the interest rates on government bond to increase. The results of the variance decomposition test show that 50% of the change in the variance of the exchange rates in the first period is explained by changes in bond interest while 30% of the change in the variance of bond interest rates is explained by the changes in exchange rates. The results of Johansen cointegration test support that there is a stable long-term relationship between dollar exchange rates and government bond interest rates.

**Conclusion-**This study focuses on the relationship between government bond interest rates and the dollar exchange rates in Turkiye for the last 10 policy interest rates announcements by Central Bank of Turkiye. In summary, the changes in interest rates on bonds affect the changes in exchange rates more. Data for the days that the CBRT issued the last ten policy rates is gathered for this purpose. The association between two variables is measured using Vector Autoregression (VAR). According to overall results, the changes in interest rates on bonds affect the changes in exchange rates more.

**Keywords:** Policy rate, exchange rate, interest rate, Turkiye, Granger Causality, VAR model

**JEL Codes:** E40, E50, C10, C58

## REFERENCES

- Canova, F., & Ciccarelli, M. (2013). Panel Vector Autoregressive Models: A Survey ☆ The views expressed in this article are those of the authors and do not necessarily reflect those of the ECB or the Eurosystem. In *VAR models in macroeconomics—new developments and applications: Essays in honor of Christopher A. Sims* (pp. 205-246). Emerald Group Publishing Limited.
- Cognigni, A., & Manera, M. (2008). Oil prices, inflation and interest rates in a structural cointegrated VAR model for the G-7 countries. *Energy economics*, 30(3), 856-888.
- Dedola, L., Georgiadis, G., Gräßl, J., & Mehl, A. (2021). Does a big bazooka matter? Quantitative easing policies and exchange rates. *Journal of Monetary Economics*, 117, 489-506.
- Feng, G. F., Yang, H. C., Gong, Q., & Chang, C. P. (2021). What is the exchange rate volatility response to COVID-19 and government interventions?. *Economic Analysis and Policy*, 69, 705-719.
- Ferrari, M., Kearns, J., & Schrimpf, A. (2021). Monetary policy's rising FX impact in the era of ultra-low rates. *Journal of Banking & Finance*, 129, 106142.
- Gürkaynak, R. S., Kara, A. H., Kisacikoğlu, B., & Lee, S. S. (2021). Monetary policy surprises and exchange rate behavior. *Journal of International Economics*, 130, 103443.
- Hafer, R. W., & Sheehan, R. G. (1991). Policy inference using VAR models. *Economic Inquiry*, 29(1), 44-52.
- Johansen, S. (1995). *Likelihood-based inference in cointegrated vector autoregressive models*. OUP Oxford.
- Kadiyala, K. R., & Karlsson, S. (1997). Numerical methods for estimation and inference in Bayesian VAR-models. *Journal of Applied Econometrics*, 12(2), 99-132.
- Kearns, J., & Manners, P. (2018). The impact of monetary policy on the exchange rate: A study using intraday data. Seventh issue (December 2006) of the *International Journal of Central Banking*.
- Kilian, L., & Zhou, X. (2022). Oil prices, exchange rates and interest rates. *Journal of International Money and Finance*, 126, 102679.
- Lütkepohl, H. (1993). Testing for causation between two variables in higher-dimensional VAR models. In *Studies in applied econometrics* (pp. 75-91). Heidelberg: Physica-Verlag HD.
- Rebucci, A., Hartley, J. S., & Jiménez, D. (2022). An event study of COVID-19 central bank quantitative easing in advanced and emerging economies. In *Essays in honor of M. Hashem Pesaran: Prediction and macro modeling* (Vol. 43, pp. 291-322). Emerald Publishing Limited.
- Salehi, M., Behname, M., & Adibian, M. S. (2021). Structural shocks in monetary policy, exchange rates, and stock prices using SVAR in Iran. *International Journal of Islamic and Middle Eastern Finance and Management*, 14(5), 908-927.
- Sever, C., Goel, R., Drakopoulos, D., & Papageorgiou, E. (2020). Effects of emerging market asset purchase program announcements on financial markets during the COVID-19 pandemic.
- Yang, Y., & Zhang, J. (2021). Effects of monetary policy on the exchange rates: A time-varying analysis. *Finance Research Letters*, 43, 102114.