

# On-Linearity between Exchange and Prices in Brazil and Implications for an Economic Development Strategy: Perspective

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## Description

Among the various monetary policy transmission channels, the exchange rate stands out as one of the most important, which has been widely documented in the Brazilian economic literature in recent decades? In fact, after the change to the floating exchange rate regime and the respective introduction of the Inflation Targeting Regime (RMI) in Brazil in mid-1999, the exchange rate showed considerable variability, reaching more than R \$ 4.00, as in 2002 and 2015, for example, or even close to R\$ 1.50, as occurred in the years 2007 and 2011. In response to domestic events with emphasis on changes in the basic interest rate in compliance inflation targets either due to external shocks, changing perceptions about the direction of the economy generally implied greater or lesser willingness for foreign capital to enter, especially in the short term, contributing to the volatility of this fundamental price of the Brazilian economy.

The issue to be highlighted, however, is that these different exchange rate trajectories play a central role in explaining the variation in domestic prices. However, despite the consequences of exchange rate variation being a topic of interest, in particular, the estimation of the so-called exchange rate pass-through coefficient, or pass-through of the exchange rate, which measures the effects of changes in the domestic currency price on the level prices, much less attention has been given to the phenomenon of non-linearity, that is, how different levels of the domestic currency (appreciation / depreciation) interfere in the inflation trajectory in the country. Non-linearity, in this sense, sheds light on more complex issues, which can help in understanding the conduct of domestic macroeconomic policy and its main results, which now have an ally (or an obstacle) in meeting the stipulated goals in the exchange rate by the Monetary Authorities.

The realization of this phenomenon makes the discussion move to a broader area, covering issues such as the importance of adopting exchange rate management mechanisms, not only with the objective of keeping inflation within the target, but, above all, to place this fundamental "price" at levels consistent with the needs of a developing economy, as is the case in Brazil. Regarding this

discussion, it is worth mentioning that, in recent years, particularly after the international financial crisis triggered in 2008, several economies developed and developing convinced of the limits of some macroeconomic policies considered by the mainstream to promote growth and stability, as is the case with financial liberalization, turned to the adoption of disciplinary mechanisms for international capital flows, in order to promote stable economic growth.

Brazil, however, remained separated from this debate, keeping intact the fundamentals that drive macroeconomic policy, since 1999. In light of this observation, the objective of the article is to carry out an empirical analysis of the conduct of monetary policy based on a Markov model Switching Vector Autoregressive (MS-VAR) or Autoregressive Vectors with Markov Chains, in search of evidence of the non-linearity of the relationship between exchange and prices in Brazil. The aim is to verify whether there are regime changes in monetary policy and whether, as a result, different behaviors from the economy are taking place. The idea is to further investigate whether, due to such non-linearity, central variables for the conduct of monetary policy interest rate, exchange rate, inflation and level of economic activity are subject to regime changes since the adoption of the RMI in 1999.

The research was structured as follows: after this introduction, the second section presents a theoretical discussion and also descriptive statistics on the relationship between exchange and prices in the Brazilian economy from the RMI. In the third section, the methodology and database used to investigate the hypothesis of the non-linearity of the relationship between exchange and prices in Brazil were presented, using the Markov Switching Vector Autoregressive (MS-VAR) models. Then, in the fourth section, the estimates and discussion of the results found were brought up. In the fifth section, there was a discussion on the conduct of exchange rate policy in Brazil, as well as the relationship between exchange rate and inflation and exchange rate and economic development.

## Conclusion

Finally, the final considerations of the work are presented, stating that the evidence of non-linearity suggested by the present research

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points to the need for a reassessment of the macroeconomic policy that has been adopted in Brazil, with emphasis on the effects on the path of the rate exchange rate, as one of the obstacles to growth and stability in recent decades.

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