



Shahid Chamran
University of Ahvaz

Quarterly Journal of Quantitative Economics

Journal Homepage:

www.jqe.scu.ac.ir

Print ISSN: 2008-5850

Online ISSN: 2717-4271



The Effect of cross-over effect of positive and negative monetary regimes on the incomplete and asymmetric Degree of Exchange Rate Pass-Through with: NARDL and Markov-switching Method

Ebrahim Anvari *, Parastoo Moradi, ** Seyed Aziz Arman***

* Associate Professor of Economics, Faculty of Economics and Social Sciences, Shahid Chamran University of Ahvaz, Ahvaz, Iran (Corresponding Author)

Email: e.anvari@scu.ac.ir

 [0000-0002-6050-8645](https://orcid.org/0000-0002-6050-8645)

Postal address: Golestan, Faculty of Economics and Social Sciences, Shahid Chamran University of Ahvaz, Ahvaz, Iran

** MSC. Economic Science, Faculty of Economics and Social Sciences, Shahid Chamran University of Ahvaz, Ahvaz, Iran

Email: pmoradi857@gmail.com

*** Professor of Economics, Faculty of Economics and Social Sciences, Shahid Chamran University of Ahvaz, Ahvaz, Iran

Email: saarman@scu.ac.ir

ARTICLE HISTORY

Received: 07 March 2021

revision: 09 August 2021

acceptance: 17 September 2021

JEL

CLASSIFICATION

E52, C10, F30

KEYWORDS

degree of exchange rate pass-through, monetary regimes, Markov-switching NARDL

Acknowledgments: Acknowledgments may be made to individuals or institutions that have made an important contribution.

Conflict of Interest: The authors declare no conflict of interest.

Funding: The authors received no financial support for the research, authorship, and publication of this article.

How to Cite:

Anvari, Ebrahim, Moradi, Parastoo, Arman Seyed Aziz. (2024). The Effect of cross-over effect of positive and negative monetary regimes on the incomplete and asymmetric Degree of Exchange Rate Pass-Through with: NARDL and Markov-switching Method. *Quarterly Journal of Quantitative Economics (QJE)*, 21(2), 127-158. [in persian]

 [10.22055/QJE.2021.36717.2351](https://doi.org/10.22055/QJE.2021.36717.2351)



© 2024 Shahid Chamran University of Ahvaz, Ahvaz, Iran. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0 license) (<http://creativecommons.org/licenses/by-nc/4.0/>)

EXTENDED ABSTRACT

INTRODUCTION

Exchange rate pass-through and factors affecting on that measures extent and degree of impact on prices of through the exchange rate. in the literature, two channels for the exchange rate pass-through distinguished: the direct channel and the indirect channel. Of the factors affecting the degree of exchange rate pass-through, monetary shocks can be point. Monetary base change in iran are very frequency and this frequency leads to price index and exchange rate volatility.

METHODOLOGY

The main objective of this study, is to investigate the effects of monetary regimes on exchange rate pass-through in Iran during 1986-2017. For this purpose, first are extracted by using Markov-switching method monetary supply regimes. Based on the results of the money supply behavior model, it was divided in to two regimes, the first regime being the positive money supply regime and the second regime the negative money supply regime. Then by defining two virtual variables for each of the monetary regimes, the cross-over effect of these variables along with variables such as the Degree of Commercial liberalization, oil prices and positive and negative exchange rate shocks using the nonlinear autoregressive distribution lag (NARDL) method on consumer price index in the short run and long run has been studied. nonlinear autoregressive distribution lag (NARDL) method which gives more merits over linear ARDL approach.

FINDINGS

Since in recent years, many economic and political factors have caused the exchange rate to undergo many changes that were not necessarily directional, considering the symmetrical effects of non-directional exchange rate changes has led to a shift in recognizing the effects of these different changes on others. Becomes macroeconomic variables. The present study provides a more accurate explanation of the short run and long run effects of exchange rate shocks on the consumer price index in iran by separating the positive and negative exchange rate shocks using the nonlinear autoregressive distribution lag (NARDL) method.

CONCLUSION

The empirical results study showed in economics of Iran degree of exchange rate pass-through on consumer price index in short run and long run is incomplete and asymmetric. Also pasitive and negative monetary regimes in short run and long run have asymmetric effect on degree of exchange rate pass-through on consumer price index . Positive monetary regimes in short run and long run have positive and significant effect on degree of exchange rate pass-through consumer price index, negative monetary regimes in short run with one interruptions negative and significant effect and in long run have been a negative and significant effect on this. Also variable Degree of Commercial liberalization in short run and long run have a negative and significant impact on degree of exchange rate pass-through consumer price index and oil price variable have a positive and significant impact on degree of exchange rate pass-through consumer price index.

Reference

- Alam, M.I. & Quazy, R.M. (2003). Determinant of Capital Flight: An Econometric Case Study of Bangladesh. *Review of Applied Economics*, Vol. 17, 85-103.
- Albaji, Y., Azarbayjani, K., & Daei-Karimzadeh, S. (2024). The Response of Iranian Economy to Monetary and Exchange Rate Policies Shocks Base on the Foreign Sector: A Dynamic Stochastic General Equilibrium Analysis. *Quarterly Journal of Quantitative Economics (JQE)*, 20(4), 1-37. doi: 10.22055/jqe.2021.33852.2255 [In Persian]

- Ang, J.B. (2007). Co₂ Emissions Energy Consumption, and Output in France. *Energy Policy*, Vol. 35, 4772-4778.
- Arron, J. Farrel, G. & Muellbauer, J. (2010). Exchange Rate Pass-Through and Monetary Policy in South Africa. *CEPR Discussion Paper No. DP8153*.
- Arslaner, F., Karaman, D. Arslaner, N. & Hilmikal, S. (2014). The Relationship between Inflation Targeting and Exchange Rate Pass-Through in Turkey with a Model Averaging Approach. *Working Paper*, No: 14/16.
- Asgharpour H., Kazerooni, A. & Mirani, A. (2015). The Impact of Inflationary Environment on Exchange Rate Pass- Through to the Import Price Index in Iran. *Quarterly Journal of Applied Theories of Economics*, 2(2), 155-178.
https://ecoj.tabrizu.ac.ir/article_4343.html?lang=en. [In Persian]
- Asgharpour, H. & Mahdilo, A. (2014). The Impact of Inflationary Environment on Exchange Rate Pass- Through on Import Prices in Iran: Markov–Switching Approach. *qjerp*; 22 (70) :75-102. <http://qjerp.ir/article-1-758-fa.html> [In Persian]
- Asgharpour, H. (2006). *Asymmetric Effects of Monetary Shocks on Production and Prices in Iran*. PhD Dissertation in Economics, Faculty of Humanities and Social Sciences, Tarbiat Modares University. [In Persian]
- Asgharpour, H., sojoodi, S., & Aslani Nia, N. M. (2011). Exchange Rate Pass-Through to Non-oil Export Price of Iran. *The Economic Research (Sustainable Growth and Development)*, 11(3), 111-134. Retrieved from <http://ecor.modares.ac.ir/article-18-4024-en.html> [In Persian]
- Balcilar, M. Roubaud, D. Usman, O. & Wohar, M.E. (2020). Testing the Asymmetric Effects of Exchange Rate Pass-Through BRICS Countries: Does the State of the Economy Matter?. *The World Economy*. 44(1), 188-233.
- Banerji, A. Dolado, J. Galbraith, J.W. & Hendry, D. (1993). Cointegration, Error Correction, and the Econometric Analysis of Non-Stationary Data. Oxford University Press.

- Choudhri, E. & Hakura, D. (2003). Exchange Rate Pass-Through to Domestic Prices: Does the Inflationary Environment Matter?. *Journal of International Money and Finance*, Vol. 25, 614-639.
- Dahem, A. & Guermazi, F. (2016). Exchange Rate Pass-Through and Monetary Policy in Transition Economy Evidence from Tunisia with Disaggregated VAR Analysis. MPRA Paper No. 74179.
- Ebrahimi, S. & madanizadeh, S.A. (2016). Changes in Exchange Rate Pass-Through in Iran. *Quarterly Journal of Applied Economics Studies*, 5(18), 147-170. <https://doi.org/10.22084/aes.2016.1498>. [In Persian]
- Eniekezimene, A. F. & Nathan, E. (2021). Exchange rate pass-through to Consumer Prices in Nigeria. *Journal of Global Economics and Business*, 5, 1-16.
- Flamini, A. (2007). Inflation Targeting and Exchange Rate Pass-through. *Journal of International Money and Finance*, 26(7), 1113-1150.
- Frimpong, S. & Adam, A. (2010). Exchange Rate Pass-Through in Ghana. *International Business Research*, 3, 186-192. <https://doi.org/10.5539/ibr.v3n2p186> 10.5539/ibr. V3n2p186.
- Goldberg, P. K. & Knetter, M. M. (1997). Goods Prices and Exchange Rates: What have we learned?. *Journal of Economic Literature*, 35 (3), 1243-1272.
- Gueorguiev, N. (2003). Exchange Rate Pass-Through in Romania. IMF Working Paper Series: 1-30.
- Heijdra, B. J. (2009). *Foundations of Modern Macroeconomics*. Oxford University Press.
- Kabundi, A. & Mlachila, M. (2018). The Role of Monetary Policy Credibility In Explaining The Decline In Exchange Rate Pass-Through In South Africa. *Economic Modelling*.79,173-185.
- Kahn, G. A. (1987), Dollar Depreciation and Inflation. Federal Reserve Bank of Kansas City, *Economic Review*, 72 (9), 32-49.
- Kazerooni, A., Salmani, B. & Feshari, M. (2012). The Impact of Exchange Rate Volatility on the Exchange Rate Pass-Through in Iran (TVP Approach). *Quarterly Journal of Applied Economics Studies*, 1(2), 85-114. 20.1001.1.23222530.1391.1.2.4.8. [In Persian]

- Krolzing, H. M. (1997). Markov Switching Vector Auto Regressions Modelling. Statistical Inference and Applications to Business Cycle Analysis. Springer Berlin.
- Lopez-Villavicencio, A. & Mignon, V. (2017). Exchange Rate Pass-Through In Emerging Countries, Do The Inflation Environment, Monetary Policy Regime and Central Bank Behavior Matter?. *Journal of International Money And Finance*, 79, 20-38.
- Mashhadizadeh, F., Pirae, KH., Akbari Moghaddam, B. & Zare, H. (2022). Monetary Policy and Commodity Terms of Trade Shocks. *Quarterly Journal of Quantitative Economics (QJE)*, 19(1), 29-52. [In Persian]
- McCarthy, J. (2000). Pass-Through of Exchange Rates and Import Prices to Domestic Inflation in Some Industrialized Economies. Staff Report, Federal Reserve Bank of New York, No.111.
- Mirdala, R. (2014). Exchange Rate Pass-Through to Domestic Prices Under Different Exchange Rate Regimes. William Davidson Institute Working papers Series wp 1070.
- Narayan, P.K. & Narayan, S. (2004). Estimating Income and Price Elasticitys of Imports for Fiji in a Cointegration Framework. *Economic Modeling*, Vol.22, 423-438.
- Nasr Esfahani, R. & Yavari, K. (2003). The Effects of Nominal and Real Variables on Inflation in Iran. *Iranian Journal of Economic Research*, 5(16), 69-99. https://ijer.atu.ac.ir/article_3861.html. [In Persian]
- Obstfeld, M. (2002). Inflation-Targeting, Exchange-Rate Pass-Through, and Volatility. *American Economic Review*, 92(2):102-107.
- Parsley, D.C. & Popper, H.A. (1988). Exchange Rates, Domestic Prices, and Central Bank Actions: Recent U.S. Experience. *Southern Economic Journal*, 64 (4), 957-972. P.
- Psaradakis, Z. & Spagnolo, N. (2003). on the Determination of the Number of Regimes in Markov-switching Autoregressive Models. *Journal of time Series Analysis*, 24, 237-252.
- Qadiri Asl, B. (2011). *General Economics*. Sepehr Publication. [In Persian]
- Rahimi, R. & Khodavaisi, H. (2019). The Role of Monetary Policy Credibility on the Exchange Rate Pass-through during the Process

- of Globalization. *Journal of Economics & Modelling*, 10(1), 37-64. 10.29252/ECOJ.10.1.37. [In Persian]
- Romer, D. (1993). Openness and Inflation: Theory and Evidence. *Quarterly Journal of Economics*, 4, 869-903.
- Sahminan. (2002). *Exchange Rate Pass-Through into Import Prices: Empirical Evidences from Some Southeast Asian Countries*, The University of North Carolina at Chapel Hill, Working paper.
- Samadi, A., Sohrabi, R. & Khazaei, M. M. (2011). Identifying Behavioral Biases Affecting the Decision Making of Individual Shareholders in Buying and Selling Shares in the Hamadan Regional Stock Exchange. *Journal of Industrial Strategic Management*, 28,85-100. <https://www.sid.ir/paper/151517/fa>. [In Persian]
- Sowah, A.N. (2009). Exchange Rate Pass-Through and Monetary Regime in Developing and Emerging Economies: Is There a Link? Ph.D. thesis, Clark University, *Department of Economics*, 1-154.
- Suri, A. (2015). *Econometrics* (advanced), 2ed. Tehran: Farhang shenasi. [In Persian]
- Tamizi, A.R. (2014). Analysis of Exchange Rate Pass-Through on export prices in Iran and the Impact inflation, and openness on It. *Quarterly Journal of Quantitative Economics (JQE)*, 11(3), 61-79. https://jqe.scu.ac.ir/article_11855.html. [In Persian]
- Tayebi, S.K., Nasrollahi, K., Yazdani, M. & Malekhosseini, S.H. (2015). Analyzing the Effect of Exchange Rate Pass- Through on Inflation in Iran (1991-2012). *Iranian Journal of Economic Research*, 20(63),1-36. <https://doi.org/10.22054/ijer.2015.4089>. [In Persian]
- Tayyebi, S.K. & Torki, L. (2011). The Effect of Financial Liberalization on the Fluctuations of the Exchange Rate Transfer Effect in Selected Developing Countries. *Journal of Economic Research*, 10(4), 39-57. https://joer.atu.ac.ir/article_2731.html?lang=fa. [In Persian]
- The Central Bank of the Islamic Republic of Iran, banking System and Five-year economic development plans. <https://www.cbi.ir/page/2721.aspx>. [In Persian]
- Toutouchian, I. (1996). *Money Economy and Banking*. Tehran: Monetary and Banking Research Institute. [In Persian]