

**भारतीय रिज़र्व बैंक**  
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**DRG Study No. 49: Anatomy of Price Volatility Transmission in Indian Vegetables Market**

Today the Reserve Bank of India released on its website the DRG Study<sup>1</sup> titled, "[Anatomy of Price Volatility Transmission in Indian Vegetables Market](#)". The study is co-authored by Pujja Padhi, Himani Shekhar and Akanksha Handa.

The study investigates the horizontal and vertical volatility transmission for three key vegetables *viz.*, tomato, onion and potato (TOP). Horizontal volatility transmission relates to transmission from one vegetable to another, while vertical volatility transmission implies transmission across the supply chain *i.e.*, between wholesale and retail prices. The study is based on daily wholesale and retail prices of these vegetables for the period from January 2011 to March 2021 taken from the Department of Consumer Affairs (DCA). The study uses the Baba-Engle-Kraft-Kroner (BEKK) Generalised Autoregressive Conditional Heteroskedasticity (GARCH) model and Dynamic Conditional Correlation (DCC) model for analysing volatility transmission across vegetables *i.e.*, (horizontal transmission) and across their supply chains (*i.e.*, vertical transmission). The key findings from the study are as follows:

- Horizontal price volatility transmission across vegetables can be seen from tomato to onion and potato, in both retail and wholesale markets.
- While the volatility transmission between the wholesale and retail prices is unidirectional from wholesale to retail prices in the case of onion and tomato, it is bi-directional in the case of potato, reflecting the vertical transmission mechanism.
- The study does not find any evidence of a significant differential impact of positive or negative price volatility shocks (asymmetric effects) across these three vegetables in either wholesale or retail prices.

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Chief General Manager

<sup>1</sup> Development Research Group (DRG) has been constituted in Reserve Bank of India in its Department of Economic and Policy Research to undertake quick and effective policy-oriented research backed by strong analytical and empirical basis, on subjects of current interest. The DRG studies are the outcome of collaborative efforts between experts from outside Reserve Bank of India and the pool of research talent within the Bank. These studies are released for wider circulation with a view to generating constructive discussion among the professional economists and policy makers. DRG studies are published on RBI website only and no printed copies will be made available.