CAFRAL
CENTRE FOR ADVANCED FINANCIAL RESEARCH AND LEARNING
Promoted by Reserve Bank of India

Open Payment Infrastructure and Market Participation: The Role of Interoperability in Financial Inclusion

Executive Summary

This study examines how the design of payment infrastructures shapes financial market participation, focusing on India's Unified Payments Interface (UPI). Introduced in 2016, UPI is an open and interoperable platform that allows seamless transactions across banks, fintechs, and investment platforms. Unlike closed systems that create institutional silos, UPI's architecture provides equal access to all participants, thereby transforming the landscape of financial services.

Using detailed data on 19.8 million retail investors between 2015 and 2020, the paper shows that regions with greater exposure to UPI-adopting banks witnessed significant increases in stock market participation. Specifically, a one standard deviation rise in UPI exposure led to 6.1 percent more transactions and 8.6 percent more active investors. These effects represent genuine new entry into financial markets rather than mere reallocation across regions. Importantly, comparisons with closed digital systems such as the State Bank of India's YONO demonstrate that it is UPI's interoperability, not just digitization, that drives these outcomes.

The research identifies four mechanisms through which UPI expands market access. By reducing transaction frictions, it enables investors to respond quickly to market events. By lowering entry barriers, it allows small investors to participate with modest sums. By generating network externalities, it encourages adoption in digitally advanced regions. Finally, by fostering financialization of savings, it channels resources from cash-intensive areas into formal investment markets. Together, these mechanisms reveal how open infrastructures not only reduce costs but also reshape the incentives and behaviors of market participants.

Yet, democratization through UPI is not without risks. The study finds that small investors exposed to UPI often exhibit riskier behavior, including reduced diversification, higher trading frequency, and negative long-term excess returns. Thus, while access has expanded, the quality of participation raises concerns about financial stability and household welfare.

The findings hold strong implications for global policymakers considering the design of next-generation payment systems. India's experience illustrates that open architectures can powerfully promote financial inclusion and competition, but they also necessitate complementary safeguards such as investor education, risk management tools, and regulatory oversight. As countries weigh whether to build open, interoperable infrastructures or rely on closed, proprietary platforms, this research highlights that the choice of architecture has economy-wide consequences for market structure, financial inclusion, and systemic stability.