

DIGITAL PAYMENTS AND WOMEN'S FINANCIAL INCLUSION IN INDIA

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ABSTRACT:

India has expanded both accesses to financial accounts and the infrastructure for low cost digital payments. This paper examines whether wider access can translate into meaningful financial inclusion for women. It synthesizes published evidence from the World Bank Global Findex, the Reserve Bank of India, and research on digital public infrastructure. A simple economic framework distinguishes account ownership, regular use, control over transactions, and access to savings and credit. The evidence shows substantial growth in account ownership and payment infrastructure, while inactivity, uneven digital access, and constraints on agency remain. Payment technology can lower transaction costs, but its benefits depend on reliable connectivity, digital skills, consumer protection, and women's control over devices and income. The paper proposes a measurement and policy agenda centered on effective use rather than registrations alone.

KEYWORDS: financial inclusion; digital payments; women; India; UPI; digital public infrastructure

1 INTRODUCTION

Financial inclusion is an economic question about access to useful, affordable, and safe financial services. Accounts can help households receive income, save for emergencies, and build a transaction history. Digital payment systems reduce the time and travel costs of moving money. Yet account ownership alone does not establish that a person can use an account independently or obtain suitable credit. This distinction is especially relevant for women whose access to phones, connectivity, paid work, and household decision making may differ from men's.

The World Bank's India brief reports that adult account ownership rose from 35 percent in 2011 to 78 percent in 2021 and found no gender gap in ownership at that point (Klapper et al., 2022). The same national finding does not imply equal use: World Bank analysis of the 2021 survey reports that 42 percent of women account owners and 30 percent of men account owners had inactive accounts (World Bank, 2022b). The contrast motivates the

central question of this paper: under what conditions does digital payment access improve women's effective financial inclusion?

2 OBJECTIVES AND METHOD

The objectives are to distinguish formal access from effective use; identify channels through which payments infrastructure may affect economic participation; assess barriers that limit women's gains; and propose indicators and policy priorities. This is a conceptual and secondary source review. It draws on published Global Findex findings, Reserve Bank of India publications, and studies of India's digital public infrastructure. It does not present original survey data, estimate a causal effect, or claim that observed changes result solely from UPI or any single policy.

Sources report different populations, definitions, and periods. The 2021 India Findex account statistic refers to adults, while RBI transaction statistics count payments rather than unique users. Aggregate payment growth therefore cannot establish how many women transact, whether they control the transactions, or whether welfare improved. Claims below are interpreted within these limits.

3 ANALYTICAL FRAMEWORK

3.1 From access to use

A useful sequence has four stages: ownership of an account; ability to initiate or receive a payment; repeated and autonomous use; and access to broader financial services such as savings, insurance, or credit. Progress at one stage does not guarantee the next. An account receiving a benefit payment may have economic value even if it is used infrequently, but inactivity can also signal weak utility or barriers to use. Measures should therefore record transaction purpose and user control alongside frequency.

3.2 Transaction costs and network effects

In economic terms, the adoption decision depends on the expected benefit of a payment instrument minus fees, travel, waiting time, learning effort, fraud risk, and failed transaction costs. Interoperable systems can lower the costs of receiving wages and transfers or paying merchants. As more payers and merchants participate, the value of joining the network can rise. India's digital public infrastructure combines identification, payments, and data exchange layers; an IMF study argues that complementarities between them can support wider markets and inclusion (Alonso et al., 2023). The size and distribution of any benefit remain empirical questions.

3.3 Agency and complementary inputs

The gains from an account depend on complementary resources: a phone available when needed, affordable data, a usable interface, knowledge of fraud prevention, and a trusted route to resolve errors. Intra household control also matters. A payment received into a woman's account may improve privacy or bargaining power if she controls the credentials and spending; it may confer less autonomy if another person controls her device or PIN. These mechanisms should be tested directly rather than inferred from account counts.

4 EVIDENCE FROM INDIA

The Global Findex 2025 was based on nationally representative surveys conducted in 2024 across 141 economies and includes measures of payments, phone ownership, connectivity, and digital safety (World Bank, 2025). Its

broader design illustrates why the next phase of inclusion research should connect financial indicators with the means and safety of digital access. The earlier India country brief establishes rapid expansion of account ownership by 2021 (Klapper et al., 2022).

The Reserve Bank reports that digital transaction volume in India grew at a compound annual rate of 52 percent from 2013–14 through 2023–24, while transaction value grew at 12 percent (RBI, 2024). These rates describe system activity across instruments, not women's participation. The RBI's National Strategy for Financial Inclusion 2019–2024 also emphasizes infrastructure, financial literacy, and customer protection as parts of inclusion (RBI, 2020). Together, the sources support a careful interpretation: the supply of digital payment options has expanded markedly, while evidence on individual outcomes must be gathered separately.

The documented difference in account inactivity among women and men in India's 2021 Findex data is a particularly important caution (World Bank, 2022b). Inactivity can reflect a lack of regular income, preference for cash, shared phones, distance from banking support, or other reasons; published aggregate figures do not identify which explanation dominates. A focused study would compare women by age, employment, rural residence, education, device ownership, and household decision making, while accounting for local merchant acceptance and connectivity.

5 IMPLICATIONS FOR ECONOMIC OUTCOMES

For workers and microenterprises, reliable digital receipts may reduce cash handling and create records of sales. These records could aid bookkeeping and, where consent and suitable products exist, access to formal finance. For transfer recipients, direct payment may reduce travel and waiting time. Such mechanisms are plausible, but a transfer of funds into an account does not itself establish greater consumption, enterprise profit, or bargaining power. Attribution requires a comparison group or a credible study design.

The distribution of benefits may be uneven. Where women rely on shared devices or intermittent connectivity, payment failure and dependence on intermediaries can impose additional costs. Fraud and mistaken transfers can erode trust, especially for users with small balances. Design choices therefore affect economic efficiency and equity together: clear confirmation, accessible complaint channels, local language support, and options that function under limited connectivity can change the net benefit of adoption.

6 POLICY AND RESEARCH AGENDA

First, public reporting should move beyond accounts opened and total transaction counts. Useful indicators include the share of women making a digital payment in the past year, independent access to a phone, active use by income group, unsuccessful transactions, complaints resolved, savings held, and formal borrowing on suitable terms. These should be disaggregated by sex, place, and socioeconomic status where privacy permits.

Second, financial and digital literacy initiatives should be tested for actual behavioral effects. Instruction should cover PIN privacy, payment confirmation, common fraud patterns, and complaint procedures, with support for first time users. Third, payment providers and policymakers should preserve accessible assisted channels and meaningful consumer recourse while improving low connectivity operation. Fourth, evaluations should measure women's control over funds, time saved, business outcomes, and resilience rather than treating a payment registration as an endpoint.

A feasible empirical design would follow a panel of women account holders and nonusers across areas with differing connectivity and merchant acceptance. Repeated measures of transaction behavior and agency, paired with a transparent identification strategy, would help distinguish the effect of payment access from simultaneous changes in income, employment, or social programs. The survey instrument should separately identify ownership, access to the device, credential control, and the person deciding how money is spent.

7 CONCLUSION

India's experience shows that large scale financial access and payments infrastructure can develop rapidly. The remaining economic question concerns effective and equitable use. Published evidence of high account ownership alongside differential inactivity underscores why registrations and aggregate transaction growth are incomplete measures of inclusion. Digital payments are most likely to benefit women when the underlying service is reliable and affordable, the user can act independently, and errors and fraud are addressed. Better sex disaggregated measures and credible evaluations are needed to establish the size of those benefits.

REFERENCES

1. Alonso, C., Bhojwani, T., Hanedar, E., Prihardini, D., Uña, G., & Zhabska, K. (2023). Stacking up the benefits: Lessons from India's digital journey (IMF Working Paper 23/78). International Monetary Fund. <https://www.imf.org/en/publications/wp/issues/2023/03/31/stacking-up-the-benefits-lessons-from-indias-digital-journey-531692>
2. Klapper, L., Miller, M., & Hess, J. (2022). The Global Findex Database 2021: India country brief. World Bank. <https://thedocs.worldbank.org/en/doc/4c4fe6db0fd7a7521a70a39ac518d74b-0050062022/original/Findex2021-India-Country-Brief.pdf>
3. Reserve Bank of India (RBI). (2020). National strategy for financial inclusion 2019–2024. https://www.rbi.org.in/commonman/Upload/English/Content/PDFs/English_16042021.pdf
4. Reserve Bank of India (RBI). (2024). Report on currency and finance 2023–24: Trends in digital payments. <https://rbi.org.in/scripts/PublicationsView.aspx?id=22459>
5. World Bank. (2022b). Improving women's access to credit in India. <https://blogs.worldbank.org/en/allaboutfinance/improving-womens-access-credit-india>
6. World Bank. (2025). The Global Findex Database 2025: Connectivity and financial inclusion in the digital economy. <https://www.worldbank.org/en/publication/globalfindex/report>