



Open Banking and Inclusion in India

OCTOBER 14, 2024

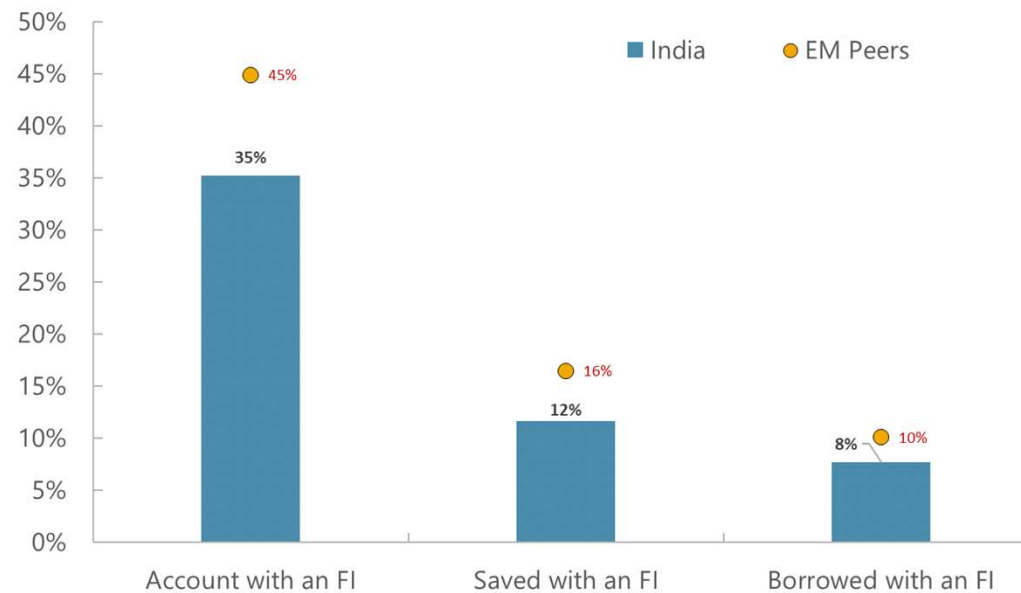
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The views here are those of the presenter and do not necessarily reflect those of the IMF management nor its executive board

INITIAL STATE: FINANCIAL INCLUSION 2011

Financial Services Access and Intermediation: India

(% age 15+, 2011)

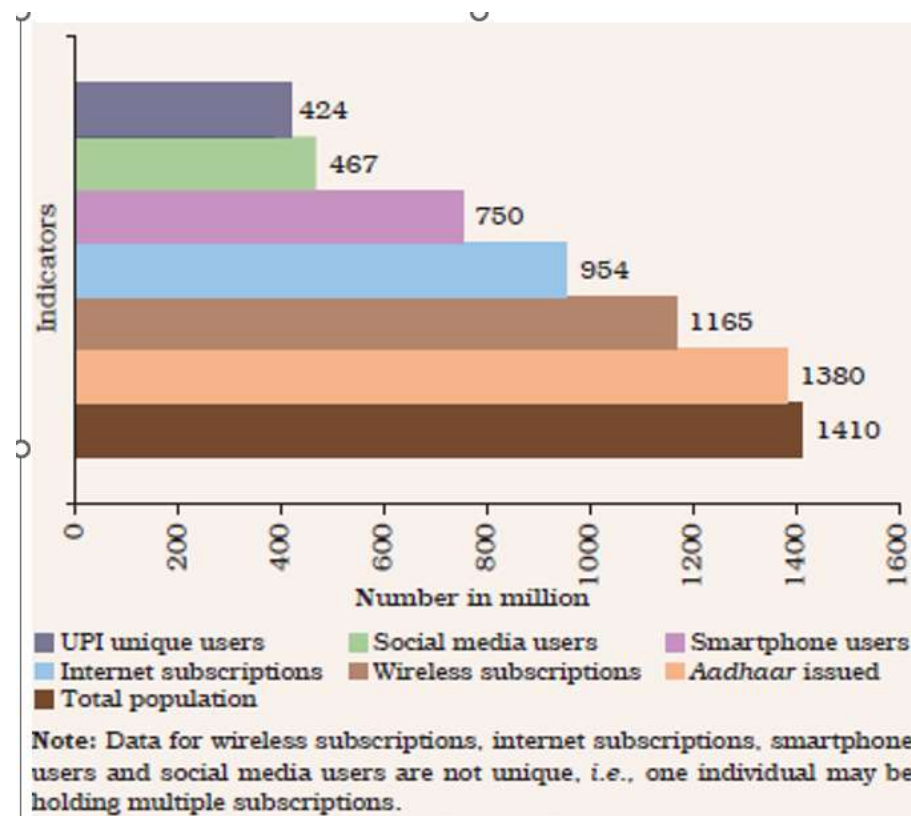


Sources: World Bank Global Findex Database

SOLUTIONS TO ENHANCE INCLUSION

- Digital ID
 - Banking access
 - Mobile banking
 - Unified payments interface
-
- INDIA STACK (red and adds)
 - paperless
 - consent management

DIGITAL UNDERPINNINGS IN INDIA

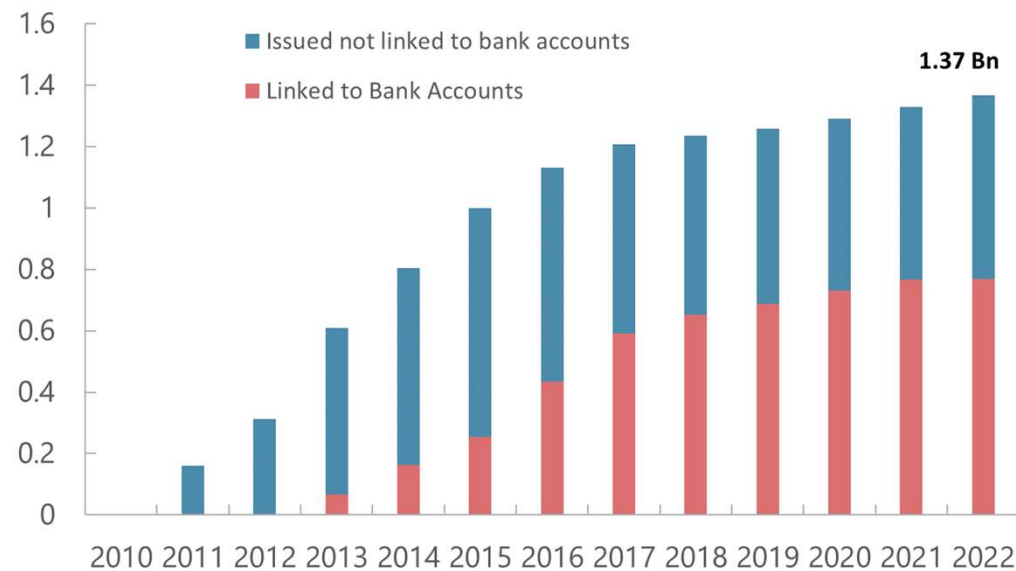


Source: Reserve Bank of India, 2024

DIGITAL ID AADHAR

Aadhar Digital ID Enrollment

(Number of Aadhars issued and linked to bank accounts, cumulative in billions)

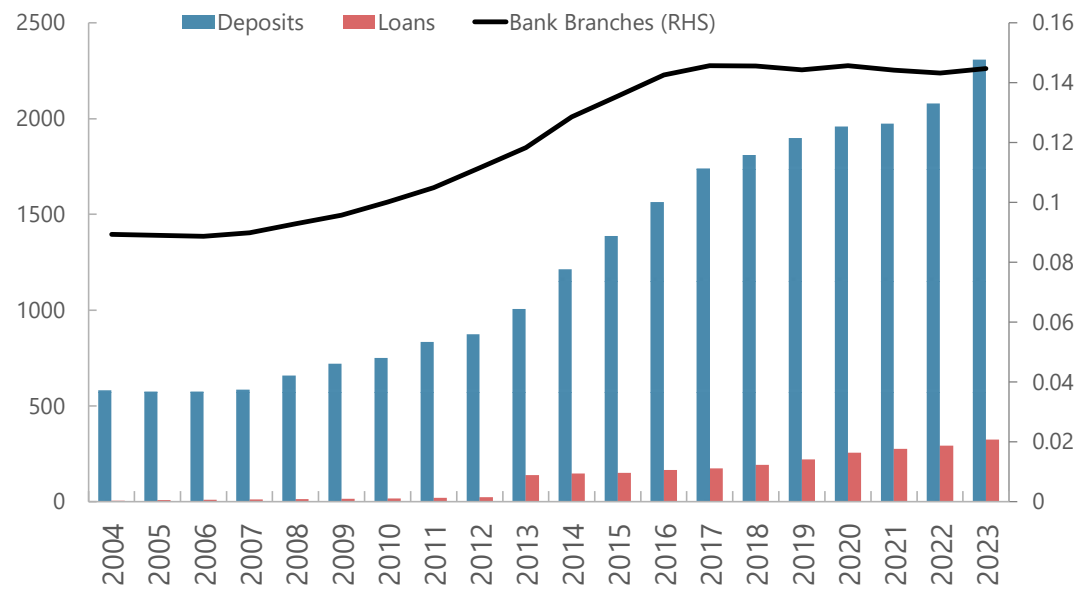


Sources: UAIDI

BANKING ACCESS EXPANSION

Bank Availability and Activity

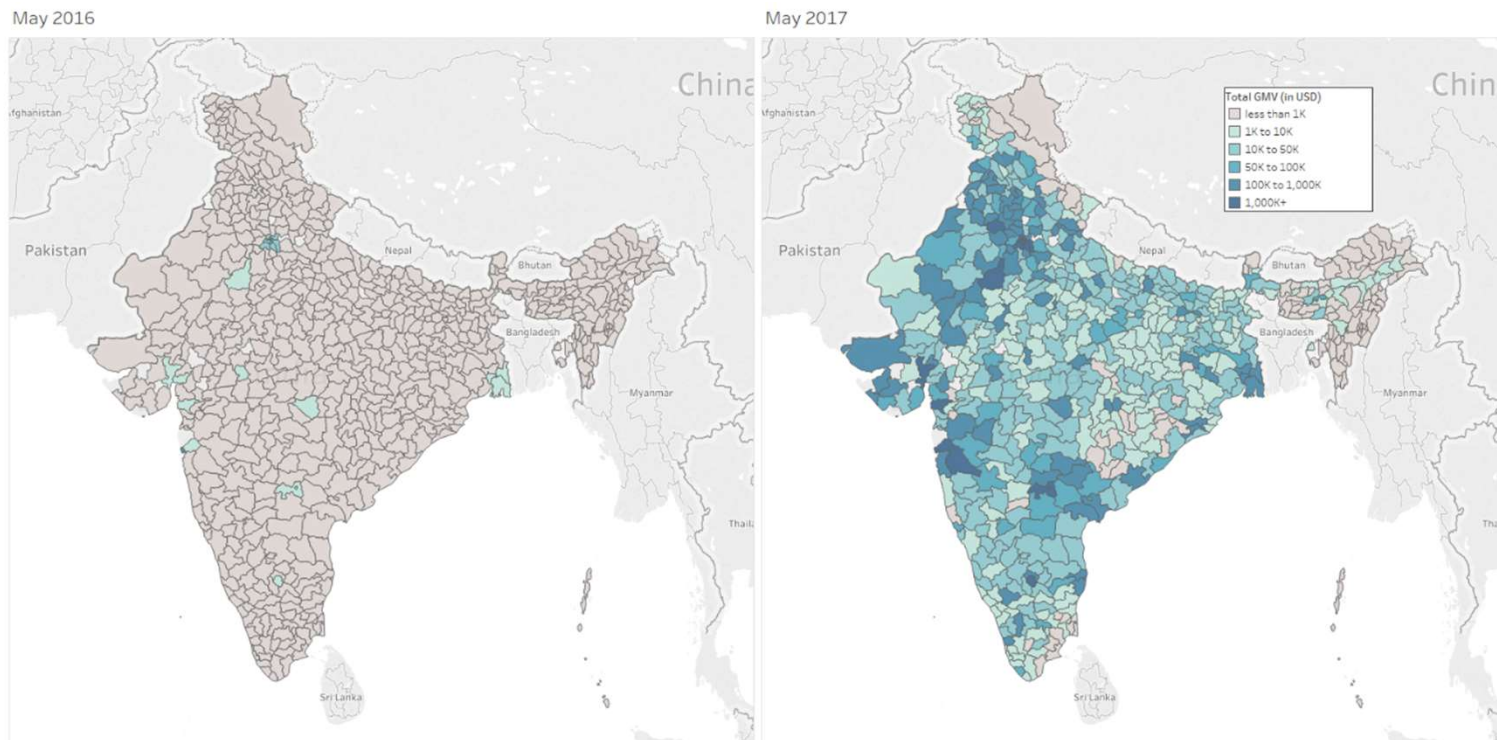
(Number of accounts and bank branches per 1,000 adults)



Sources: FAS

MOBILE PAYMENTS AND DEMONETIZATION

Growth of Mobile Payment Use Across Districts in India
Total Gross Transaction Value (in U.S. dollars)

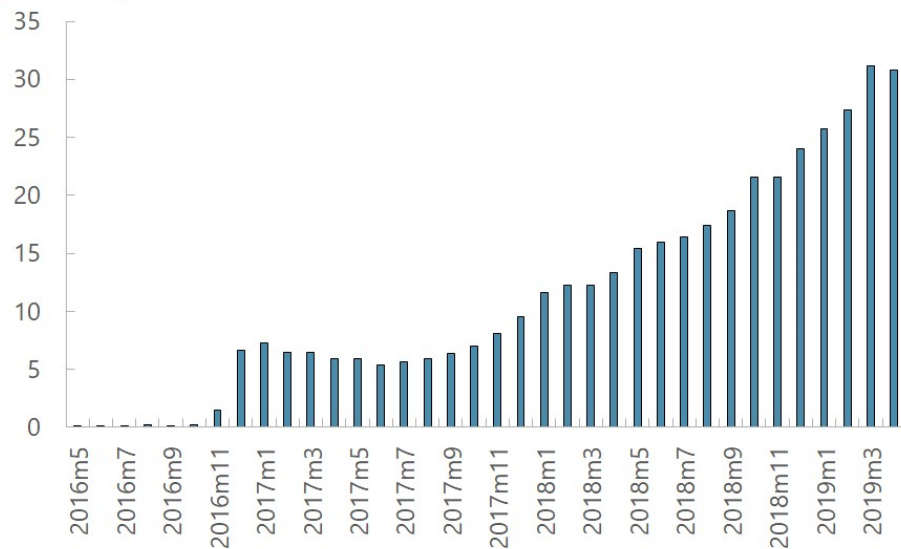


Source: Patnam and Yao 2019

PAYTM USAGE POST-DEMONETIZATION

Total Customers using PayTM

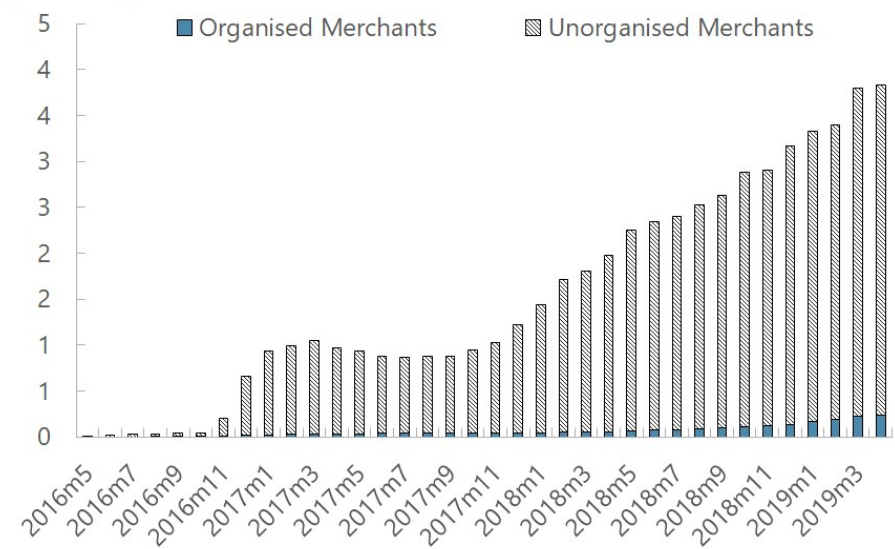
(in millions)



Source: Patnam and Yao 2019

Total Merchants using PayTM

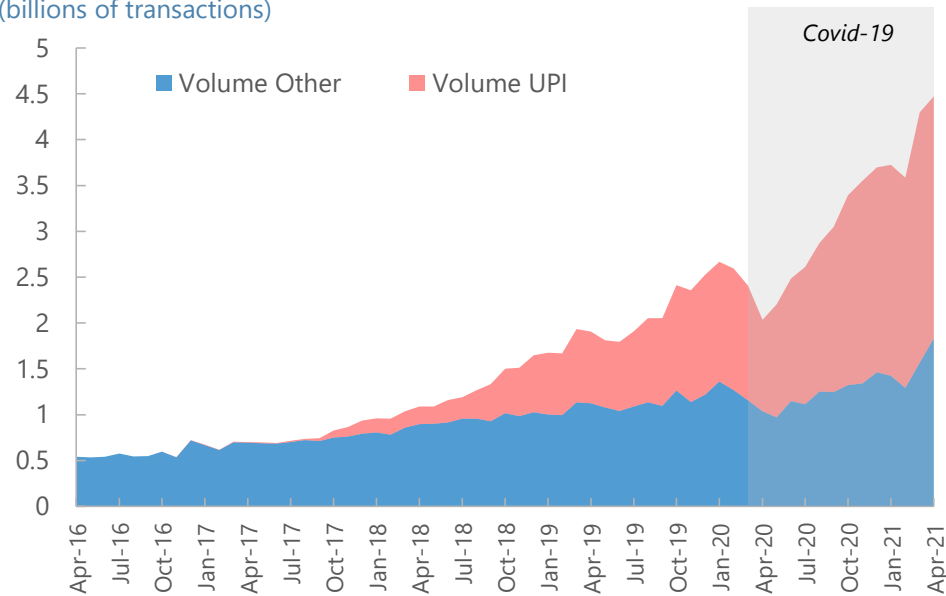
(in millions)



UPI TAKEOFF

Volume of Retail Payments in India

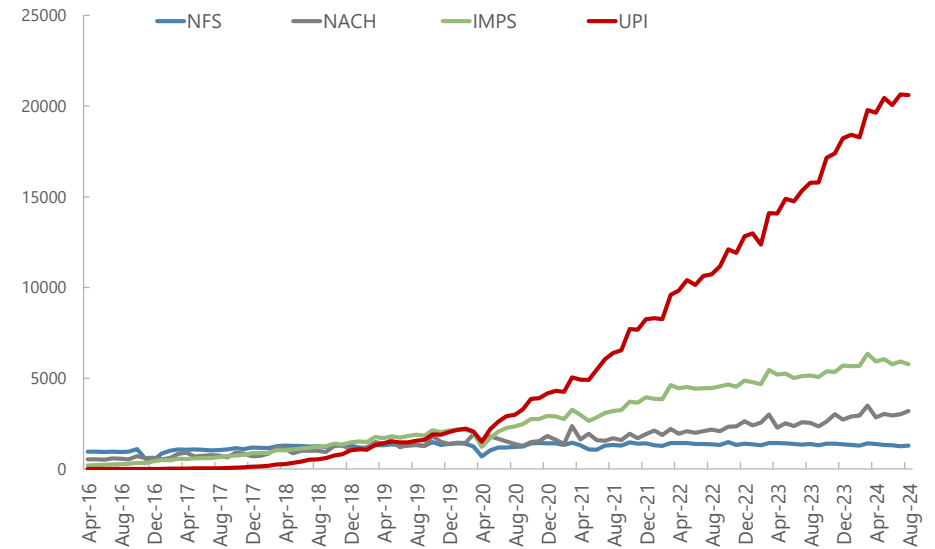
(billions of transactions)



Sources: National Payments Corporation of India

NPCI Retail Financial Transactions

(Value, rupee billions)

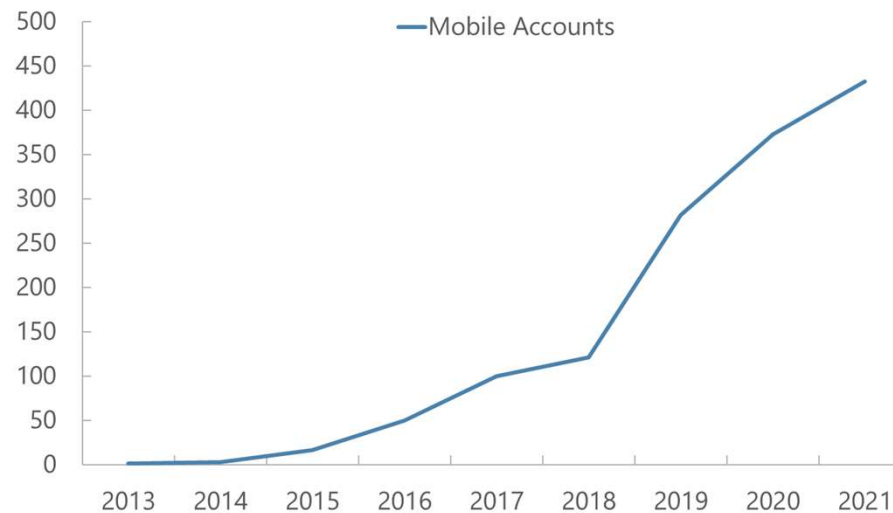


Sources: NPCI

OVERALL SHARP INCREASE IN MOBILE BANKING

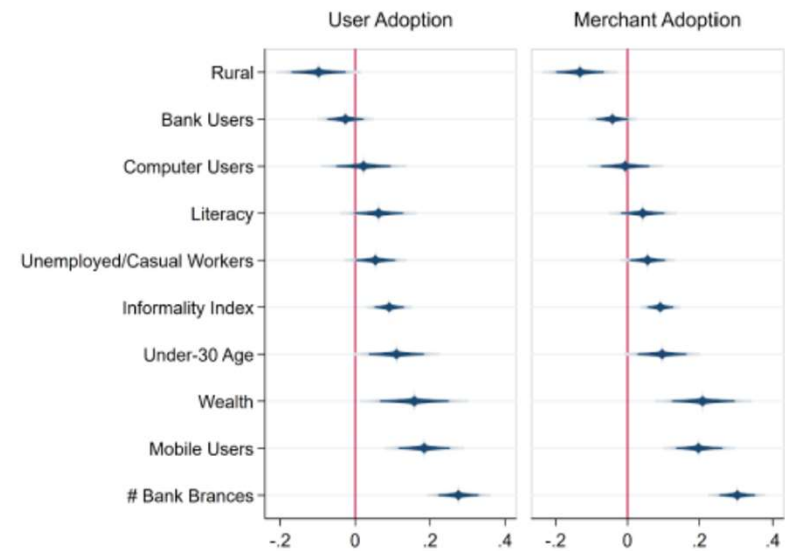
Bank Mobile Technology Diffusion

(Mobile accounts per person (Index: 2017=100))



Sources: IMF FAS

Determinants of Mobile Money Adoption in India

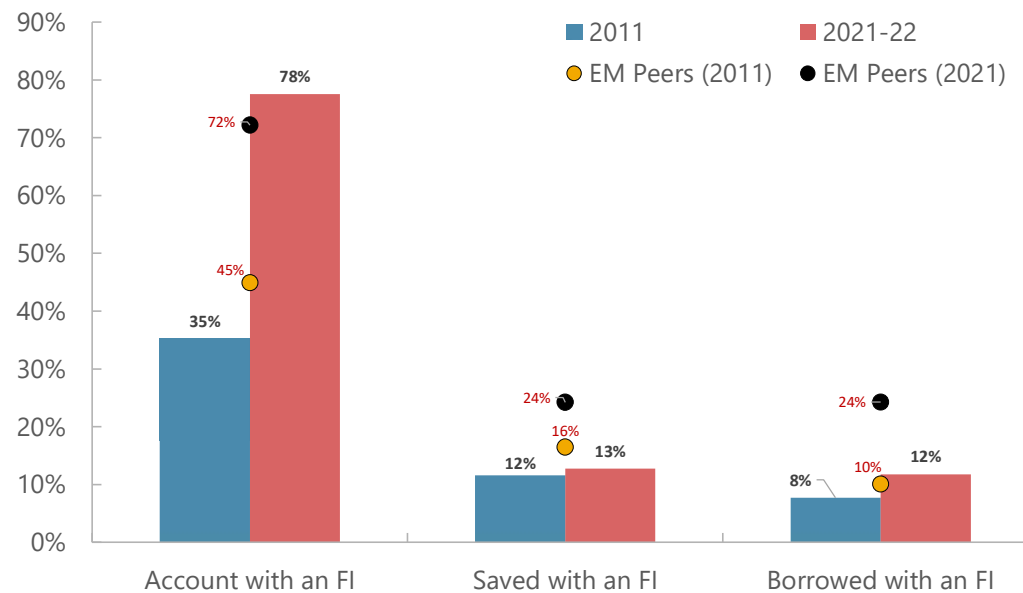


This figure plots the standardized effects from a regression exploring the determinants of user and merchant/firm adoption. Data Source for the explanatory variables are: 1) Census 2011: Rural; Computer Users; Literacy; Unemployed/Casual Workers; Under-30 Age; Mobile Users; 2) DHS Household Survey: Bank Users; Wealth; 3) Economic Census 2013: Informality Index; 4) RBI: # Bank Branches

Source: Patnam and Yao 2019

EFFECTS: FINANCIAL INCLUSION 2021-22

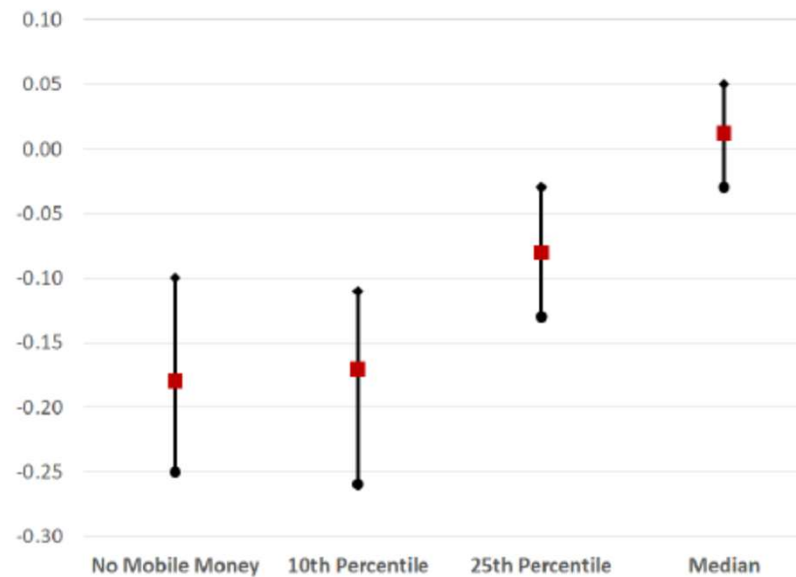
Financial Services Access and Intermediation: India (% age 15+)



Sources: World Bank Global Findex Database

EFFECTS: SHOCK MITIGATION

Risk Mitigation: Effect of Rainfall Shock by Intensity of Mobile Use

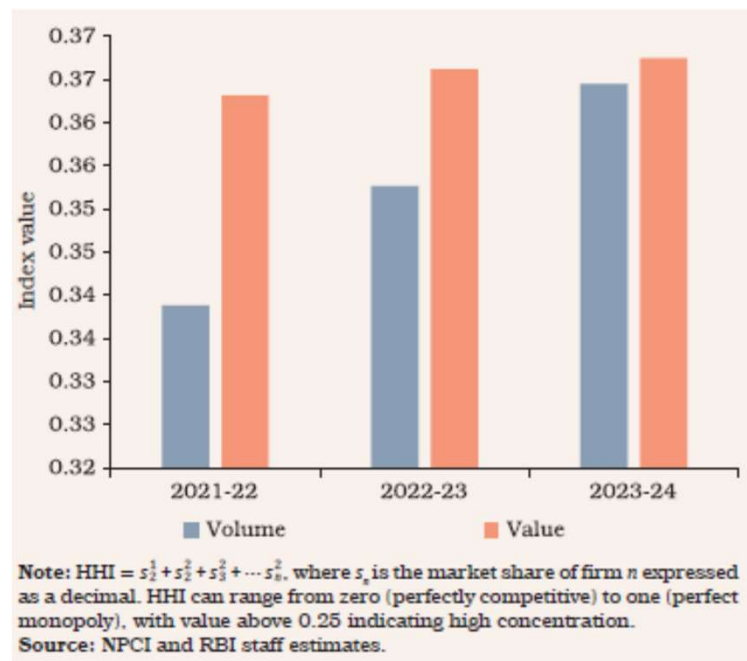


This figure plots the predicted marginal effects of rainfall shock at different cross-sectional percentile levels of a district's mobile money adoption (10th, 25th and 50th percentile together with no mobile adoption). The effects with their 95 percent confidence bands are reported in the graph.

Source: Patnam and Yao 2019

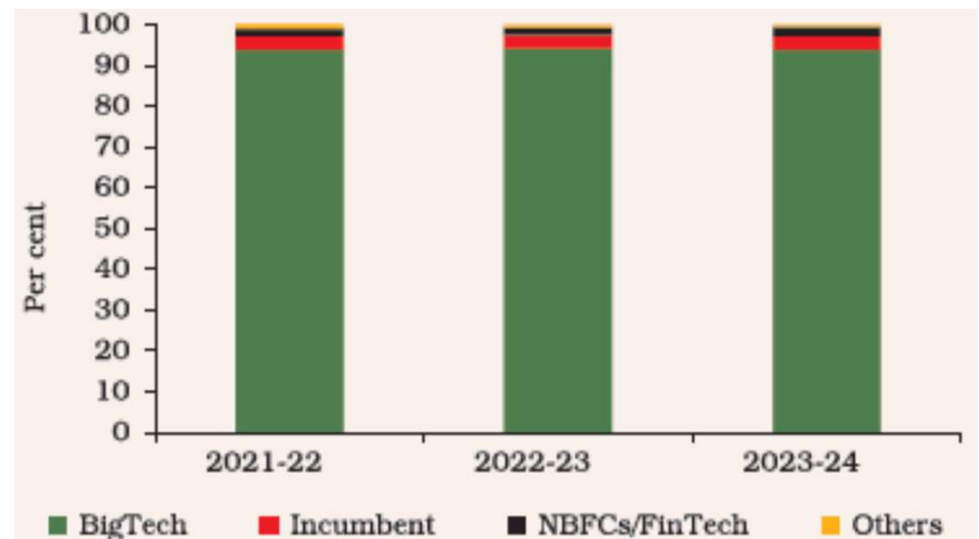
EFFECTS: MARKET STRUCTURE IN PAYMENTS

Concentration in UPI (HH-index)



Source: Reserve Bank of India, 2024

Bigtech share in UPI payments (value)



Source: Reserve Bank of India, 2024

DESIGN CHOICES AND DISCUSSION

- Foundational public architectures
 - Digital identity
 - Open APIs
 - NPCI
- Inter-operability and usage fees
- Financial regulation
- Market share caps
- Data governance
 - Privacy and control
 - Symmetry of data sharing mandate (finance vs bigtech)
 - Impact on credit extension vs closed bigtech payments model (e.g. China)

REFERENCES

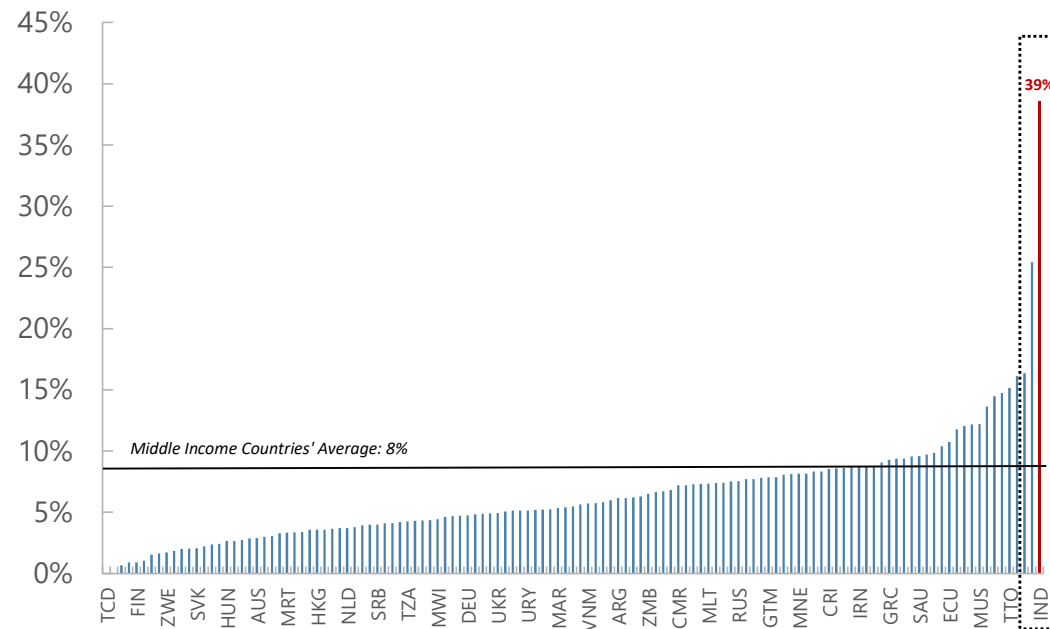
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- [“Open Banking and the Economics of Data;”](#) 2022, Chapter 7 in “Open Banking” Oxford University Press, with Y. Carriere Swallow and M. Patnam, IMF Working Paper No. 2020/138
- [“India’s Approach to Open Banking: Some Implications for Financial Inclusion;”](#) 2022, Chapter 11 in “Open Banking” Oxford University Press, with Y. Carriere and M. Patnam. [F&D.](#)
- [“India’s Approach to Open Banking: Some Implications for Financial Inclusion;”](#) 2021, with Y. Carriere Swallow and M. Patnam, IMF Working Paper No. 2021/052
- [“Toward a Global Approach to Data in the Digital Age;”](#) 2021, IMF Staff Discussion Note No. 2021/005 with Y. Carriere et al. See F&D [here](#) and blog [here](#).
- [The Real Effects of Mobile Money: Evidence from a Large-Scale Fintech Expansion, 2020,](#) M. Patnam and W. Yao; IMF Working Paper No. 2020/138
- [“The Economics and Implications of Data: An Integrated Perspective;”](#) SPR Department Paper, 2019, with Y. Carriere-Swallow.

BACKGROUND

HIGH RATE OF DORMANT ACCOUNTS (2018)

Financial Services: Inactivity

No deposit and no withdrawal from an account in the past year (% age 15+)



Sources: World Bank Global Findex Database