FinTech in India: present status and looming issues
A lecture for the FinTech course for the MBA program at Keio University, Tokyo

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27 September, 2019
Structure of this talk

- What is FinTech
- Governing framework: Information, Payments, Business models and the role of technology
- The FinTech industry in India
- Policy status, Looking forward
What is FinTech
Definition

- Financial Stability Board (2017):
  
  “...technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services.”

  (Emphasis added)

Same functions; New mechanisms of delivering finance.
Classifying financial functions and delivery

Traditional (FSB, 2017) –
1. payments, clearing and settlement
2. deposits, lending and capital raising
3. investment management and market support
4. insurance

FinTech (Schindler, 2017) –
1. distributed ledger technology
2. machine learning and online marketplace lending,
3. equity crowdfunding
4. insurance FinTech
5. robo-advice
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Key take-aways

- Goals of FinTech: Higher financial inclusion; competition to existing financial firms.

- How can competition make a material impact on existing financial firms?
  Through a focus on function vs. (institutional) form (Merton and Bodie, 2005)

- FinTech is about new business models that disrupt existing business models by:
  - Identifying functions in finance and
  - Uses technology to deliver functions separately
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Key take-aways: Advantages, Challenges

- Advantage #1: Delivery at lower cost, higher efficiency
- Advantage #2 (?): Higher diversification across traditional service providers → lower systemic risk.
  - Systemically important financial firm
  - Payment system capture
- Challenge #1: New sources of systemic risk
  - Lack of data protection
  - Systemic model failure → distortions in delivery (exacerbated financial exclusion)

Finance is critical to an economy.
But! Regulators worry greatly about challenges.

⇒ FinTech may face higher regulatory / policy risk.
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A framework to understand function vs. form in finance
What makes FinTech work

There are three main components where FinTech has an advantage over traditional finance:

- Payments systems
- Information systems
- Business models enabling transactions
Role of payment systems
Simplistic (non-cash) transaction

1. **CONSUMER**
   - Initiates payment transaction

2. **CONSUMER'S BANK**
   - Authorizes payment and forwards it for clearing

3. **CLEARING ENTITY**
   - Clear transactions between member banks' and forwards netted transactions for settlement

4. **SETTLEMENT ENTITY**
   - Settle funds in the settlement accounts of member banks and send credit/debit transaction information to member banks/clearing houses

5. **MERCHAND'S BANK**
   - Credit funds in merchant's account

6. **MERCHANT**
Transactions today

Payment Instruments:
- Credit/ Debit card
- Cash/ gift card
- Cheque/ draft
- Cash
- Mobile phone
- Laptop/ Computer

Payment Interfaces:
- PoS terminal
- Websites
- Internet/ mobile banking apps
- ATMs
- Cheque deposit system
- UPI
- Payment wallet

Payment Systems:
- NEFT
- RTGS
- NECS/ RECS/ ECS
- IMPS
- BBPS
- AEPS
- NACH
- NFS
- CTS

Customer → Payment Gateway Provider → Bank → Clearing House → Settlement Institution → Merchant

Customer → Telecom Company → Payment Card Network → Back-end Service Provider
Payment systems

Every (financial) transaction touches upon the payments system.

➤ First there was cash.

➤ Formal finance: accounts that could be debited by cheques. At first, only banks could issue cheques ← access to payment system.

➤ Innovation: Credit card companies access to payment systems, Money market mutual funds issuing cheques.

➤ Present day: digital wallets, cellphones as payment channels.

➤ Important for ease of transactions: (1) access to the payments system and (2) inter-operability across channels.

⇒ This is where the role of the State (policy) is important.

All this facilitates transactions, but not quite FinTech.
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Role of information
Information as input to finance

- Core of finance → contracts allowing counterparties to move funds to each other at different points in time.
  Example: credit (simple). Example: insurance (less simple).
- This requires trust. Trust requires information.
- When there is information asymmetry, finance cannot work well.
- Systems that generate information about contract performance help finance.
- How does this play out for FinTech?
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How does this play out for FinTech?
FinTech and information

- Technology has helped make transaction history transparent: for individuals and firms.
- Example: Online transactions → generate transaction history.
- Example: Online transactions → machine learning → prediction about preferences.
Technology + Payments + Information = …

- Technology platforms → small valued transactions → learning models about credit worthiness for new borrowers / entrepreneurs.

- Traditional models exist (Joint Liability Groups in the Micro Finance Industry) but technology allows speed and scale.

Enabling credit transactions that is supported by a new way of understanding credit potential?

FinTech!
Role of business models
The business model in FinTech

FinTech happens when all three elements described previously integrally involves a financial decision (credit/investment, risk management, advice about these).

To build it requires up-front investment.

- Technology needs to be built.
  
  *For what customer base? What scale? What is the required capability?*

- Payment systems interfaces to be built and need to be licensed.
  
  *Is direct access available? What is the cost of procuring licenses? What is the cost of interoperability?*

- Information systems need to be designed and purchased.
  
  *Is direct access available? What is the cost of procurement?*

Business models to achieve scale and permanence in FinTech.
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Business models to achieve scale and permanence in FinTech.
Business model concerns

**Business model viability:** what is the expected demand? what is the expected profit? under what conditions? what is the investment required? over what horizon? when can it become profitable? under what conditions – what are the business model risks?

who is the team?

**Regulatory concerns:** Is this business model possible under the laws and regulations? What systemic risks can it pose? Will this change? How to manage business risk when regulations change?
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FinTech in India
Indian payments systems

- Combination of a monopoly payment system provider and payment gateways.
  - PSP – National Payments Corporation of India (NPCI) regulated by the Central Bank (RBI).
  - Payment gateway providers – multiple firms adhering to in the Payments Card Industry Data Security Standards (PCI DSS).
- NPCI supports
  - *Digital payments* through two types of channels called Unique Payment Interface (UPI) and Immediate Payment Service (IMPS), and
  - *Mobile banking* transactions.

This allows for digital wallets like PAYTM.

- Examples of some payment gateways include RAZORPAY, PAYYOUBiz.
Information for finance in India

- A single unique nation-wide ID, Adhaar. This is linked to all bank accounts today and can help as the unique identifier for all persons across all important transactions.

- Credit bureaus: Credit Information Bureau of India, Ltd. (CIBIL) to which all banks are required to report defaults above a threshold.

  Several smaller firms tracking credit information of the customers of micro-finance firms.

- Information utilities (new structure created under the Insolvency and Bankruptcy Code, 2016).
The Indian FinTech business ecosystem

- deposits, lending and capital raising:
  - P2P Lending Platforms: Faircent, LendBox
  - Alternative Lenders: LendingKart
  - Alternative credit-risk modelers, credit enablers: Algo360, CreditMantri
  - Credit Products Comparators: BankBazaar, Paisabazaar
  - Crowdfunding: Let’s Venture, 1Growth, Milaap

- investment management and market support
  - Robo Advisory: OroWealth, FundsIndia
  - Mutual Funds Aggregators: BharosaClub, Zerodha Coin
  - Personal Finance Management: Walnut
  - Hybrid Platforms: Paisabazaar

- insurance
  - Aggregators: Policy Bazaar, EasyPolicy
  - Insurancetech: Bajaj Allianz, Videocon Liberty

Challenges ahead for FinTech in India
FinTech for financial inclusion

- Financial inclusion: stated policy in India as far back as 2000.
- Several policy initiatives in the last five years to increase number of bank accounts opened (2015) and to move to a cashless economy (demonetisation, 2016).
- Number of bank accounts have increased. Yet, digital payments still remains to be sought by policy.
  
  **Source:** *Report of the High level committee on the deepening of digital payments*, RBI, March 2019.

- Information systems have been built. But these need to be readily accessible to undertake investment decisions by debt or equity.
  
  Data privacy laws can be a challenge in accessing information to build targetted financial products and services.
Cash vs. digital transactions, cross-country comparisons

Even within the rich world, the most digitised societies use cash least often.

Source: The Economist
Inherent challenges of India

- Large geography, large population.
- More important, *heterogenous* population → this requires different business models.
  The same business model will not work in different regions in India.
- Solution?
  More competition in the financial sector.
  FinTech is the more cost-effective way to create competition, particularly in an emerging economy.
Trouble on building competitive finance

- Indian policy has been pro-control and anti-competition. Example: Banking sector licenses are difficult to get, even with the mandate of financial inclusion.
- Dominated by monopolies in the payment systems (by law) and monopolies in the information space. Example: CIBIL, NPCI, RBI’s recent announcement of a single national *public credit registry*.
- Traditionally, in India financial business models cannot operate unless explicitly permitted.
- Licensing criteria for non-bank financial firms are similar to criteria for banks, without the benefit of deposit-taking. Licensing criteria must be risk-based.
- Frequent, sudden changes in the regulations on requirements and access. Example: recent notification from the Central Bank prohibiting non-banking finance firms from accessing credit information, changes in disclosure requirements by defaulting firms from the securities regulator.
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Way forward?

- Measurement systems: to capture the extent of financial inclusion beyond the number of bank accounts.
- Better regulatory governance: regulators must adhere to better processes when making regulations to eliminate regulatory risk and uncertainty for FinTech firms.
- Policy must shift to more competition and innovation and less central planning.
- Policy must have a holistic perspective and not try to develop FinTech in isolation.

Without a well-developed overall financial market with well functioning bond, equity and derivatives markets, FinTech will not be able to raise finances to grow.
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Thank you.
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Comments / Questions?