

# Can Cashless Payments Spur Economic Growth?

(by Tamanna Singh Dubey and Amiyatosh Purnanandam)

Isha Agarwal

University of British Columbia  
Sauder School of Business

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  - ▶ had higher business income and total income
- ▶ **Mechanisms:**
  - ▶ **Reducing the transaction cost of cash:** results stronger in regions with fewer bank branches and high crime rates
  - ▶ **Reducing financial frictions in borrowing:** households more likely to borrow from a bank in the post-UPI period

## Broader context

- ▶ Digital revolution in the monetary system – money (currency) and payment systems
- ▶ Money is the medium of exchange
  - ▶ Cattle, metal coins, gold standard, fiat currency, crypto, central bank digital currency
- ▶ Payment system determines the technology that underpins the efficiency of the exchange
  - ▶ Digital (online payment, mobile payment) vs physical (cash)
  - ▶ Real-time (PhonePe through UPI) vs deferred settlement (PayPal)
  - ▶ Overlay/open systems (GooglePay through UPI) vs closed-loop systems (WeChat Pay, AliPay)

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  - ▶ Overlay/open systems (GooglePay through UPI) vs closed-loop systems (WeChat Pay, AliPay)
- ▶ The paper focuses on innovations in the payment technology
  - ▶ Fiat currency (Rupee) is still the legal tender

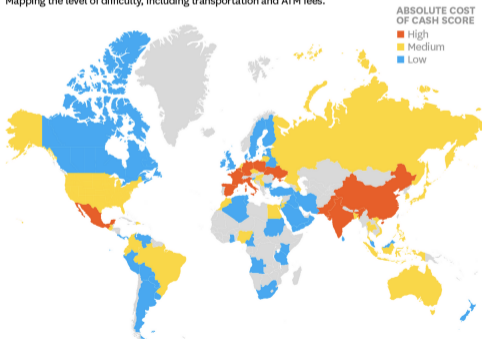


## Important contribution to the literature

1. Studies the broader economic question about the effect of cash on economic growth
  - ▶ In “The Curse of Cash”, Kenneth Rogoff argues that physical cash can negatively affect economic activity
  - ▶ Cost to banks of maintaining ATMs: as high as \$5 billion per year in North America
  - ▶ Cost of cash to consumers: commute time, ATM fees
  - ▶ Tax gap because of the underground economy

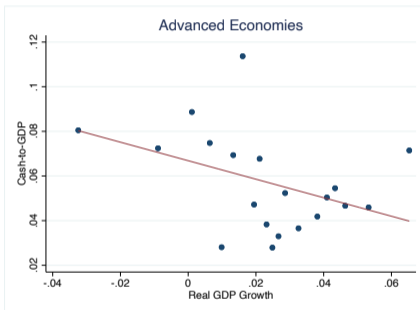
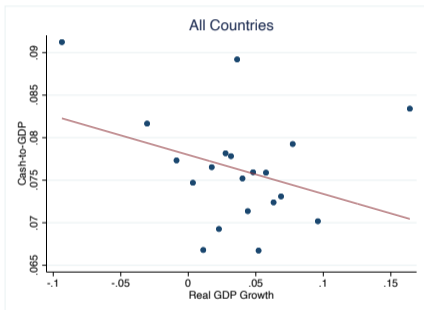
### The Cost of Getting Cash Around the World

Mapping the level of difficulty, including transportation and ATM fees.



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- ▶ Hard to establish causality with cross-country data
- ▶ Exogenous shock to the use of cash helps achieve causality

# Important contribution to the literature

2. Studies the effect of a landmark innovation in payment system in India
  - ▶ Massive in both scale and scope, global leader in payment system innovation
    - ▶ Real-time
    - ▶ No fee
    - ▶ C2C, C2B
    - ▶ Pay and collect requests
    - ▶ Usability across apps, merchants, bank accounts
    - ▶ Open system allows healthy competition
    - ▶ RBI oversight
    - ▶ Centralized regulation
  - ▶ Google sent a letter to the Fed on Nov 7, 2019 citing “The India Experience” as a successful template for payment system innovation in the US
  - ▶ Real time payments volume in India higher than in China in 2022
  - ▶ Enough anecdotal evidence but no formal analysis

Comments on empirical analysis to further sharpen measurement and mechanisms

# Measurement of economic activity

- ▶ Cash facilitates tax evasion and illegal activities (Rogoff, 2016)
- ▶ Is the increase in economic growth a reflection of the digital payments more accurately measuring hidden/underground economic activity?
- ▶ Suggestion: Can use other metrics that are not affected by reporting
  - ▶ Night lights data
  - ▶ Pollution

# Heterogeneity in treatment intensity

- ▶ What explains the heterogeneity in the intensity of digital payment adoption?
- ▶ Possibility of other confounding factors being correlated with treatment intensity
- ▶ Self employed households saw higher increase in income compared to salaried households
- ▶ Self employed households adopted digital payments to receive government transfers or had a business that was less negatively affected by covid
- ▶ Suggestions
  - ▶ Include industry fixed effects. Compare households in the same district and same industry
  - ▶ Use an instrument for digital payments adoption. Penetration of mobile phones, mobile network coverage, etc.

## Mechanisms: Financial frictions

- ▶ Potential entrepreneurs face financial constraints: credit rationing by banks
- ▶ Digital transactions create a financial/digital footprint which reduces information asymmetry between banks and households and induce banks to lend more
- ▶ Households in high digital payments districts more likely to borrow from a bank and use those funds for their business
- ▶ This is the key mechanism and it would be useful to provide more evidence

# Mechanisms: Financial frictions

## Suggestions

### 1. Severity of financial constraints

- ▶ Exploit differences in reliance on external financing across industries
- ▶ Exploit differences in ex ante household wealth/income
- ▶ Exploit limit on monthly transaction amount

### 2. Information asymmetry

- ▶ Individuals with no prior bank loan are more likely to benefit from the digital footprint
- ▶ Frequency of transactions - higher number of transactions create a larger footprint

### 3. Supporting evidence on relaxation of financing constraints using

- ▶ Data on district level change in bank credit
- ▶ Data on investment/employment at the district level

## Other channels

- ▶ Real-time payment can reduce the time the funds are locked in the payments system after a payment is issued but before it is settled. Free up funds for investment
- ▶ Increase in borrowing from friends and family
- ▶ Reduce leakages due to bribes (usually paid in cash)
- ▶ Larger tax base. More public funds for investment in physical infrastructure. Higher long term growth
- ▶ Ease of transactions can facilitate higher consumption spending → higher GDP



# Conclusion

- ▶ Important contribution — quantifies the cost of cash and studies one of the most important innovations in the financial sector
- ▶ Opens up a lot of exciting avenues for further research
- ▶ Business model of payment service providers, incentive to innovate, concentration in the market