



Inclusive Cashless
Payment Partnership

Enabling dialogue between regulators and financial innovators for financial inclusion: Seven use cases to test the waters



Featured use cases at a glance

| | Use-case | Issue | Testable solution |
|---|---|---|--|
| 1 | Aadhaar Pay (A-Pay) Reverse Interchange Fees | Economics of A-Pay modelled on card ecosystem and direction of interchange is identical. The acquisition side is rendered unviable. | Reverse the interchange fee structure and experiment with alternative pricing mechanisms. |
| 2 | Optimising the fee charged by nodal account operating banks. | Entities collecting payments from customers for goods/services rendered by merchants are required to open a nodal account with a bank. Less competition in this segment renders the intermediary business unprofitable. | Enable nodal accounts by well-capitalised NBFCs with a compliant track record through money market MFs and other potentially liquid funds. |
| 3 | Leveraging UPI As a B2B Platform. | UPI on-boarding requires details of the debit card linked with the account. Business current accounts do not usually come with debit cards. Also, UPI doesn't allow multiple signatories to authenticate tiered payments. | Provide UPI PIN to non-debit card holding new users through alternative mechanisms (e.g., post). Include option to submit a list of signatories for tiered payments. |
| 4 | Portfolio Manager Services for the Poor. | Minimum investment limit for customised wealth management services set INR 2.5 million. Restricts these services to HNIs alone. Informal economy participants could gain from these. | Offer customised wealth management for informal sector participants by relaxing the minimum investible amount requirement. |
| 5 | Leveraging Peer-to-Peer NBFCs for Small Business Credit | The minimum capital requirement for P2P NBFCs is not risk based. Maximum limits on borrowing and lending amounts could hinder small and micro enterprises to access cheap finance. | Link minimum capital required by the size of loans intermediated through the platform. Relax restrictions on borrowing and lending. Have regulated institutional investors lend through the P2P platform |
| 6 | Relaxing 2FA as a one-size-fits all mandate & customizing it to users | Payment transactions require two-factor authentication to be processed, increasing friction in checkout process for new business work-flows. | Relax 2FA mandate for willing consumers for a prescribed threshold of transaction size. |
| 7 | Relaxation of MDR Regulation | Current RBI imposed cap on MDR has reduced margins in PoS deployment for acquiring banks, thus inhibiting PoS penetration. | Remove the upper bound on MDR and allow acquiring banks to freely set an MDR per their business models. |

Introduction

Regulators and policy makers across the world are acutely aware of the changes that financial services are encountering as a result of technology. Fintech, the new buzzword, has attention from multiple quarters with the expectation that there will be emergent business models and new configurations in the financial services industry.¹ In several countries, like India, the capability gap between the included, newly included and financially excluded customer segments translate to risks to customers. This means regulators have the onerous responsibility of not just ensuring stable systems, but protecting vulnerable customers, while allowing innovation. The BIS speaks of three ways in which this can be done:²

- Focusing analysis on activities involving financial services rather than on firms or technologies
- Continuing collaboration between local and global regulatory authorities
- Investigating and deciding on the most appropriate structures to keep abreast of fintech developments and allow demonstration of the technology and experimentation with user cases. For e.g. a regulatory sandbox

The idea of testing initiatives before creating regulations is not new. A notable example is that of the Central Bank of Kenya (CBK), which allowed mobile operator Safaricom to introduce its M-Pesa mobile payment service in 2007, without a regulatory framework in place.³ The test and learn concept is now becoming more common, with the UK's regulatory sandbox leading the way.

The Fintech Trend Report 2017 released by PwC provides a snapshot of the investments in Fintech start-ups across the globe. While, the Fintech investments in Asia had gone up to \$5.4 bn in 2016 from \$4.8 bn in 2015, the corresponding investments in India had seen a decline from \$1.6 bn to \$0.39 bn. While a part of the reason is the global and domestic economic uncertainty, increasing regulatory ambiguity also played a role in this drop.⁴ There are multiple mechanisms to support an evidence-based approach to defining or modifying regulations governing new innovation, ranging from stakeholder consultations to sponsored pilots to regulatory sandboxes.⁵ The goal of this report is to highlight certain 'high impact' use cases and offer templates for stakeholders to test them, and not to prescribe any specific mechanism or institution to carry these tests forward.

One potential way of reducing uncertainty around financial innovation is through a regulatory sandbox, a framework in which businesses can

test innovative products, services, business models and delivery mechanisms, at a small scale, in a controlled environment under the regulator's supervision, without immediately incurring all the normal regulatory consequences of engaging in the activity in question.⁶ The innovators are authorised for testing only if they satisfy certain parameters and after a successful testing, they may apply for authorization to launch their product/service on a commercial scale. This allows regulators to review actual data and assess the risks a product/service may pose to the overall stability of the markets, and to consumer protection. In addition, this reduces the cost of testing innovations and thus, can deliver more competition in the market. A well-functioning sandbox alters the relationship between financial innovators and regulators, by facilitating transparent and active dialogue. It also helps regulators act in an agile manner to revise and shape the supervisory framework. In contrast, the absence of regulatory approval may lead to the industry losing out on valuable financial products and efficient business models that could make the financial inclusion case stronger. Indian regulators are also beginning to see the value of such a mechanism. Recently, the inter-regulatory Working Group on Fintech and Digital Banking established at the RBI endorsed the idea of a regulatory sandbox and recommended that Institute of Development and Research in Banking Technology host this.

However, a sandbox is not the only solution available to regulators. For instance, establishing a sandbox in an environment where elementary regulatory challenges remain unaddressed is not recommended. Other mechanisms that have been adopted in countries where a sandbox is not suitable, or does not exist include structured consultations, innovation hubs, accelerators or fintech incubators.⁷ In this note, we focus on a set of use-cases sourced from emerging Fintech companies across sectors like payments, lending and wealth management.⁸ Many of these map to specific regulations that inhibit the innovation, and therefore may be testable in a sandbox. We also indicate a few other use cases, which may need a different mechanism from a sandbox environment, but we feel are important to cite since they highlight instances of friction between innovation and regulation. For the sake of abundant clarity, we have documented these cases in a spirit and with the objective of further empirical testing, the results of which could be used for policy-building and informing regulation. In other words, there is no claim of advocacy on our part in documenting these use-cases or suggesting that a particular institution is the only way to test and implement them.

¹See the opening remarks by Francois Groepe, Deputy Governor of the South African Reserve Bank, 19 April 2018. <https://www.bis.org/review/r180426e.pdf>

²Ibid.

³Pearce, Douglas, Michaels, Loretta, Kachingwe Nomsa, Iravantichi, Sherein., G20 Global Partnership for Financial Inclusion (GPF), 'Digital Financial Inclusion: Emerging Policy Approaches', prepared by the World Bank Group (Finance & Markets Global Practice).

⁴Fintech Trends Report India 2017, PwC.

⁵According to CGAP, "In some instances, for those innovations to be realized, a sandbox would be helpful; in other instances, a sandbox may play a marginal role, if any. Indeed, a regulatory sandbox is not a one-size-fits-all solution, and there may be other approaches

that are more efficient, nimble, and responsive to the market." [<http://www.cgap.org/sites/default/files/researches/documents/Working-Paper-Regulatory-Sandboxes-Oct-2017.pdf>]

⁶<http://www.cgap.org/sites/default/files/researches/documents/Working-Paper-Regulatory-Sandboxes-Oct-2017.pdf>

⁷Ibid.

⁸Insights were collected based on open-ended interviews with Fintech in Catalyst's partner network and through secondary research.

1. Aadhaar Pay (A-Pay) Reverse Interchange Fees

The Issue:

Aadhaar enabled Payment System (AePS) was built with the vision to extend the banking and financial system to the unbanked pockets of the country through Micro ATM. AePS offers services including cash deposit, cash withdrawal, balance enquiry and fund transfer. A-Pay is a solution built on the top of AePS interface for merchants. Against authentication through a biometric device (fingerprint scanner) and an Aadhaar number, A-Pay enables a consumer to buy goods and services from a merchant (who has seeded his account with Aadhaar).

The work-flow for A-Pay is as follows:

- Merchant installs the Aadhaar Pay app on his/her smartphone (after completing an e-KYC process with the bank and ensures that a biometric scanner is attached to it.
- Customer enters the 12- digit Aadhaar number, after which the app will fetch the linked bank accounts and the customer will need to select the bank account from which the payment is to be made (in case there are many bank accounts linked to the same Aadhaar number)
- Customer authenticates payment by scanning his/her fingerprint in the attached biometric device to authenticate his/her identity in approving the transaction, and the merchant receives the payment directly into his/her bank account.

The economics of A-Pay is modelled on the card ecosystem and the direction of interchange fees is identical; it flows from the merchant-acquiring bank to the “issuing” bank, i.e. the bank account that the customer has linked to his / her Aadhaar number⁹.

Under the BHIM Aadhaar Merchant Incentive Scheme¹⁰ the Government of India, acting through the MeitY (Ministry of Electronics and Information Technology) and with NABARD (National Bank for Agriculture and Rural Development) as an implementing agency has offered merchant incentives to the extent of 0.50% of the transaction amount up to INR 10,000/- with a minimum incentive of INR 2/- and maximum incentive of INR 50/- per transaction. Maximum incentive is restricted to INR 2000/- per merchant per month however, the acquiring bank does not get any benefit under the current structure of the scheme and has to pass on the entire incentive to the merchant whereas no part of the incentive can be retained by the acquiring bank to defray its banking/operating costs.¹¹

On top of the interchange fee and the lack of incentives for the acquiring banks from the Government to grow the infrastructure or defray their costs, the switching fee charged by the National Payments Corporation of India (NPCI) further makes the economics of A-Pay unviable. NPCI presently charges a switching fee of Rs. 0.25 per transaction that is also borne by the acquiring bank.¹²

As the representation in Figure 1 indicates, on a INR 100/- transaction, the acquiring bank defrays costs of Interchange (IC) fee and switching fee from the Merchant Discount Rate (MDR) that the merchant pays. However, on the current charge structure, the acquiring bank is out of pocket INR 0.05 on every transaction, making it unviable for it to proliferate A-Pay. Though the BHIM Aadhaar Scheme backstops the operating costs (i.e. the MDR) of the merchant, the absence of viability to the acquiring bank will prevent it from acquiring merchants for A-Pay.

Figure 1: Transaction flow on Aadhaar Pay



⁹Circular: NPCI/2017-18/AEPS/001 (<https://www.npci.org.in/sites/default/files/circular/Circular-18-switching-fee-Interchange-MDR-on-AePS-and-Aadhaar-Pay.pdf>)

¹⁰http://meity.gov.in/writereaddata/files/BHIM_Aadhaar_scheme_2018.pdf

¹¹See Paragraph 2.3 of the scheme.

¹²The RBI has been asked to review the existing Switching Fee arrangement, but at the time of publication there was no action on this.

Testable Solution:

We propose a testable solution to reverse the interchange fee structure and experiment with alternative pricing mechanisms.

One of the core reasons for the proposed reversal is that the logic of direction of the interchange fee issuing bank in the cards ecosystem does not hold in the A-Pay ecosystem.

Unlike the card ecosystem, where the issuing bank has to be given incentive to issue a card to the customer, here the bank is a fortuitous beneficiary of a choice made by a customer to link their bank account to an Aadhaar number. While it is possible that the issuing bank still incurs certain costs or risks in the process, these are not clear and need to be rigorously determined to inform any efficient compensation structure.

On the other hand, the acquiring bank acquires the merchant for A-Pay payment ecosystem. It is therefore worth investigating whether A-Pay interchange fees should be rebalanced from customer's bank (i.e. the issuing bank) to "acquiring bank". Notably, the direction of the interchange is from issuer bank to acquirer bank

in case of cash deposits and cash withdrawal on the "Aadhaar Enabled Payments System" where the acquisition infrastructure, i.e..Aadhaar-enabled Micro-ATMs, is created (and hence transaction is enabled) by the "acquiring bank".

An experiment inverting the price structure may be executed to test out the following hypotheses:

- Do customers' banks currently absorb the interchange levied on them or is there a pass-through to customers in terms of increased account fees for low Average Quarterly Balance and such indices?
- Does the change in the pricing structure result in the perception of a fairer pricing and incentive structure by acquiring banks?
- Does the change in pricing structure increase merchant adoption of A-Pay?
- How do customer incentives to use A-Pay change in either of the aforementioned scenarios?



2. Increasing the Efficiency of Payments Value Chain for Small Merchants

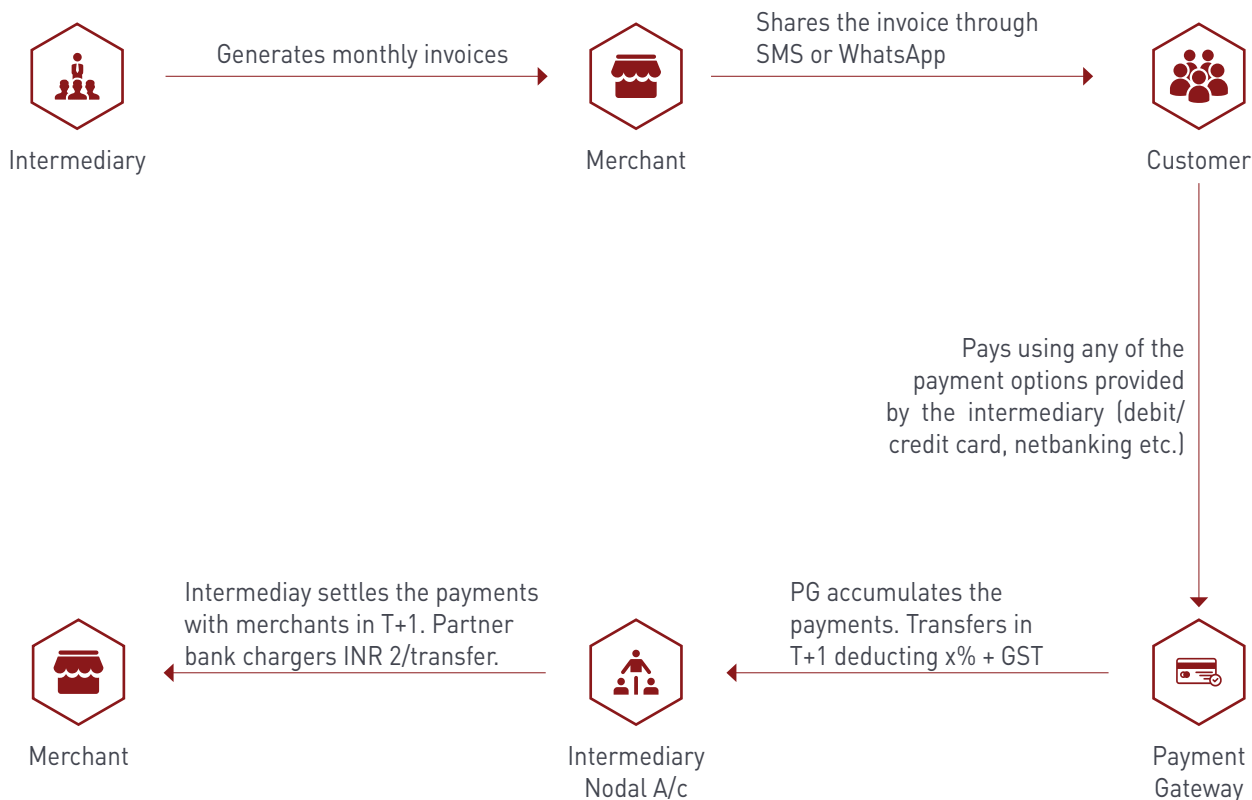
The Issue:

Under the extant regulatory framework, “Intermediaries” are defined by the RBI as “all entities that collect monies received from customers for payment to merchants using any electronic /online payment mode, for goods and services availed by them and subsequently facilitate the transfer of those monies to the merchants in final settlement of the obligations of the paying customers.”¹³ These intermediaries are required to route their transactions only through a nodal account opened with a bank. The mandate to route the funds received from customers to merchants through nodal account maintained with a bank was put into place by the RBI to ensure that the payments made by the customers are duly accounted for by the intermediaries and remitted to the accounts of the merchants without undue delay.¹⁴

Banks are regulated for solvency risk by the RBI and their asset-liability profile is within the RBI’s

supervisory jurisdiction. Thus, the mandate to maintain nodal account with banks. However, while the motivation behind this measure as a customer protection device is transparent, this requirement imposes costs on emerging fintech companies that facilitate digitization of merchant ecosystem. Illustratively, one of the emerging fintech firms that works with the Catalyst program on financial inclusion facilitates remote payment collections for merchants such as newspaper vendors by digitizing and raising merchant invoices on respective consumers and then, on the reverse loop, facilitates the merchant to collect the payments digitally. The Fintech’s representatives told us that their nodal bank charges INR 2/- per transaction, a non-trivial transaction charge under any circumstances. A thematic work-flow of the transaction is depicted in Figure 2:

Figure 2: Intermediary Transaction Flow



¹³RBI Directions for opening and operating of Accounts and settlement of payments for electronic payment transactions involving intermediaries, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>

¹⁴Supra note 3

Testable Solution:

The universe of entities that RBI supervises and regulates includes other entities like NBFCs. Well-capitalized NBFCs with a long and compliant track record should be leveraged to widen the pool of entities that offer nodal accounts. This may discipline what appears to be oligopolistic pricing by banks. The RBI can first offer permission to NBFCs on a case by case basis and then based on the experience, facilitate more competition in the nodal accounts space. By way of comparison, the relevant regulations¹⁵ in the UK permit funds to be maintained at:

- A credit institution in the EEA
- A bank authorised outside of the EEA
- A qualifying money market fund
- A central bank

Additionally, while the stated goal of introducing the device of nodal account was processing the payment without delays, funds routed through the nodal accounts are required to follow a maximum of T+3 settlement cycle.

In this backdrop, the following scenarios lend themselves to be tested:

- Process flows with a range of intermediaries that integrate nodal accounts offered including well-capitalized NBFCs with a compliant track record, MMMFs, potentially other liquid funds.
- Process flows across a range of compressed settlement cycles that experiment with getting the funds relayed to the merchants in faster times than are presently allowed.



¹⁵See CASS 7.13 Segregation of Client Money regulations. Only Scheduled Commercial banks [& other specified institutions] can maintain accounts with the RBI. So, this option is not available businesses in India.

3. Leveraging UPI As a B2B Platform

The Issue:

UPI has been predominantly seen as a P2P payments platform and significant policy and technological resources have been devoted to scaling that use-case. However, given the account-to-account interface and the corollary cost advantages that UPI offers, it has potential to be a gateway for B2B transactions, especially for small businesses. But for enabling that, it is important to remove existing frictions from the current design of UPI that potentially impede on-boarding businesses on the platform.

Firstly, UPI requires a debit card to generate the UPI PIN that is used to authenticate a transaction on the platform. At least some of the banks appear not to offer a debit card as a bundled product with current account for businesses, and charge for it separately. On the other hand, businesses may not view debit card to be important for their business (as most business would be executed through negotiable instruments and the bank to bank payment gateways) and may not separately apply for it.

The UPI on-boarding work-flow as it stands today is as follows:

- User downloads the UPI application from the App Store/Banks website and creates a profile

by entering details like name, virtual id (payment address), password etc.

- User goes to “Add/Link/Manage Bank Account” option and links the bank and account number with the virtual id.
- Then to create a UPI PIN, user selects the account from which the transaction is to be initiated.
- User receives OTP from the Issuer bank on his/her registered mobile number, after which he/she is required to enter the last 6 digits of debit card number and expiry date.
- User enters OTP and enters his preferred numeric UPI PIN (UPI PIN that he would like to set) and clicks on Submit.
- After clicking submit, he/she gets notification (successful or declined).

Testable Solution:

NPCI ought to test alternate work-flows that on-board a business user on the UPI platform without the intervention of a debit card. A temporary PIN could be sent via mail, the same way a debit card pin is sent on the accountholder’s address. This is for those who don’t have a debit card connected with their current account. Alternatively, other more universal authentication mechanisms such as Aadhaar numbers can be used.

NPCI should also test a solution that enables multi-player decision game on the payer side. In other words, businesses should be able to issue standing instructions that would map

specific signatories to pre-defined amounts. One hypothetical business process may look like this:

- The entity submits a list of signatories mapped to ascending sequence of amounts at the time of on-boarding on the platform.
- On the appropriate trigger (for example, a collect request generated by counter-party on the defined pay-out date), the interface would ping the signatory/signatories concerned.
- Signatories sign off and the amount would be debited.

4. Portfolio Manager Services for the Poor

The Issue:

About 81% of India's employed population earns its livelihood through the informal economy. Of these, 48% are employed in agriculture, 25% in industries and 26% in the services sector.¹⁶ These customers face higher liquidity shocks have volatile and irregular cash inflows. There may be times when persons in this segment may have little or no income; for example, a construction worker in the monsoon season. And at times, this may be co-related with higher expenditure.

The customer's income will be even more volatile because of the double volatility¹⁷ and can benefit from tailored wealth management products that account for their unique circumstances. However, existing regulations present a barrier from such customization for the informal sector financial consumers. Under the applicable SEBI regulations, customised wealth management solutions are available for investors with a minimum investible corpus of INR 2.5 million.¹⁸

Testable Solution:

The extant regulatory framework thus envisages customised wealth management for High Net Individuals (HNIs) but on account of the high minimum investible amount requirement excludes informal sector participants from being able to benefit from the same. There is a case for testing customised wealth management for informal sector participants in a sandboxed environment by relaxing the minimum investible amount requirement under the extant SEBI PMS regulations.

The regulations may additionally mandate a conservative leverage ratio to mitigate the risk that manager employs leverage. Furthermore, the

managers testing the product may be mandated to avail of capital protection insurance to protect their (informal sector) customers for any potential losses during the testing period.

The PMS solution provider entity and the regulator supervising the experiment (in here, SEBI) will identify the goals of the experiment. Since expanding PMS services to the informal sector is motivated by "goals-based" investing rather than the conventional returns-based model, the experiment design can be such that it tests if the goals the investor sought to achieve at the beginning are achieved by the end of it.

¹⁶Women and Men in the Informal Economy: A Statistical Picture, International Labour Office, Third Edition, 2018. Available at: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_626831.pdf

¹⁷Joseph Dana, The Company Bringing Bespoke Financial Products to Those Who Need Them Most, available at [<https://medium.com/emerge85/the-company-bringing-bespoke-financial-products-to-those-who-need-them-most-ddec3dd22b3>] (profiling Kaleidofin).

¹⁸Section 15, Clause 1(A) of the SEBI (Portfolio Managers) Regulations, 1993

5. Leveraging Peer-to-Peer NBFCs for Small Business Credit

The Issue:

Peer-to-Peer lending platforms match lenders and borrowers for a fee. They are different from banks/ other originators in that they unbundle (“disintermediate”) credit risk. However, RBI has prescribed that P2P NBFCs would require a minimum net-owned fund (NOF) of INR 20 million¹⁹, a figure in line with applicable NBFC regulations that originate on-balance sheet. In other words, the minimum capital requirement is not risk-based.

Also, the regulations prescribe caps for the lender and the borrower. A lender may not lend more than INR 1 million across all the borrowers across all the platforms. A borrower may not borrow more than INR 1 million across all the platforms.²⁰ For borrowers, P2P platforms can potentially complement formal sources of capital for small and micro businesses. But limiting the aggregate borrower exposure to INR 1 million across all P2P platforms inhibit the platforms from facilitating credit to small (and micro) businesses. According to one study, a credit gap of 56% exists in the MSME sector in India. Lending to MSMEs is a costly affair for lenders as it involves extensive on the ground due diligence. Nearly 50% of the time for

processing applications is taken up in collecting documents.²¹ Thus, traditional lenders are not in a position to service MSMEs.

Conversely, P2P platforms could be leveraged to address this gap. However, limiting lender exposure to INR 1 million across all the platforms inhibits “informed” HNIs and institutional investors from investing through these platforms, and therefore their overall volume. It also denies the borrowers the benefit of receiving bids from a larger pool of investors and limits competitive pricing. This is because multi-sided platforms like these bring together complimentary groups of users (borrowers and lenders here) and monetize basis the transactions between them. It is plain that greater the amount of capital on the lender side and the more sophisticated its origin, the greater the number of use-cases it can serve on the borrower side. In this case, the cap on the lender side prevents Institutional capital on the lender side from investing through the platform. Correspondingly, the number of borrowers and the type of use-cases the platform can serve on the borrower side also remains limited.



¹⁹ Section 5.1.(iii), Master Directions - Non-Banking Financial Company - Peer to Peer Lending Platform (Reserve Bank) Directions, 2017 (<https://rbidocs.rbi.org.in/rdocs/notification/PDFs/MDP2PB9A1F7F3BDAC463EAF1EEE48A43F2F6C.PDF>)

²⁰ Supra Section 7.2.

²¹ See: <https://www.thehindu.com/business/budget/smb/there-is-a-credit-gap-of-56-in-the-msme-sector/article11257047.ece>

Testable Solution:

In light of the fact, it may be feasible for the RBI to tailor minimum capital based on the value of loans made through the platform and test the performance of the platform across the duration of an experiment carried out (potentially in a sandbox) as follows:

- The application for certificate of registration may be required to project the size of loans to be intermediated through the platform, say in the next three years, and then work out the minimum capital as a percentage of that, subject to a “catch-all” minimum amount of capital.
- The INR 20 million NOF mandate may be relaxed and entities may be permitted to bring in capital as a % of total value of loaned funds outstanding.
- By way of benchmark, the Financial Conduct Authority, UK, requires 0.2% of the first £50 million of the total value of loaned funds outstanding.
- Relaxing borrower and lender limits and monitoring small and micro business borrower credit behaviour / discipline across the defined period of the experiment.

- The borrowing limits could be increased to INR 10 million from the existing INR 1 million across all platforms. Or it may be relaxed to INR 5 million which corresponds with the average loan size for the small enterprises.
- Have regulated institutional investors lend through the P2P platform.

Since the institutional investors would be regulated by their sectoral regulators, the prudential risks they may be exposed to through the platform may be monitored and appropriately provisioned for. If the results suggest that prudential risks and the attendant platform risks can be managed, the borrowers can benefit from larger pools of capital. It may be pertinent to note that the social impact of enabling small business credit through the platforms will be higher than enabling consumption credit (which is the use-case they serve now). This will open up greater avenues improved credit access to the small and micro enterprises.



²² *Micro, Small and Medium Enterprise Finance in India. A Research Study on Needs, Gaps and Way Forward.* International Finance Cooperation, World Bank, Washington, DC [2012].

6. Relaxing 2FA As a One-size-fits-all Mandate and Customizing it To Users

The Issue:

The RBI presently requires payment transactions to be authenticated with two factors; as is now commonly known, those factors respond to the “what you have?” and “what you know?” questions. So, for instance, in case of debit cards, the first factor would be the card as an artefact (“what you have?”), and the second factor would be the 4-digit PIN (“what you know?”) that users recall from memory. In the net-banking context, an HDFC work-flow requires the user to answer to two (pre-answered) questions (“what you know?”) and then use the OTP to the mobile number registered against the bank account to confirm that the transaction is executed by the account-holder. (“What do you have?”).

However, the advent of new business models and innovative work-flows aimed at reducing check-out friction are at tension with the 2FA requirement. For example, when Uber first arrived in India, their payment processes were based on “card on file” and the work-flow was such it deducted to card on file automatically after every trip. The RBI intervened and directed Uber to follow the 2FA mandate, following which Uber re-designed the work-flow to include multi-factor authentication.

However, riders that use cards to process their payments will attest that it has increased friction (either at the end of the trip, or, as most users may prefer doing, at the beginning of the next one). Solutions that digitize micro-transactions between a small businesses and their customers often require standards of speed and convenience to compete against cash.

Juxtaposed against the fact that the average ticket size of an Uber ride in a metro like New Delhi is INR 180,²³ there may be scope for the 2FA mandate to be more tailored to user-preferences, especially given lower ‘value at risk.’ Moreover, mobile app-based payment ecosystems face low adoption or increased drop-offs owing to the friction consumers experience with more cumbersome workflows needed to support 2FA. Also, delays in receiving the second factor (e.g., an OTP due to traffic congestion, or manual errors in keying-in can inhibit a smooth experience. Further, significant rates of transaction drop-off due to OTP related failures contributes to the proliferation of COD option at check-out and hinders digital adoption at scale²⁴



²³ Based on a conversation with Uber's personnel.

²⁴ Ibid.

Testable Solution:

Relax the 2FA mandate on an opt-out basis for willing consumers subject to a prescribed threshold. This can be enabled through an RBI issued NOC (No Action Letter) stating banks/ vendors participating in the experiment can offer willing customers an 'opt-out' and that no regulatory imposition may be levied upon them for a certain pre-defined duration. This default 'opt-out' design preserves the protection for more vulnerable or digital less-savvy demographics without constraining the choice of users that prefer convenience over the incremental friction.

The testable solution may be designed to permit app-based, m-commerce, and other card not present (CNP) vendors along with their payments partners to offer 1FA check-out experience to those that prefer to opt-in. The regulator may prescribe an overall boundary condition in terms of the amount for 1FA to apply. Illustratively, this may be the weighted average ticket-size of a CNP transaction in India.

The work-flow for the treatment group would exclude the second factor (e.g, OTP) requirement and process the transaction based on a single factor (e.g., the CVV assuming cards as a payment

artefact). Vendors may conduct a security audit and submit appropriate certifying documentation before starting on the pilot to mitigate any risk to the consumers opting into the 1FA check-out experience. The parties may also enter into arrangements assuming liability and documenting process for charge-backs in the event of a mishap.

At the end of a fixed term pilot, the following metrics may be tested for:

- Number of people opting in.
- Drop-off rates of the treatment group relative to drop-off rates of the control group.
- Checkout time relative to the checkout times control group.
- No. of chargebacks as a share of total transactions.



7. Relaxation Of MDR Regulation

The Issue:

As the Committee on Digital Payments²⁵ established by the Ministry of Finance pointed out in its Report, India has the lowest PoS per million of population. One of the reasons for such low density is that acquirers have little economic incentive to deploy PoS terminals given Merchant Discount Rate (MDR) caps mandated by the RBI. Furthermore, given the two-sided nature of the market, acquirers share a substantial fraction of this revenue with the card issuers as interchange fees. The cap on MDR thus appears to be one of the main reasons their margins in PoS deployment business are low and makes the business unviable.²⁶ More broadly, empirical evidence across jurisdictions informs us that price caps, whether imposed on MDR (as in India) or interchange (as in the US) do not serve the intended purpose. As

data brought to bear in Watal Committee Report suggests, MDR rate regulation has the effect of inhibiting PoS infrastructure. In the United States, researchers at the Federal Reserve empirically tested the effects of Durbin Amendment (that capped interchange fees for banks²⁷) and found the amendment passed with the stated objective of protecting consumers from interchange fees ended up hurting them on account of decreased availability of free accounts, higher monthly fees and increased minimum balance requirements.²⁸ More importantly, the Federal Reserve found no evidence that the merchants passed on the cost-savings from the amendment onto the consumers. In the background of this empirical evidence, policy reform of MDR regulation appears imminent.

Testable Solution:

There's a useful opportunity to test a facilitative MDR policy from the acquisition/ deployment standpoint and verify the effects of a more liberal MDR regime on the PoS penetration landscape. The hypothesis to be tested is that removing the caps for duration of the experiment would enable the acquiring banks to compete on price and value offered to acquire merchants thus leveraging market forces to improve the PoS per million population density. Furthermore, it enables the acquiring banks to set the MDR at a sufficiently high level above the interchange fees payable so as to be viable.

During the experimental period, acquiring banks may be permitted to run pilots with enlisted merchants (with due and appropriate consent) in a defined geography. The RBI could issue an NOC (No Action Letter) empowering participating banks to freely set their MDR and ensuring no regulatory imposition upon them for the duration.

The following illustrative metrics may be evaluated at the end of the pilot period:

- PoS density within the geography @ T0
- PoS density within the geography @ T(n) (n= duration of pilot)
- Is there merchant demand despite the (uncapped) MDR?
- Are merchants levying a surcharge? (Market structure and dynamics play a role here, as evidence from Australia indicates)
- Card use @ PoS in the defined geography @ T0
- Card use @ PoS in the defined geography @ T(n) (If the card-use increases despite uncapped MDR/potential surcharge, consumers may be said to have organically adopted into using cards.

²⁵ Popularly known as the Watal Committee Report

²⁶ Watal Committee Report p.116, p.116, p. 117

²⁷ The Durbin Amendment was passed as part of the Dodd-Frank Act.

²⁸ <https://www.federalreserve.gov/econres/feds/files/2017074pap.pdf> (p5).

Conclusion

Evidence-based approaches to inform regulation, including that offered by a regulatory sandbox, hold great promise for giving a fillip to innovation and reaping the benefits of successfully integrating India's masses into the formal financial system. From global experience, it appears to effectively balance competing financial system objectives of risk management and stability on one hand, and innovation and competition on the other. More importantly, a transparent and data-driven dialogue

can emerge between innovators and regulators, especially ones that tend to be risk-averse or untrained in newer ways of doing business. These use-cases are illustrative of how sandbox like institutions may be leveraged to solve existing frictions that today impede the development and scaling of new (mostly digital) business models with potential to drive financial inclusion. Our objective is to catalyse further debate on these and other such experiments.



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