



Can India create the conditions for micro enterprises and self-employed to go cashless?

Challenges, adaptations and opportunities for auto-rickshaw transport services

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This brief addresses inequalities in the use of financial technologies as many self-employed individuals and micro enterprises (MEs) struggle to adapt to the rapid onset of cashless economies. It explains how exclusion occurs, and who is involved. Appropriate ways to ensure transitions to less-cash-based economies are recommended for economic, urban, transport and labour policymakers, 'fintech' regulators and companies, platform aggregators, and civic society who engage with labour policy and standards.

Key findings and recommendations

1. Government and market interests to promote cashlessness are creating financial exclusions.

2. Cash remains significant for low-income and vulnerable populations, and therefore should remain accessible for inclusive economic transitions.

3. Social and financial exclusion creates dependency on relationships involving illicit practices mediated through cash payments. Participatory urban design, financial empowerment and regulatory

processes could minimise these often exploitative relationships.

4. The self-employed and MEs do not use digital methods for business transactions. As result, they are not generating data to get access to lower-cost finance. Opportunities exist for the uptake of digital payments resulting in data for credit scoring.

5. Digital payments are relevant to those working for platform companies. Regulations will be necessary to ensure digital transactions do not disadvantage employees.

There are considerable government, market and humanitarian interests in emerging financial technologies (fintech) and cashless economies, but how socially equitable are they?

Fintech enables faster, cheaper and more highly predictive credit assessments for lenders, thereby reducing the cost of credit for borrowers. Advanced data could enable borrowers previously deemed too risky or invisible to gain access to mainstream finance institutions (GPFI, 2017). It is also estimated that fintech could boost annual GDP across all emerging economies by \$3.7 trillion by 2025 (Manyika et al., 2016).

Despite benefits low- and middle-income economies may gain from fintech, there

is little evidence of how those living in predominantly cash-based economies are adapting to new technologies or their immediate impact. Significant issues remain, such as the limited use of fintech depending on income level, education and other socio-economic indicators. It is particularly those of vulnerable and marginal communities who face challenges in conforming to the technologies and techniques of the new fintech market, which means that transitions are bringing new forms of social injustice. We find this happens more when transitions occur very rapidly through government policies (Box 1) and as corporations seek to quickly grow their consumer base and attract investors.

Our case study examines these issues among low-wage, self-employed, transport micro

enterprises (MEs)¹ operating three-wheeled auto-rickshaw taxi services run by one individual. In total, operator-drivers support at least an estimated 40,000 households in 'tier 1' cities (population greater than 4 million) and between 5 to 20,000 in smaller cities, although 202,033 are registered in Bengaluru (TDGK, 2019). Operator-drivers are experiencing a growth in fintech, yet they have been historically marginalised from mainstream financial institutions and remain so. Most are paying up to twice as much for their vehicles through inflated interest charges. Many are, as a result, prompted to negotiate with passengers to pay above the government-stipulated fare to manage these additional costs. We carry out in-depth interviews with drivers, driver union representatives, finance brokers, financiers, traffic policy and regional transport office (RTO) officials to find the winners and losers of the rapid introduction of fintech.



Figure 1. Loan book of an operator-driver from a traditional moneylender.

¹ Defined by the Indian government as businesses in the service sector with investments in machinery under 1,000,000 INR/approx. £10,000 including self-employed. Defined by International Labour Organisation as enterprises with 2-10 employees, not including self-employed.

Research finding 1

Government and market interests are steering a cashless economy at a rapid pace, creating new financial exclusions.

We examined government discourse and policies on the progression to a 'cashless' economy in India, including the agenda for increasing digital transactions from 2014, when the Bharatiya Janata Party (BJP) were elected (See Box 1). The government has been particularly active in shaping this transition, not only because of the market benefits of fintech, but, also, because of the significance of cash in India's economy. The BJP hope to use fintech to tackle corruption and tax evasion. Furthermore, a large proportion of India's population is either unbanked, or banked and demonstrating non-/low-use of bank accounts.

The government's approach has delivered significant changes in only three years. In the case of demonetisation, a momentous shift occurred overnight. As a result, people have had to quickly adjust to new payment practices and technologies. However, society has not adapted universally at the pace stipulated by the government and private sector.

Box 1: How is the government of India shaping a cashless economy?

- The 2014 BJP election manifesto promised an "economic revival" built on "credibility and trust in government" (BJP, 2014, page 7).
- The BJP *Digital India Campaign* aims increase digital literacy and infrastructure to shape digital governance and commerce as a solution to financial exclusion.
- In 2014, ATM withdrawal fees were introduced. Up to 5 free transactions are allowed per month at customers' own bank and 3 at other banks; beyond this allowance, banks can charge 24 INR, the cost of an inexpensive meal (RBI, 2020).
- In 2016, a demonetisation ordinance targeted corruption by creating a sharp shortage in the most popular cash notes, which steered the public towards digital transactions.
- The Aadhaar Act 2016 binds the biometric identification Aadhaar card to digital delivery of welfare subsidies and the Pradhan Mantri Jan Dhan Yojana financial inclusion scheme (PMJDY).
- The BJP *Cashless India Campaign 2017* targets low value, high volume, low cost and reoccurring transactions for digitisation, relevant to transportation and small merchants (RBI, 2019).

Research finding 2

Cash remains significant for a vast number of transactions in low- and middle-income countries, particularly for the most vulnerable.

It is estimated that 190 million Indians are unbanked and 48 percent of account owners report they are inactive; the highest total in the world and about twice the average of 25 percent for developing economies (World Bank, 2017). The Confederation of all India Traders (CAIT) (2019) report 98 percent of 'small business units,' mostly comprising sole proprietors, are unable to transact using digital payments. It also states that only 3.6 percent of households in India are using cashless transactions.



Figure 2. Gold merchants in Bengaluru; gold remains a significant part of social culture and financial practice.

Barriers to using fintech for transactions

Getting cash out is necessary, yet the cost and inconvenience of doing so deters those who need to make frequent withdrawals as and when money becomes available. The cost of ATM fees also carries a greater burden for those living on a limited budget in terms of how those fees might otherwise be spent. Avoiding withdrawal fees by locating an ATM of a persons' own bank is not always possible due to time and cost constraints.

Additionally, the denominations of notes available from ATMs can prevent the low-waged accessing money available in their account. Someone may have an account balance of 580 INR, but would only be able to withdraw 500 INR leaving a significant proportion of their balance inaccessible.

There are limitations in the design of digital payment platforms that reward customers with cashback on certain transactions and

discounts that have far less relevance to the low-waged. Currently, e-wallets are designed exclusively for middle-class consumers. Without incentive to use e-wallets, those operating low-profit MEs are more inclined to request customers to pay using cash.

Our participants referred to a lack of trust in financial institutions, which deters them from using bank accounts to save money. Cash is either kept at home and managed by an auto rickshaw operator-drivers' spouse (if married), or invested in gold jewellery and ornaments to be pawned in exchange for short-term credit when necessary.

After encountering an issue while undertaking a digital transaction, some participants had immediately stopped using them. One recalled an instance when asked to pay for fuel in cash after completing the transaction digitally. Low-waged, self-employed workers have difficulty making time to seek advice and rectify technical issues or cases of fraud. Cash signifies an exchange has taken place without the need to check up on payments, or lose part of their day's income seeking assistance.

"I need cash for everyday things. I rent this vehicle and I need to pay cash to the vehicle's owner. I need cash for fuel and all the household expenses."

- Auto rickshaw operator-driver

"I don't trust digital payments. Once, I went to buy fuel and paid by card. The attendant told me it hadn't worked although it had and made me pay in cash. I didn't have time to call to report it. Now I pay only using cash."

- Auto rickshaw operator-driver

Research finding 3

Cash facilitates relationships of dependency with certain actors as a result of deep-rooted exclusions.

Cash remains significant because its material essence escapes traceability, which is instrumental in defining relationships that enable those in MEs to survive on low profit margins, and to access finance. Cash-based relationships often involve uneven power

dynamics. In this case study, there are relationships between operator-drivers and financiers, intermediary brokers, civil service employees and police officers.

Table 1 shows how these relationships are formed and maintained to perpetuate the deep-rooted exclusion communities of operator-drivers have suffered. For example, exclusions from financial institutions, policy making and governance. Cash is beneficial in keeping these interactions from being observed. Many operator-drivers cannot — or choose not to — accept fintech because of the significance of cash to in the relationships that are integral to their business activities and personal lives.

Table 1: understanding auto rickshaw operator-drivers' relationships of dependency facilitated by cash.

Operator-drivers' cash-based relationships			
	Moneylenders	Traffic police	Brokers
How are drivers excluded?	Banks rarely provide loans to operator-drivers, and will not provide loans on secondhand vehicles. Banks require a government employee guarantor, a worthy credit score & evidence of income.	Drivers excluded from involvement in decision-making, planning of urban infrastructure and regulatory landscape.	Drivers excluded from efficient and transparent governance processes whilst setting up their enterprises.
Why are they dependent on other actors?	Operator-drivers require loans without full documentation, with no income evidence or guarantor, on new & secondhand vehicles, with flexibility to break-out and sell vehicle.	Operator-drivers blamed for congestion & granted severely restricted parking. Police officers can be used to gain access to spaces where drivers are not permitted (e.g. outside rail stations). They also restrict non-members from these illicit stands.	Brokers ensure fast vehicle permit transfer. Drivers can then begin earning to pay back monthly loan repayments. Brokers facilitate access to moneylenders. They sell vehicles secondhand, enabling access to lower-cost vehicles and early exits from loans.
What does cash facilitate?	Down payments and monthly repayments paid in cash. Enables opaque operations & tax evasion.	Small cash bribes paid on a shift basis, daily, to officers on duty. Enables illicit increased earnings for police & drivers. Policies and regulations remain unresponsive to drivers' needs.	Broker fees are paid in cash. Enables illicit bribes to facilitate registration processes, providing income for actors involved, tax evasion & opaque operations.

Research finding 4

Low levels of acceptance of digital transactions means that MEs are not creating data that might enable credit scoring to access lower-cost finance.

When operator-drivers approach a bank for a low-cost loan, they cannot produce a credit score that will demonstrate their ability to pay back the loan on time. Very few banks currently only loan to auto operator-drivers, and only in instances when they can supply a government employee as guarantor. The vast majority are excluded from accessing low-cost bank loans with favourable pay-back terms. Despite the applicability of digital payments in producing data that could generate and improve borrower credit scores, they remain limited with only 6% of MEs in India using them (KOAN, 2019).

Case study insights

Many operator-drivers use illicit fare-pricing strategies, increasing fares over the fixed price to manage their precarious positions. Economically, they experience instability from the high cost and precarious finance, low revenues, increasing living costs, market competition and over-supply. Geographically, operator-drivers suffer from restricted access to spaces prone to congestion. The possibility of exposing illicit fare transactions is also impacting some operator-drivers' acceptance of digital fares. The issues and inconveniences operator-drivers have in accepting digital fare payments means they are missing opportunities to create data for credit scores.

Ultimately, though, if operator-drivers were to show evidence of income, credit and consumer data, it would still unlikely produce credit scores deemed suitable for accessing the lowest-cost finance provided by banks. Low interest rates are unlikely to cover the costs and risks associated with those more likely to default on payments. Operator-drivers are likely to remain excluded from the finance that would substantially improve their precarity, and, at best, can use fintech to increase their access to private non-banking finance companies (NBFCs). Therefore, we need to be cautious in approaching fintech with such optimism for financial inclusion, and ensure private companies will not exploit vulnerable borrowers.

Research finding 5

Digital payments are particularly relevant to those working with platform aggregator companies.

The increasing use of online aggregator platforms (used for matching consumers with nearby service providers) for transport, household services (HouseJoy, Mr.Right) and food delivery (Swiggy) is driving demand for MEs to accept digital payments. Platform aggregator taxi-booking companies Ola and Uber have been active in facilitating operator-drivers to use their platform mobile apps in conjunction with digital wallets; Ola Money

for use by Ola 'partner' operator-drivers, and Paytm, Phonepe, Google Pay and Bharatpe, for Uber 'partner' operator-drivers.

Trip-booking aggregator companies do enable passengers to pay fares in cash, whereby the partner driver must later pay the company a commission fee from the total fare. However, customers are encouraged to pay digitally through cashback rewards and discounts. As a result, many passengers request operator-drivers to accept a fare digitally through the aggregator company.

If passengers hail an auto-rickshaw from the street without the use of a platform, digital payments are received into the operator-

"It [Ola money] was a problem for me in the morning because if the first ride pays me online, then I won't have cash to drink tea".

- Auto rickshaw operator-driver

drivers' e-wallet straightaway. However, digital payments made via an aggregator are delayed by the company. Those using trip-booking platforms preferred the next day payments of Ola compared with the weekly payments of Uber. Operator-drivers are sensitive to the temporality of digital payments; an issue particular to those who have little income to save. The significance of cash to operator-drivers is so acute in some cases that it impacts their willingness to work with aggregator companies.

Operator-drivers can use the digital fares they receive through Ola Money across 300

participating partner companies, including food outlets and on-demand transport companies, but these typically cater to middle-class consumers. At the same time, the majority of small businesses in India do not yet accept digital payments, particularly those experiencing little demand from their customers. Operator-drivers are incurring the cost and inconvenience of the cash-out system in order to respond to demand from middle-class customers. This illustrates the kind of inequality occurring in India's transition to a cashless economy.

"Mostly all Ola trips are paid online but nowadays I am taking more trips on the meter so I can get more cash. Almost everyone who comes on the meter is ready to pay cash."

- Auto rickshaw operator-driver

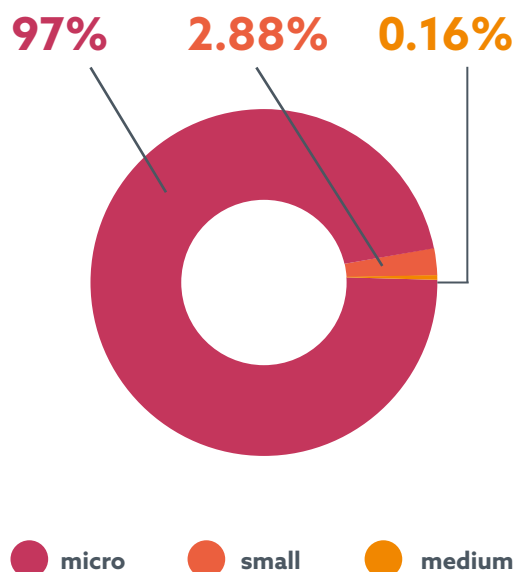
Policy Insights

1. Policies to increase digital payments in low- and middle-income economies need to be sensitive to the needs of MEs and the self-employed.

MEs and the self-employed form a significant proportion of total employment in low- and lower-middle income economies; in South Asia, it is approximately 80 percent of all persons (ILO, 2019) (Figure 4). In India, an estimated 63 million MEs employ 107.6 million people (Ministry of MSMEs, 2018). This figure is not inclusive of the underreported informal sector, estimated to compose 80 percent of all employment in South Asia (ILO, 2019).

The significance of cash for self-employed and MEs should inform policy on less-cash economies due to the significant numbers of people employed in these sectors and their important position in developing economies. We recommend that national governments promote inclusive strategies and regulations to support MEs and self-employed individuals to utilise digital fintech to ensure benefits

are equally distributed. The most vulnerable will need additional support so that no one is left behind. Transitions need to occur with increased stakeholder participation and over a period of time that is sufficient for those embedded in cash-economies to adjust. Rapid transitions to cashless economies through top-down policies, like demonetisation, risk disrupting MEs, potentially displacing those who cannot keep up.



29%

The contribution of formal MSMEs' alone to India's GDP. (Ministry of MSMEs, 2018)

Figure 3. Micro enterprises dominate employment shares in India's MSMEs sector. (Ministry of MSMEs, Gov. of India, 2018)

2. Cash needs to be easily accessible for digital transitions to occur without disproportionately affecting the most vulnerable.

Accessing cash is not only an issue of technical know-how. The inconvenience and cost of using ATMs are barriers in facilitating digital transactions among MEs. Exacerbating this problem are exclusionary financial policies and regulations that are: a) designed to disincentivize ATM and cash use; and b) designed so that consumers are paying the cost of maintaining cash-out infrastructure.

The state, financial institutions and banks can increase the number of ATMs and cashback facilities offering free withdrawals to ensure access to cash is available to those who need it most. State institutions can regulate public and private banks to remove, or reduce, withdrawal fees and seek new strategies to finance the provision of ATMs and other cash withdrawals. This will be necessary as the volume of cash reduces and the cost accessing cash increases.

3. Processes to start-up MEs can be improved with their participation in policymaking, reducing their dependency on other actors.

Cash has utility in facilitating relationships with intermediary agents, necessary for expediting MEs' start-up pathways. MEs need to establish their operations immediately to enable them to repay loan instalments on time, which in the long term will enable MEs to develop positive credit data.

Government departments can develop an awareness of the specific challenges presented by formal mechanisms used for starting-up MEs, including finance procurement and registration. Digital and online applications designed to



facilitate such processes will need to overcome the challenges faced by MEs. Start-up processes need to be efficient, transparent and accessible, high quality and available in the languages relevant to service users.

4. There are opportunities to support the acceptance of digital payments, raise awareness of credit scoring and manage the risk of exploiting new borrowers entering finance markets.

Banks, financial technology corporates and payment system operators can be encouraged to innovate solutions to the challenges in using fintech, and create effective incentives for their use. They will need to envision products that compete with the flexibility of traditional financial institutions, products, services and practices.

There are opportunities to develop MEs' and self-employed persons' credit score data using digital payments to produce evidence of their income (with or without aggregator platform companies) and loan repayment transactions. This can be achieved by working with workers' unions and civil society groups to increase knowledge of credit scoring and capabilities to produce positive data. If banks and non-banking finance companies (NBFCs) can efficiently analyse and trace borrowers' financial risk, it is possible, with appropriate regulations, that the cost of finance for MEs can reduce.

However, fintech needs to work fairly and beneficially for low-profit MEs and government institutions will need to regulate private finance companies to ensure the market does not exploit vulnerable borrowers. Capping interest-fee charges and developing alternative systems of security that do not involve taking possession of assets essential to the operation of MEs will improve the ability of MEs to repay finance, improve their credit score and access more affordable credit.



Participatory urban planning

Excluding operator-drivers from public space over congestion concerns has created impetus for relationships of dependency to form. Excluded operator-drivers pay law enforcement actors illicit fees to use spaces illegally without incurring a penalty. The situation is similar to MEs trading in public spaces. Local governments will need to increase the agency of those operating MEs by facilitating their participation in policymaking to ensure they can effectively operate their businesses by accessing relevant infrastructures and spaces that enable them to make a fair, liveable and legal income. If MEs are to fit into a less-cash, transparent and formal economy, it needs to work for them. This can only happen if their needs are understood and acted upon appropriately.



5. Digital payments are particularly relevant to those working with platform-based aggregator companies. Regulating these companies will ensure digital service payments do not disadvantage employees.

Small profit MEs are sensitive to the speed of digital payments made to them by platform-based aggregator companies. MEs would normally receive payments directly from consumers immediately, either in cash or online. However, accepting work through an aggregator company means that they are more likely to be paid digitally and face delays in accessing payments and turning them into cash. In India, aggregator companies hold payments for one to five days. Whilst payments are withheld by a third-party, and with little capacity to save, drivers often do not have enough money each day to meet their needs. Faster payments from platform companies to MEs will facilitate acceptance of digital payments made by consumers and increase their agency in the aggregator-partner relationship. Government and industry will need to regulate changes to payment requirements to achieve said gains.

We also found that e-wallets are designed exclusively for middle-class consumers, another indicator of the limited agency of those earning low incomes in the design of digital payment device products. Innovators in the financial technology industry will need to make incentives, rewards and discounts applicable to those of varying socio-economic backgrounds in order for products to be inclusive for those operating low-profit MEs. Regulators can encourage the fintech market to design products inclusively by publishing guidelines and ensuring equitable standards enforced. If this is achieved, and fintech becomes more relevant to those earning low incomes, there is a greater chance of MEs accepting digital payments in an inclusive, equitable way.

Further reading

This brief was authored by Lucy Baker and Tim Schwanen.

Copies of academic outputs relating to this research can be obtained by emailing tsudirector@TSU.ox.ac.uk

About the Transport Studies Unit (TSU) References

The TSU has been the centre of transport research excellence within the University of Oxford since 1973. The TSU hopes to inspire and inform change towards a more sustainable, just and accessible transport. Based within the world-leading School of Geography and the Environment at the University of Oxford, the TSU approaches global transport challenges from social science and holistic perspectives. Its work is organised in four broad themes: energy, climate and environment; politics, power and governance; everyday life and justice; and health and wellbeing. The TSU undertakes a range of other outreach activities targeted at local, national and international policy-makers, firms and corporations, as well as NGOs and other third sector organisations.



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About us

The PEAK Urban programme aims to aid decision-making on urban futures by:

1. Generating new research grounded in the logic of urban complexity;
2. Fostering the next generation of leaders that draw on different perspectives and backgrounds to address the greatest urban challenges of the 21st century;
3. Growing the capacity of cities to understand and plan their own futures;

In PEAK Urban, cities are recognized as complex, evolving systems that are characterised by their propensity for innovation and change. Big data and mathematical models will be combined with insights from the social sciences and humanities to analyze three key arenas of metropolitan intervention: city morphologies (built forms and infrastructures) & resilience; city flux (mobility and dynamics) and technological change; as well as health and wellbeing.

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Our framework



The PEAK Urban programme uses a framework with four inter-related components to guide its work.

First, the sciences of **Prediction** are employed to understand how cities evolve using data from often unconventional sources.

Second, **Emergence** captures the essence of the outcome from the confluence of dynamics, peoples, interests, and tools that characterize cities, which lead to change.

Third, **Adoption** signals to the choices made by states, citizens and companies, given the specificities of their places, its resources and the interplay of urban dynamics resulting in changing local power and influence dynamics.

Finally, the **Knowledge** component accounts for the way in which knowledge is exchanged or shared and how it shapes the future of the city.

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