India Cash Outlook

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Executive Summary

The payments business in India is on the cusp of a revolution. With rapid growth and modernization of the economy, there is little doubt that a majority of India’s 1.2 billion plus citizens will demand and get modern financial services that are far superior to what their parents’ generation enjoyed. The question is how soon the supply side can be developed to deliver; five, ten, or twenty years.

This report provides a broad overview of the major issues, debates, and trends in payments in India, crystallizing the efforts of two month long research effort that has covered the most pertinent policy documents, analyst reports, journal articles, expert interviews and analysis of data on payments in India. Our guiding question was to understand why Indians transact primarily in cash, and whether there was reason to expect any drastic change in their payment behavior in the short to medium term. Our conclusions are the following:

India is cash intensive, even for a developing country.

As a percentage of GDP, the value of notes and coins in circulation in the economy is 12.2%, which is higher than countries like Russia (11.9%), Brazil (4.1%) and Mexico (5.7%). The ratio of money held in bills and coins (M0) to the amount held in demand deposit and savings accounts (M2) in India is 51%, which is higher than Egypt (29.3%), South Africa (8.9%), and Mexico (8.7%).

Most Indians currently lack the means to use non-cash payments, even if they want to.

Fewer than 35% of Indians above the age of 15 have used a bank account. Less than 10% have ever used any kind of non-cash payment instrument.

The growth in value of ATM transactions has far outpaced growth in the value of card payment transactions.

The total value of ATM transactions has increased more than five times in the period 2007 to 2012, from about 3 trillion to about Rs. 18 trillion, while the value of card transactions have barely doubled in the same period from Rs. 1 to 2 trillion.

Despite its prowess in IT and telecommunications, India has been left behind by its peers in mobile payments.

Though India has a fiercely competitive telecommunications market, possesses relatively well-developed financial markets and is a leading exporter of technology services, fewer than 2% of Indians have used a mobile phone to receive a payment, compared to over 60% of Kenyans and 11% of Nigerians.

The RBI has consciously chosen a bank-led model over a telecom-led one to achieve its financial inclusion goals.

Telecom firms have been recently allowed to enter the payments space in India, and, only through partnerships with banks. The RBI sees the expansion of the banking system through the
appointment of Business Correspondents (BCs) as crucial to increasing access to a wide range of financial services.

The Business Correspondent (BC) model is not a viable business proposition without greater product diversification.

More than half of India’s 11 leading BC firms report that they do not currently recover their costs. Few do more than open bank accounts for customers on behalf of banks and enable remittance transfers, the latter being the only source of any significant profit margins.

Aadhaar, India’s Unique ID project, will reduce the cost of serving India’s unbanked population

The Aadhaar project aims to give every Indian a portable identity that will enable them to access a range of financial services independent of their physical location. The project has issued 350 million unique IDs already and another 600 million are expected to be completed by 2014. For banks and their partner BCs, this will mean a significant reduction in the costs of complying with KYC norms during account opening and assessing credit risk histories of low-income borrowers.

Cash Use in India

In the winter of 2010, thousands of protesters marched to New Delhi to voice their discontent at the ruling government after a spate of multi-billion dollar corruption scandals made front-page news across the country. One of the demands of the anti-corruption movement, made popular by a well-known television yoga guru turned activist, Baba Ramdev, was to ban 500 (~$8.5 USD) and 1,000 (~$17 USD) rupee notes—which then accounted for 76% in value of all currency in circulation, though only 17% in volume (Shetty 2011). The protesters reasoned that a vast majority of Indians completed most of their everyday transactions in smaller denomination bills. Large bills, they said, only served to facilitate illegal transactions and money laundering, since these always involved physically moving and storing large sums of unaccounted-for money outside of the formal banking system. The Times of India picked up on this story and asked a number of Indian bankers what they thought of this idea to reduce the amount of so called ‘black money’ flowing in the economy through these high value notes. They were unanimous in their disfavor. If ATMs were to stock only 100 rupee notes, since they typically hold about 10,000 notes, the rate of replenishment would increase dramatically, and along with it, the costs of operations. Costs of related activities like printing more currency bills, transportation, as well as opportunity cost of time spent in counting and storing bills will increase. The article ends by quoting an unnamed banker who points out that only about 5% of all transactions in India are electronic, hinting that the key to reducing off the book transactions and increasing government revenues lies not in banning high denomination bills, but in reducing the cash intensity of India’s economy.

This story, ostensibly about corruption, also reveals a great deal about the state of payments in India. Most Indians pay for most things in cash—in 2012, 87% of the value of all transactions in India took place in cash (Euromonitor International 2013). Even Indians with access to formal banking carry a lot of cash with them, usually in high denomination bills. And furthermore, cash fuels India’s huge informal or ‘black’ economy—where transactions are kept off the books or are underreported—worth at least 23% of the official GDP according to one estimate (Schneider and Montenegro 2010). While both the bankers and the civil society activists wanted to see fewer cash transactions, they fundamentally disagreed on the best way to bring this about.

Table 1. Consumer Payment Media BY VALUE (% of Total)

<table>
<thead>
<tr>
<th>Payment Type</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card Payment Transactions</td>
<td>2.8%</td>
<td>3.1%</td>
<td>2.9%</td>
<td>2.8%</td>
<td>3.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>(Excluding Commercial)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Direct / ACH Transactions</td>
<td>2.6%</td>
<td>3.0%</td>
<td>3.8%</td>
<td>4.5%</td>
<td>5.6%</td>
<td>6.8%</td>
</tr>
</tbody>
</table>
The State of Cash in India

It is undisputable that India is a tremendously cash-intensive economy. While the value of non-cash payment transactions as a percentage of total consumer payment transactions has been increasing steadily (Table 1-A), cash still dwarfs the alternatives quite significantly.

What is especially interesting is that while the value of cash transactions, as a percentage of total consumer payments, has declined from 90.6% in 2007 to 86.6% in 2012 (Table 1-A), the fraction of the total volume of such transactions attributed to cash has stayed relatively stable. It decreased from 99.32% to just 98.84% (Table 1-B). A possible explanation for this could be a divergence in payment behavior among Indian consumers. High-income consumers in India are increasingly using non-cash media to pay for large value transactions while the vast majority of the Indian population, who do not have a bank account, continue to use cash to pay for most transactions.

### Table 2. Consumer Payment Media BY Volume (% of Total)

<table>
<thead>
<tr>
<th>Payment Type</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card Payment Transactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Excluding Commercial)</td>
<td>0.32%</td>
<td>0.38%</td>
<td>0.42%</td>
<td>0.45%</td>
<td>0.51%</td>
<td>0.60%</td>
</tr>
<tr>
<td>Electronic Direct/ACH Transactions</td>
<td>0.09%</td>
<td>0.11%</td>
<td>0.13%</td>
<td>0.18%</td>
<td>0.24%</td>
<td>0.32%</td>
</tr>
<tr>
<td>Cash Transactions</td>
<td>99.3%</td>
<td>99.2%</td>
<td>99.1%</td>
<td>99.1%</td>
<td>99.0%</td>
<td>98.8%</td>
</tr>
<tr>
<td>Other Paper Payment Types (Checks, Demand Drafts)</td>
<td>0.27%</td>
<td>0.26%</td>
<td>0.26%</td>
<td>0.25%</td>
<td>0.24%</td>
<td>0.24%</td>
</tr>
</tbody>
</table>

Source: Euromonitor Passport 2013

India’s cash intensity stands out among the other developing countries. The value of notes and coins in circulation as a percentage of GDP for 2010 was 12.04% for India, which is far higher than countries like Brazil (3.93%), Mexico (5.32%) and South Africa (3.72%) for which we have comparable data (see “Focus: Cash in Hand,” 2012).

Another useful metric that can be used to compare cash intensity is to look at cross-country monetary aggregates. The amount of money held in bills and coins (M0) relative to the amount held in demand deposit and savings accounts (M2) is a good indicator. For India, M0 as a percentage of M2 is over 50%, which is higher than other developing countries like Mexico (9%), South Africa (9%), or China (5%). Even in cash-intensive Egypt, M0 is 24% of M2.
Figure 1.

**Cash vs Non-Cash Consumer Payments Value (2012)**

<table>
<thead>
<tr>
<th>Payment Method</th>
<th>Value (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card Payment Transactions (Excluding Commercial)</td>
<td>2%</td>
</tr>
<tr>
<td>Electronic Direct / ACH Transactions</td>
<td>4%</td>
</tr>
<tr>
<td>Cash Transactions</td>
<td>7%</td>
</tr>
<tr>
<td>Other Paper (Checks, Demand Drafts) Transactions</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Euromonitor Passport 2013

**Why Cash Rules in India**

Most Indians currently lack the means to use cashless alternatives, even if they may possess the will. The World Bank estimates that just about 35% of the population above the age of 15 has an account at a formal financial institution (Demirgüç-Kunt, Asli, Leora Klapper, and Douglas Randall, 2012). Less than 9% of the population older than 15 years has a debit card and less than 2% has a credit card. Among the non-cash instruments used, checks are the most prevalent. Roughly 7% have used a check within the last 12 months to make a payment. Around 2% of the population has used mobile phones to receive money, or has been involved in an electronic payment in the last 12 months. These numbers are significantly lower when broken down for rural, bottom 40%, and female population segments.

Figure 2.

**Cash Intensity vs. GDP**

<table>
<thead>
<tr>
<th>Country</th>
<th>Notes and Coins in Circulation / GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>12.4%</td>
</tr>
<tr>
<td>India</td>
<td>12.2%</td>
</tr>
<tr>
<td>Russia</td>
<td>11.9%</td>
</tr>
<tr>
<td>United States</td>
<td>6.7%</td>
</tr>
<tr>
<td>Mexico</td>
<td>5.7%</td>
</tr>
<tr>
<td>Brazil</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Source: BIS (2010)
Even among the 35% of the population that reports having an account at a financial institution, a large number of these accounts seem to be dormant (Fig. 1-E). Less than 5% of the population report having used their accounts in the last 12 months either for business purposes or to receive government payments. About 2% have used their accounts to even send or receive remittance payments. Just 8% of the population has used their accounts to receive wages in the last year. All of these pose the question, why are all the other people who say they have bank accounts not using them?

On December 13, 2005 the RBI announced its intention to give financial inclusion in India a new push by advising banks to open basic ‘no-frills’ accounts with small fees and low balance requirements. It intended to integrate “vast sections of the population” in the banking system (Reserve Bank of India 2012a). Public sector banks—in which the Indian government held a majority stake—followed suit opening more than 50 million no-frills accounts between March 2006 and March 2007 (Thorat 2007). Their private peers, not quite sharing the enthusiasm, opened around 8 million accounts during the same period of time.

Indian banks, focused on complying with RBI targets rather than redesigning their financial products to suit the needs of India’s unbanked, seem to have gone on overdrive signing people up. The banks did not put much thought into how these would be useful to them—leading to widespread account dormancy.

Research by Microsave, an international financial inclusion consultancy, also points to “psychological and physical” barriers that account holders face (Ballem and Bansal 2011). Distance to bank branches, cost of travel, and opportunity cost of time spent all contribute to lower account usage for rural banking customers. In addition, rural account holders often associate bank accounts only for big amounts and for rich customers.

For banks, low usage and small float amounts make these accounts unattractive. Because their costs largely scale with the volume of customers and transactions and their revenue with value of float and transactions, banks are less interested in small value transactions. Hence, banks do not focus their innovation efforts on these consumers.

In addition to these proximate causes, the stickiness of cash plays an important role. If almost all earnings and expenses are in cash, there are few obvious reasons for customers to store their money in anything but cash.
High account dormancy rates are, therefore, a result of a combination of demand side, supply side, and regulatory barriers. These facts have not been entirely lost on the RBI. In 2012 RBI mandated banks to report their number of dormant accounts and in 2013 it penalized some banks for failing to do so (Reserve Bank of India 2012a; Reserve Bank of India 2013).

**For Those with Means, Alternatives to Cash Growing**

Between 2007 and 2012, the number of financial cards in circulation had more than doubled, while the total value of ATM transactions increased more than five times. The former increased from about 150 million to over 400 million, and the latter from about Rs. 3 trillion to about Rs. 18 trillion.

**Figure 4.**

Access to Financial Services

<table>
<thead>
<tr>
<th>Account at a formal financial institution</th>
<th>Debit card</th>
<th>Checks used to make payments</th>
<th>Electronic payments used to make payments</th>
<th>Mobile phone used to receive money</th>
<th>Credit card</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Female</td>
<td>Bottom 40%</td>
<td>Rural</td>
<td>All</td>
<td>Female</td>
</tr>
</tbody>
</table>

Source: World Bank Findex

**Figure 5.**

Account Usage Breakdown

<table>
<thead>
<tr>
<th>Account at a formal financial institution</th>
<th>Account used for business purposes</th>
<th>Account used to receive government payments</th>
<th>Account used to receive remittances</th>
<th>Account used to receive wages</th>
<th>Account used to send remittances</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Female</td>
<td>Bottom 40%</td>
<td>Rural</td>
<td>All</td>
<td>Female</td>
</tr>
</tbody>
</table>

Source: World Bank Findex
During the same period, however, the growth in the value of card payments has remained largely stagnant. While the number of PoS terminals has been growing, the overall fraction of India’s 10 million plus retailers who currently have them is still small. This could be one reason why growth in the value of card payments has been so slow.

One report on the status of payments in India suggests that one reason for this could be that in India, banks generally undercut their fees for large retailers in order to attract more CASA (current and savings account) deposits, essentially recouping their costs through a float-based business model (Task Force on an Aadhaar-Enabled Unified and Infrastructure 2012). Unfortunately, this model does not work with smaller merchants who constitute the vast majority of India’s retailing industry.

When it comes to ATM access, despite the rapid growth in absolute numbers, India fares poorly compared to Kenya, Nigeria, and Egypt, when weighted for population. Nevertheless, India still does quite well on access to commercial bank branches. It is typical of sub-Saharan African countries to have more ATMs than bank branches, while the reverse is true in South Asia. India’s
bank branch density per capita was a full two points higher than the average for lower middle income countries, according to the World Banks’ World Development Indicators. Due to the stark differences among the BRICs in per capita income, Brazil and Russia have bank branch density per capita of 37 and 46 respectively. So, one legacy of India’s state-run banking system is a plentiful presence of bank branches. Since ATMs have been slow to roll out, bank BCs needed to step in.

**Figure 8.**

![ATMs vs Commercial Bank Branches](image)

**Who Pays without Cash and Why**

Though the number of Indians with a bank account and access to a non-cash payment instrument like a debit or a credit card is small compared to the total population, their numbers are still substantial on an absolute level, and growing.

Indian non-cash payments are much more sizeable from a value perspective than from a volume perspective. Though only 1.2% of the volume of total transactions, non-cash payments account for more than 13.4% of the value of all transactions. Average non-cash transactions (Rs. 2460=US$40) are 13 times as big as average cash transactions (Rs. 186 =US$3.1) (see World Bank 2013).

Non-cash payments in India are dominated by three transaction types: card payments, electronic direct transactions, and non-cash paper transactions. Roughly half of non-cash payments (in terms of volume) are card payment transactions. The other half is split almost evenly in electronic direct transactions or automated clearing house (ACH) transactions (28%), and other paper transactions like checks or demand drafts (21%). In terms of value electronic direct and ACH transactions play a bigger role accounting for 51% of transaction value. Thus, card payments, electronic transactions, and paper transactions are equally important in Indian non-cash payment, though the relevance of checks have been declining rapidly over the past 5 years.

Card payment can be split in three categories: debit cards, credit cards, and prepaid cards. Half of the card payment volume is debit-card transactions, another quarter come from credit cards, and the last mostly from prepaid cards. Credit cards are used much more than debit cards (20 transactions per year vs. 2 transactions per year) and have almost twice the average value per transaction than debit cards.
As Figure 9 shows, debit cards are mostly used to pay for personal transport (31%), food, beverages, and tobacco (22%), and clothing and footwear (10.5%). Credit card spending is more focused on clothing and footwear (28.5%), transport (13.2%), and food, beverages and tobacco (16%).

Utility bill payments, electronic tax payments, or electronic cell phone recharges are all instances of electronic direct transactions (NEFT in Indian payments-speak) and ACH (NECS) transactions. Data on the composition of these payments is much sparser than for payment cards. Companies like Billdesk, an bill payments gateway, that offer electronic billing services to banks and utilities, estimate that the average transaction size in their market is between US$40 and US$50. Billdesk processes around 300 million transactions per year (interview data).

Little information is available on the demographics or other characteristics of non-cash payers. Online payments entrepreneurs ascribe the reason for their growth to a fast expanding class of young, tech-savvy Indians living in its biggest cities, who are far more comfortable paying for things online now than ever before (interview data).

Use cases for non-cash payments mostly focus on convenience. Websites offer to automatically pay your electricity or water bills online, a process that used to involve hours of travelling and waiting time. Others offer to recharge phones, pay for train tickets, or pay for online purchases. Mostly, they advertise with saved time, and little hassle for data entry. University fees and municipal taxes are also going electronic—the latter fueled by a central government mandate for all government services that collect user fees to accept e-payments by 2015.

Is India an Outlier?

Percentage of respondents with an account at a formal financial institution, as defined by the World Bank, India stands at 35%. In Kenya, the corresponding figure is 42%, 55% in Brazil, 29% in Nigeria, 63% in China and the average for low and middle income countries is about 28%. When it comes to the use of mobile and electronic payments though, India lags behind the rest. While Brazil is the clear leader in terms of electronic payments, Kenya is the undisputed champion when it comes to mobile payments.

1 "An account (self or together with someone else) at a bank, credit union, another financial institution (e.g., cooperative, microfinance institution), or the post office (if applicable) including respondents who reported having a debit card (% age 15+)")

2 World Bank definition: "Denotes the percentage of respondents who used electronic payments (payments that one makes or that are made automatically including wire transfers or payments
Given Kenya’s widely lauded success in taking mobile banking to the masses with its M-Pesa network, this isn’t surprising. What’s interesting though is that India actually does better than Kenya in terms of mobile penetration, measured as number of mobile cellular subscriptions per 100 people, despite having three times the population. Brazil and China, too, despite their vastly higher GNI per capita, are laggards in the penetration of mobile banking services. In Nigeria, which is poorer than India in GNI per capita terms and has lower mobile penetration, 11% of the respondents report having used a mobile phone to receive a payment compared to about 2% in India. Nigerians also make greater use of electronic payments at 2.4% versus 1.6% in India.

When it comes to percentage of the population that report saving at a financial institution in the last year, both India and Brazil fare poorly. China is the clear leader on this measure followed by Nigeria and Kenya who are about evenly placed. India falls largely within expectations when compared to the average for low and middle income countries together. India, in fact, does slightly better than average on the parameter of percentage of population that have access to an account, but slightly worse on percentage of population that received a mobile payment or has been involved in an electronic transfer.

For a poor country (2011 GNI per capita: $1,420), India has a remarkably well developed financial sector. In 2012, India’s National Stock Exchange (NSE) was the world’s largest exchange by number of trades in equity shares, followed by the New York Stock Exchange which was number two (Exchanges 2013). The combined market capitalization of its top five listed telecom companies is over $60 billion (Business Today 2013). Indian cellphone users enjoy the lowest usage rates in the world (Li and Ninan-Moses 2013). About 67.9% of India’s $136 billion worth of commercial service exports was in the area of computer, communications and other services (World Bank 2012). The average for high income countries (2011 GNI per capita of $12575 or more) is 47.2%.

What is striking from the facts and figures above is that India, despite its economy possessing many advantages unavailable to most low-income countries, has not been able to make significant progress in providing financial services to the vast majority of its people. In the next section of this outlook, we will provide an overview of what the payments architecture in India looks like and identify what are the barriers to progress in the growth of non-cash alternatives.
Finally, no discussion on India’s propensity for cash use is complete without mentioning the role cash plays in fueling India’s ‘black’ economy. Anyone who has spent any significant amount of time in India has most likely interacted with its black economy in some way. Be it when paying rents (in cash), taking a cab (without getting a receipt), or getting taxes “waived” (because the invoice was paid in cash). Transactions in various shades of gray are commonplace in every part of life. Most recent estimates put India’s black economy at 40% of GDP in 1999 and experts estimate that its share of GDP has grown since to be around 50% (Kumar 1999; interview data).

Cash is the payment instrument of choice for these transactions, mainly because it is easy to keep it off the books. That transactions are final, irrevocable, and immediate also helps. Often, deals are done partly in cash evading taxes by under-invoicing customers and inflating invoices from vendors. For real-estate transactions it is common to pay part of the price in cash and mark down the value of the property accordingly to evade applicable taxes. The Indian economist Arun Kumar (Jawaharlal Nehru University) claims that India loses US$314 billion from tax evasion due to under reported or off-the-books ‘black’ transactions every year (Dhara and Thomas 2013).
In the US, most of the tax evaded is estimated to be underreported income tax. In India, a country with an average income of Rs 50,000 per year (US$ 820), the threshold for paying income tax is Rs. 200,000 ($ 3280) and higher. As a consequence, only 3% of Indians file for income tax and around 1% pay income tax (interview data). As a result, many low-paying jobs without contract might be informal but are not part of the black economy. Tax evasion mostly comes from unreported or underreported factor income.

Table 3.

<table>
<thead>
<tr>
<th>2006 World Bank Informality Indicators</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of times firms spent in meetings with tax officials</td>
<td>3%</td>
</tr>
<tr>
<td>Firms expected to give gifts in meetings with tax officials (% of firms)</td>
<td>52%</td>
</tr>
<tr>
<td>Firms that do not report all sales for tax purposes (% of firms)</td>
<td>59%</td>
</tr>
<tr>
<td>Informal payments to public officials (% of firms)</td>
<td>48%</td>
</tr>
<tr>
<td>Tax revenue (% of GDP)</td>
<td>11%</td>
</tr>
<tr>
<td>Time to prepare and pay taxes (hours)</td>
<td>264</td>
</tr>
</tbody>
</table>

World Bank data from 2006 corroborates these results. Over half of the firms state that they are expected to give gifts in meetings and do not report all sales for tax purposes. Almost half acknowledge payments to public officials.

But for the government the black economy is not only about lost revenue. It is also about what Indians euphemistically call leakage in government programs – government fund not reaching their intended beneficiary. The Asian Development Bank estimates up to two-third of spending on food subsidies is wasted due to fraud and excess cost (Jha and Ramaswami 2010). This is where non-cash payment solutions like Aadhaar – described in detail in chapter 0 – tie in.

Thus, the size of India's black economy is both an incentive and a barrier for wider adoption of non-cash payments. For consumers, keeping transactions of the record will hamper adoption of electronic payments especially for large-scale business and real-estate transactions. Tax incentives for using debit or credit cards might help to win these consumers over (Ministry of Finance, 2012). For the government, driving adoption of electronic payment is highly desirable – potentially turn tax evasion of US$314 billion into desperately needed revenue, while at the same time reducing leakage and government expenditure.

Banking Regulation and Payments in India Today

Banking in India: A Short History

Since its Independence in 1947, India has made substantial progress in increasing the reach and effectiveness of its banking sector. From one branch per 136,000 people in 1950, India’s bank branches to population ratio has increased threefold to one per 13,000 people (Ananth and Öncü 2013).

Given historical experiences with the rapacious mercantilism of the colonial era, India’s leaders post-Independence favored a strongly interventionist state that set priorities for the economy as a whole. The finance and banking sector was no different. The Reserve Bank of India (RBI), set up in 1935 to regulate the banking sector and formulate monetary policy, reported in its report All India Rural Survey Committee in 1951-54 that “commercial banks provided only 0.9% of the total credit to farmers (estimated at Rs 750 crore) in 1951-52.” The agriculturalist moneylenders, ,
according to Ananth and Öncü provided 24.9% and professional moneylenders accounted for 44.8% of the total credit provided to farmers in the same year.

For an overwhelmingly rural, agrarian country, which desperately needed to expand access to financial services to spur growth, this state of affairs was deemed unacceptable. At the time, apart from the State Bank of India—previously the Imperial Bank of India, nationalized in 1955—all of India’s major commercial banks were privately owned entities. In 1969, the Indian government nationalized the 14 largest commercial banks in the country. This raised the share of deposits held by public sector banks from 31 to 86% (Roland 2008). There were two main objectives to this nationalization initiative. One, rapidly expand the number of bank branches in the country and, two, channel credit according to the priorities laid down by the five-year plans formulated by the central government. Banks were given quantitative targets for the expansion of their bank networks and the percentage of their credit portfolio that had to be devoted to certain ‘priority’ sectors.

In 1980, there was another wave of bank nationalization, which cemented the government’s control over the banking sector by committing 6 more banks to its management. The wave raised the public sector’s share of bank deposits to 92% (Roland 2008).

The effect of the nationalization on the number of bank branches can be seen in Fig. 2-A, growing from 8,262 branches in 1969 to 60,220 in 1991. Interestingly, the growth in the number of bank branches slowed down after the liberalization reforms in 1991, with an addition of only 8,135 bank branches between 1991 and 2005. After 2005, though, a renewed emphasis by regulators and policymakers on financial inclusion led to an increase in the number of bank branches substantially to 99,884, as of March 2012 (Roland 2008).

Figure 11.

In 1991, a balance-of-payments crisis forced the Indian government to undertake a far-reaching set of reforms to inject competitiveness into India’s moribund economy and attract foreign investments. Substantial reforms were made to banking regulation as well, with the government dismantling interest rate controls, granting licenses to new banks, introducing capital adequacy measures to improve financial soundness. Recognizing that priority sector lending targets had significantly decreased the profitability of Indian banks, the government also moved to relax many of its more stringent norms. The definition of priority sector was expanded to include, for instance, information technology companies, improving the profitability of priority sector lending.
Priority sector lending targets also spurred the growth of microcredit in India, which developed in two distinct models since the 1990’s. The first is the SHG-Bank linkage (self-help group) model where commercial banks lend directly to groups of borrowers formed specifically for this purpose and is the predominant model in India by number of customers served. The second is the microfinance institution (MFI) model where MFIs borrow funds from banks and lend it microfinance clients who otherwise do not borrow from formal financial institutions. In 2010, MFIs served over 24 million clients and had over $4.3 billion in outstanding loans. The corresponding figure for number of people served by the SHG program is 81 million with $6.2 billion in outstanding loans (Champatiray, Agarwal, and Sadhu 2010). Figure 2-B gives a timeline of significant events with regards to the banking industry and financial inclusion in India.

In 2006, the RBI provided further fillip to the cause of financial inclusion in India by allowing banks to appoint non-bank intermediaries, known as Bank or Business Correspondents (BC), to extend financial services to those areas where banks did not have branches. Fig. 2-C shows just how important the BC channel has been for the banking sector to meet its financial inclusion goals—while the number of rural branches has stayed the same since 2010, the number of BC operated outlets has increased by a factor of 6 (Chakrabarty 2013a). Clearly banks see this as a more cost effective way of meeting their financial inclusion targets than opening up brick and mortar branches.

Figure 12.

1969: First wave of bank nationalization

1980: Second wave of nationalization

1991: Banking sector liberalization

2006: RBI allows banks to appoint third party BCs

2002: Major MFIs adopt for-profit model

1997: First Indian MFIs established on Grameen model

2010: SKS becomes India’s first MFI to go public

2012: MFI law drafted, making RBI sole regulator

2013: RBI invites applications for new bank licenses
In 2010, SKS, India’s largest MFI, became the first Indian microfinance company to go public. Shortly after, though, public opinion about MFIs changed dramatically, with many operating in the state of Andhra Pradesh being criticized for aggressively lending to poor families with multiple loans, they couldn’t pay back and for coercive lending practices. After a spate of suicides among MFI borrowers, the Andhra Pradesh government stepped in and introduced a law imposing strict rules on how MFIs operated in the state—as a result, loan collection fell from 99% of the amount outstanding to less than 20% after the law was passed.

In 2012, the Central Government moved to bring all MFIs under a national law that set limits on interest rates they could charge and also made the RBI the sole regulator for the sector. The law also allowed, for the first time, for MFIs to become deposit taking institutions—though unlike banks their deposits would not be insured, and minimum capital requirements would be lower. At present, despite many urging it to do so, the RBI does not allow an entity to assume functions of both a BC and an MFI (Srivats 2012).

The RBI has recently announced that it will be granting new licenses to operate banks in India. One of the criteria by which it is judging the merit of an application for a license is how a new bank plans to further its financial inclusion agenda. Some of India’s oldest microfinance institutions such as Janalakshmi and Bandhan are among the applicants in this process as they hope to leverage their already expansive network in unbanked areas and build on their cost efficiencies to sell new products (Roy 2013). Other MFIs like SKS are staying the course in the traditional route as they see immense business potential in enabling banks, both old and new, to meet their priority sector lending targets.

If there is one common thread in the RBI’s policies on financial inclusion it is that banks have to play a central role. As we shall see in the forthcoming sections, this is a deliberate policy position and has significant implications for how Indians access financial services, including payments.

**Regulatory and Institutional Framework for Payments**

As we have already seen, the most important financial regulator is the RBI, which is the nation’s central bank and has been tasked with the objectives of economic growth, price and financial stability. SEBI, or the Securities and Exchange Board of India, is in charge of regulating the capital market. The Insurance Regulatory and Development Authority (IRDA), regulates the insurance sector. The Ministry of Finance, which is tasked with framing much of India’s macroeconomic policy, also directly shapes outcomes in the financial markets through its supervision of public sector banks, managing public debt, and monitoring the functioning of capital markets.
The Payments and Settlement Systems Act (PSS) of 2007 has empowered the RBI to be the sole regulator of all payments and settlement systems in the country. Its preamble states that the Payment and Settlement Systems Act of 2007 is:

An Act to provide for the regulation and supervision of payment systems in India and to designate the Reserve Bank of India as the authority for that purpose and for matters connected therewith or incidental thereto.

Section 2 (1)(i) of the Payment and Settlement Systems Act, 2007, defines a payment system as

a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement service or all of them, but does not include a stock exchange.

The same Act categorically states that no person, without explicit sanction from the RBI shall “commence or operate a payment system.” Within the RBI, it is the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS), a committee of its central board, that formulates policies that govern payment and settlement systems in India, sets standards and determines criteria for membership to these systems.

There are two other organizations, which while not regulatory bodies, play crucially important roles in India’s payments architecture. The first is the Clearing Corporation of India Limited (CCIL), which was set up in 2001, with its shares owned mostly by public sector banks and financial institutions. CCIL was set up with the purpose of providing an efficient and safe institutional framework for the clearing and settlement of trades in government securities, foreign exchange, money, and debt markets. It also plays a crucial role in the settlement of most ATM transactions in India through its operation of the widely used National Financial Switch (NFS).

The National Payments Corporation of India (NPCI) is a similarly constituted quasi-public organization—its shares are mostly owned by public sector banks. Promoted by the RBI, it has been tasked with the objective of consolidating and building upon existing payments infrastructure, and expanding the reach of retail payment services by constructing a technology platform that is low-cost yet robust.
Non-Cash Payment Media in India

The most important non-cash payment systems include RTGS (Real Time Gross Settlement), NEFT (National Electronic Funds Transfer), NECS (National Electronic Clearing System), checks and payment cards. The adjoining graphic, Fig. 2-C, describes each of these systems and their main characteristics.

In addition to the six described in the graphic there is another non-cash payment system worth mentioning. This is the set of exchange and settlement systems operated by the CCIL for transactions in government securities and foreign exchange markets.

The National Financial Switch (NFS), the backend that the IMPS runs on, is operated by the National Payments Corporation of India (NPCI) and is the largest ATM network in the country. It has played an important role in the expansion of ATM services in India by enabling connectivity between the ATM switches of all banks.

Figure 2-B shows the growth in transaction volume for various non-cash retail payment systems between 2004 and 2012. Here, retail electronic clearing refers to NECS as well as NEFT.
transactions. These are clearly fast growing channels for consumer payments, whereas paper clearing systems such as checks and demand drafts are reducing in significance.

**Figure 15.**

![Retail Payments System Volume](image)

**RBI’s Vision for Payments in India**

In laying out its vision for payments in India in the near future, the RBI highlighted four key challenges that need to be overcome for non-cash payment methods to really take off in India (Reserve Bank of India 2012b). The first is the poor penetration of the banking system, particularly in rural areas where only a quarter of over six hundred thousand villages have access to a banking outlet. The second is the preference for cash over all other forms of payment among Indian consumers, many of whom lack access to formal financial services. The third, which represents as much a challenge as an opportunity, is the gargantuan task of migrating government payments to electronic platforms. The RBI estimates that if Rs. 2.93 trillion worth of government subsidies are routed electronically, it could translate to 4.13 billion electronic transactions a year. Fourth, the lack of Point of Sale (PoS) infrastructure is a huge constraint on the growth of electronic transactions—less than 0.6 million retailers out of over 10 million nationally have the necessary infrastructure to accept card payments.

The RBI explicitly states that its goal is to transition India away from its heavy dependence on cash and towards a “less-cash society, if not cashless society”. It then goes on to identify the seven key elements (7 A’s) of what it sees as a modern and widespread payment system, which are accessibility, availability, awareness, acceptability, affordability, assurance, and appropriateness. For a document that purports to lay out a grand strategy for achieving a paradigm-shift in India’s payments strategy, its authors spend a remarkable amount of time and space detailing the nitty-gritties of the RBI’s plans to develop common standards for various payment systems ensuring interoperability and portability.

On the question of improving access to financial services and especially payments, the RBI clearly sees lack of identification documents among customers unable to fulfill KYC norms as one of the major issues. It lists a number of goals from simplifying KYC norms for using various payment services to encourage the use of prepaid cards. No details on what are the related targets are to be achieved or when they should be achieved is specified. The RBI also sees affordability of payment
services as a key roadblock. It also hinders the balance between the need to ensure that payments are a ‘public good’ while allowing for payments businesses to be self-sustaining and viable. Among the ideas that it proposes to reduce costs are to spend more time devising an appropriate price band for payment services, initiating talks with the government, and provide tax incentives to merchants and consumers to use electronic payments. The RBI also highlights the need to improve financial literacy among the general population and the need for educational programs to this effect without stating any details of the size and nature of the target audience.

The final chapter of the RBI’s strategy document is titled “Move towards a less-cash society.” It identifies a broad ambition of ensuring that innovation helps achieve “convergence of products and services which should be available across all delivery channels to all in a low cost safe and efficient manner.” On the question of mobile payments, an area where India lags significantly, the RBI in the course of action section notes that these ought to be “encouraged” and that it would be necessary for mobile network operators and banks to “cooperate and collaborate” through a centralized platform such as the IMPS offered by the NPCI. The chapter ends with a number of initiatives to discourage cash use that are under consideration. This includes ideas like placing a transaction limit on payments that can be made by cash and checks, though it is unclear whether or when these are to be implemented.

Critiquing the RBI’s Vision

In their evaluation of the RBI’s vision document on payments, Suyash Rai and Madhavi Pundit, economists at the National Institute for Public Finance and Policy (NIPFP) and the Asian Development Bank respectively, criticized its narrow focus (2012). They argued that a vision document ought to ideally be an opportunity “to think from first principles, and to dream about the payments landscape.” For them, the most glaring deficiency in the document was the lack of quantifiable goals that would enable someone to envision what the payments space in India would look like in 2015. There is also very little in the document about what the role of the private sector should be as envisioned by the RBI, making it very difficult for industry participants to plan future strategy. Indeed, note Rai and Pundit, “from this document, it seems RBI is running all payment systems, with incidental cooperation from the private sector.”

Rai and Pundit also criticize what they see as the regulator overstepping its role by participating in the provision of the very services it is supposed to be regulating. For instance, systems such as NEFT and ECS, for which the RBI goes into great detail about the kinds of improvements it is planning, can and should be run by a competitive, sensibly-regulated private sector. One of the sharpest criticisms Rai and Pundit make in their evaluation is that the role of non-banks in the payments space is almost completely absent in the RBI’s document. Telecom companies such as Airtel and Vodafone are required by the RBI to partner with banks, without which their mobile-wallet services have to remain semi-closed loop systems—disallowing customers from withdrawing their money. Even once a company like Vodafone partners with a bank, cash withdrawal will only be allowed from registered points that have to be within 30 km of the nearest partner bank branch. Without a drastic rethink of the conservative approach that the RBI brings to the payments sector in India, Rai and Pundit see little progress being made towards RBI’s stated goal of transitioning towards a ‘cashless’ or even a ‘less-cash’ economy.

Ajay Shah, one of India’s preeminent economists, sees a much more fundamental issue in the way RBI’s position as payments regulator has been enshrined in law (2013). He argues that the Payment and Settlement Systems Act of 2007 fails to articulate to what ends the RBI should be using its strident powers as the sole authority on payments. He points to the preamble of the act, which states that the act provides for the regulation and supervision of payment systems in India, appointing the RBI as the authority for this purpose. However, it does not make it clear if the ultimate purpose of this legislation is to protect consumers, bring in economic efficiency, or reduce systemic risk.

For Shah, it is this lack of clarity in defining the RBI’s role as the regulator that has resulted in a slow progress in payments. Without a clearly defined purpose, the RBI cannot be held
accountable for its various policy decisions that have fundamentally shaped the way payments in India work. One such policy decision, which we shall explore in more detail in the next section, has been to eschew the telecom-led model of mobile banking as a path to financial inclusion made famous by M-Pesa in Kenya, in favor of the bank-led BC model.

**RBI on Financial Inclusion: BC is Better than Mobile**

In a keynote address to the American India Foundation in New Delhi, Dr. KC Chakrabarty, Deputy Governor of the RBI, defines financial inclusion in 2011 as

> the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular, at an affordable cost, in a fair and transparent manner, by regulated, mainstream institutional players.

Elsewhere Dr. Chakrabarty has identified four essential financial services that the RBI considers essential for its financial inclusion mission (2009). These are

- a savings-cum-overdraft account,
- a remittance product for electronic benefits transfer (EBT) and other remittances,
- a pure savings product, ideally a recurring deposit scheme, and
- entrepreneurial credit in the form of a kisan credit card (KCC) or a general credit card (GCC).

In order to achieve the goal of enabling a majority of Indians to access these services, the RBI has consciously adopted what it calls the bank-led business correspondent (BC) model. In this model, a traditional bricks and mortar bank may use intermediaries such as microfinance institutions, NGOs, cooperatives, community based organizations, and so on, as ‘facilitators’ in the provision of various banking services. Agents of intermediary organizations are able to provide the four key financial services the RBI sees as essential, through the use of smartcards and low-cost PoS devices. The use of such intermediaries and their agents has greatly expanded the number of villages in India that are covered by a banking outlet.

The RBI has shown an appreciation for the successes of the M-Pesa in Kenya, which is a mobile operator led model, in achieving financial inclusion. Nevertheless, it sees this as being a limited form of financial inclusion, with its utility being mostly confined to person to person remittances. The RBI’s faith in choosing the bank-led model over the telecom-led approach rests on four key arguments:

- The bank-led model is capable of delivering all four of the basic financial services it sees as essential to financial inclusion.
- The bank-led model of appointing BCs to offer last-mile services has only been rolled out in 2006; its success or failure, therefore, cannot yet be assessed.
- Adequate authentication is a problem in the telecom-led model. Unlike in Kenya, the RBI notes, India does not yet have a comprehensive national ID scheme, making it difficult to verify the persons at the ends of a mobile transaction. In India, the RBI is of the opinion that "customer identification processes followed in case of prepaid customers are lax as the MSPs [mobile service providers] consider this as low risk from their financial stand point” increasing the risk of “money laundering, financial terrorism, and fraud.” Because the BC model uses smart cards containing biometric information, such risks are reduced.
- Finally, the RBI quotes CGAP numbers to argue that transaction costs on the M-Pesa network in Kenya are far higher than the NEFT network operated by the RBI, which allows for bank to transfers at a fraction of the cost.

The last argument is a bit of an apples to oranges comparison since those with access to NEFT likely already have access to bank accounts whereas M-Pesa’s target demographic are mostly unbanked customers who would have otherwise had to rely on far more expensive informal services. Nevertheless, it is clear that the RBI has spent a great deal of time thinking about the problem of financial inclusion and how best to solve it.
The RBI’s position on allowing non-banks such as mobile operators to occupy a more prominent role in the delivery of financial services is evolving. In a speech delivered in January 2013, Dr. KC Chakrabarty stated that non-bank entities have been at the forefront of much innovation in the retail payments space around the world and therefore their position in India vis-à-vis banks merit “closer examination.” He indicated that the RBI was actively thinking about how best to manage the risks that arise from allowing non-banks to play a more active role in the sector.

On the Horizon: FSLRC

A discussion of financial sector legislation and regulation in India cannot be complete without a mention of the Financial Sector Legislative Reforms Commission (FSLRC). The FSLRC has been tasked with no lesser goal than to “rewrite ... financial sector legislations, rules, and regulations” to fix an out of date, complex, and ambiguous regulatory system (see Financial Sector Legislative Reforms Commission 2013). The commission’s luminaries range from economists and Supreme Court judges to the head of Morgan Stanley in India, and they have put forward some bold ideas. The payments report—one of the FSLRC’s five working group’s reports—does not hesitate to go head-to-head with several hereditary paradigms of banking and payment system regulation in India (see FLSRC 2011).

First and foremost, it shifts from a rule-based to a principle-based regulatory approach. By laying out the broad objectives of the policy this approach aims to make financial regulation more transparent and visionary rather than reactive to changes in technology and market conditions. Ideally, laws should not have to change with (and, as a consequence, lag) technological innovation. The report argues that transparency will increase as the intent of laws becomes less ambiguous and compliance increases.

In terms of principles, the report suggests making regulation blind to ownership structures and company sectors. This would make it much easier for non-banks like telecom companies to set up new payment systems as regulation would not discriminate between banks and non-banks. Also, current regulatory differences between publicly and privately owned banks would be abolished creating a level playing field.

By introducing public consultations and cost-benefit analysis in the policy-making process, the FSLRC would significantly change the role of the RBI, which has until now been endowed with almost absolute regulatory power over the payments industry. Shifting the paradigm towards risk-proportionate regulation and self-registration of innovators has the potential to unleash significant innovation potential in the Indian payments market.

The FSLRC report has been hailed in many quarters as groundbreaking and forward thinking. Others, though, have criticized the report as they believe such prescription for an overhaul of India’s financial system lacks awareness of India’s political realities and is unlikely to curry legislative favor. Specifically, the recommendation to limit the role of the RBI has been criticized (Parekh 2013).

The Future of Payments in India

For the first twenty years of economic liberalization in India, starting in 1991, the government’s task was fairly simple. Pick a sector with anemic growth and low innovation, identify a bunch of regulations stifling it, and annul them. Then, sit back and watch it grow at over 10% a year. Now, as the country has moved from low income to lower-middle income status and eyes further growth, the policymaker’s role has changed altogether. Now, it is not enough to just get out of the way. The task before Indian policymakers is to build a set of institutions that can reliably form the framework for India’s ascendancy into the upper-middle income band and beyond. In their report submitted to the Indian Finance Minister in February 2012, the ‘Task Force on an Aadhaar-Enabled Unified Payment Infrastructure’—a high powered group of technocrats and regulators—recognized this challenge, stating at the beginning:
A nation needs to continually reinvent itself as it moves up the growth curve. Every doubling of GDP puts the nation at the cusp of transformation for the next doubling. A growth rate of 7% implies doubling of GDP every 10 years; essentially, the nation has to reinvent itself almost every decade.

One such project that seeks to reinvent India is the Unique Identification (UID) project that aims to give every Indian an ‘Aadhaar’ number—a record associated with a set of biometrics including fingerprints and iris scans. Through this project, India’s policymakers hope to radically alter just about every kind engagement an Indian has with the government, from voting to collecting social security benefits and opening a bank account.

**Evolution of Aadhaar**

According to World Bank estimates, the Indian central government spends about 25% of its total expenditure budget on subsidies and transfers (World Bank 2012). In the 2011-2012 budget, the central government allocated $10 billion for fertilizer subsidies, $12 billion towards food subsidies, and $4.2 billion for petroleum subsidies (Gill 2012). Not only does the government put up the funds to subsidize the provision of food grains, kerosene and other in-kind benefits to a large number of the population, it is also actively involved in the purchase, transportation and distribution of these through a network of about half a million fair price shops throughout the country. Another big issue is improper targeting. Most of these subsidy programs are meant for people who are below poverty line. Ensuring beneficiaries on self-declaration is a big challenge.

A 2005 report by the Planning Commission of India estimates that for every Rs. 3.65 the Indian government spends on the Public Distribution System—a network of government supplied and funded retail outlets that offer subsidized food to families below the poverty line—only Rs. 1 actually reaches the intended beneficiaries (Planning Commission 2005). The Aadhaar project was initially conceived as a technological solution for addressing this very important problem of leakages in India’s welfare programs. In 2008, the Planning Commission of India set up the Unique Identification Authority of India (UIDAI), and its Chairman, Nandan Nilekani—a co-founder of one of India’s most admired technology companies—was given the rank of a cabinet minister. After starting enrollments in February 2009, the UIDAI, through its enrollment partner agencies, has issued more than 383M Aadhaar numbers as of July 2013. At current monthly enrolment rates, 600 million people are expected to have Aadhaar numbers by 2014.

The vision for the Aadhaar project has evolved since its inception—from a technical fix to plug gaps in India’s welfare programs to a platform through which all payment in India can be authorized. The task force report notes that its initial mandate was to “work out the modalities for the proposed system of direct transfer of subsidy for kerosene, LPG and fertilizers,” (see Task Force on an Aadhaar-Enabled Unified and Infrastructure 2012). Later, the terms of reference of the task force was expanded to envision the development of an Aadhaar-Enabled Unified Payment Architecture.

**How Aadhaar-Enabled Payments Work**

The UIDAI has created an online system that enables third-parties to use the Aadhaar number for the verification of identity, establishing that a person is indeed who he or she claims to be. In order to use the Aadhaar database, an agency must apply to become what is called an Authentication User Agency (AUA). AUAs, which could be anything from government departments that need to make pension payments to credit bureaus that need to assess a loan applicant’s credit history, use UIDAI certified PoS devices and applications to authenticate recipients of various payment related transactions.

The connection to the UIDAI’s servers happens through what is called an Authentication Service Agency (ASA)—the NPCI is an example of an ASA. Any government agency or a private company with a turnover of over a billion rupees a year can apply to become an ASA given that they fulfill the UIDAI’s technical and operational standards. The UIDAI sees itself as providing an enabling
environment for other organizations, whether public or private sector entities, to offer services to their end users.

An Emerging Aadhaar Ecosystem

From a demand point of view, the task force on Aadhaar-enabled payments sees three key effects that will greatly expand the cause of financial inclusion in India and with it the use of electronic payments:

- Easier compliance with KYC (know Your Customer) norms—one of the biggest barriers for India’s poorer citizens is that they do not possess the identification documents required to open a bank account. Since the RBI has already mandated that Aadhaar be accepted as a valid KYC document, this hurdle is set to disappear for many.
- Creating a financial address that is independent of one’s location—many Indians move for a few months every year to find work. This might mean that they lose out on many of the government benefits they received back home. Since the bank account associated with an Aadhaar can be easily changed, beneficiaries of various government cash transfer programs can continue to receive them.
- Low-cost and effective authentication authorizing transactions—since Aadhaar uses biometric information to validate transaction requests, this is expected to vastly decrease the amount of fraud associated with government payments.

In order to further enable access to financial services, the task force has even proposed that the government budget to defray costs for banks and financial services that offer last-mile services up to 3.14%, with a cap of Rs. 20 per transaction. Based on the estimates of the task force, government subsidies are worth about Rs. 2.93 trillion and if these are transmitted electronically, this could be 4.13 billion electronic transactions a year. The estimates the government’s expenditure on funding last-mile transaction fees to be about Rs 20 billion annually.

The Aadhaar project is expected to significantly change the way almost every welfare program in India works. In public health, for instance, the government would be able to track mothers and ensure they give birth at hospitals and receive pre- and post-natal care. For food subsidies, the government would be able to significantly reduce waste and fraud by requiring fair price shops to authenticate each beneficiary and tying the allocations to each shop on the number of authentications it performs. For the National Rural Employment Guarantee scheme, one of the government’s biggest social schemes, which ensures guaranteed employment for up to 100 days to anyone who demands it, the Aadhaar number will be tremendously useful in verifying workers and ensuring that payments reach the intended beneficiaries.

Various private players have launched interesting initiatives that build on the Aadhaar infrastructure to offer a range of new services. Mastercard in India, for instance, announced that it has developed a new payments solution combining the Aadhaar platform and Mastercard’s own network (Mastercard India 2010). Its solution proposes banks issuing a 16 digit Primary Account Number to Aadhaar holders who can then present this along with their biometric information at a compliant PoS terminal to complete a transaction. Mastercard, in addition to its customary clearing and settlement services also authenticates the transaction request through its secure connection to the UID’s servers. Visa has also announced something similar, stating its intention to go beyond even traditional payment services by becoming a BC for banks. It proposes to use its access to UID’s servers to issue an e-KYC certification to Aadhaar customers who may want to open a bank account with one of its partner banks (Jayaram 2013).

New Entrants and the Emerging Landscape for Remittances

To understand how the payments ecosystem in India will develop in the years to come, it is instructive to look specifically at the dynamics of the market for domestic remittances. India has an estimated 100 million domestic migrants who have to regularly send money from where they work to where their families live. One study estimated the value of domestic remittances to be
about $10 billion in 2007-08, with 80% of these transfers being directed to rural areas and 60% across state boundaries (Tumbe 2011).

Given the low penetration of the banking system, sending and receiving such payments can often be a slow and expensive process. The Centre for Microfinance (CMF) in Chennai surveyed 274 such migrant workers in four major ‘migrant corridors’ across the country to understand how these migrants were sending money and what costs they faced (Gopinath, Oliver, and Tannirkulam 2010). They found that there were five main channels for the migrants to send money home—banks, post offices, hawala couriers, cash couriers, friends and self-transfers. Of these, only two, banks and post offices, count as formal channels. Only 43% of the respondents reported using these channels—the rest used informal methods, especially hawala couriers. Hawala couriers are a network of informal money brokers who accept and discharge payments across the country. They offer no promissory guarantees and the system works entirely on trust. They are also very expensive compared to, say, sending an inter-bank wire transfer through the NEFT system.

The CMF study notes that the median cost respondents report paying for a remittance of Rs. 2,000 ($32.50) is Rs 80, or 4% of the transfer amount. The cost of an NEFT transfer for the same amount would be Rs 2.5—almost 30 times cheaper (Reserve Bank of India 2012c). But sending and receiving NEFT transfers require both the sender and recipient to at least have bank accounts, if not internet connections and net-banking services. What is even more fascinating is that the cost of transferring money is a relatively minor concern for the respondents in this study, with only 17% citing it as their most important concern. By far the greatest concern was security, mentioned by 72%, followed by speed of delivery, mentioned by 37% (Gopinath, Oliver, and Tannirkulam 2010).

Though the cost of an NEFT transfer is extremely affordable, using this service at a bank is much less so. This is because for a poor, domestic migrant, using banking services often involve various indirect costs. For instance, the cost of lost wages for the time spent at the bank during working hours, or even the cost of reaching a bank branch. This applies both to the sender and the recipient. The CMF study found that once you add these indirect costs, the cost of remitting a sum of Rs. 2,000 through a bank is about Rs. 60, or about 3% of the transaction. The average transaction cost on the informal hawala network is about 4.6% on average. The most expensive way of remitting money turned out to be the Post Office, which charged on average 6% of the total transaction.

The growing market for enabling people to send and receive domestic remittances is attracting the attention of number of industry players, both old and new, each bringing their own solution to the problem. The most established among these are the BCs or bank correspondents who act as intermediaries to banks in offering financial services to last-mile customers that are costly to reach through traditional banking channels. Some of the most well-known BCs in India include Eko Financial Services, FINO Paytech and Janalakshmi. While the thrust of the RBI’s bank-led BC delivered model of financial inclusion has been to ensure that formerly unbanked customers have access to a whole range of financial services, a recent Microsave report on the state of BCs reveals that branchless banking in India is almost entirely a “mono (or at best a dual) product industry”.

Most players in branchless banking earn their revenues from commissions on opening ‘no-frills accounts’ for banks and from earning a percentage of the service fee on remittance transfers (Kapoor and Shivshankar 2012). Furthermore, Microsave’s research indicates that the business proposition for BCs become viable only “once customers start to use two or more products on an average.”

The report also identifies a significant challenge that all BCs must deal with in order to scale—cash management. Microsave estimates that 11 of India’s leading BCs have invested close to Rs. 120 million in float, resulting in very high working capital requirements. Liquidity expenses account for 17% of a BC’s costs on average, though recurring costs on salaries and other expenses form the highest category of expenses at 44%. More than half the BCs in the Microsave study reported difficulty in recovering their costs.
The viability of the BC model clearly depends on being able to quickly expand their customer base, leverage economies of scale and cross-sell a number of related financial products beyond just opening accounts and facilitating remittances. Perhaps realizing that the current BC model is vulnerable to disruption, telecom operators in India, most notably Airtel and Vodafone, have begun making a play in the payments space. With the RBI recently allowing them to partner with banks to offer mobile banking solutions, they are well placed to compete with traditional BCs for a number of reasons:

- Mobile operators have had tremendous success in the last few years in setting up a very extensive distribution network with over 1.5 million retail outlets—this is an invaluable asset they can leverage to attain a critical mass of customers using low-margin but high volume mobile banking services.
- Mobile operators like Airtel and Vodafone have already established instantly recognizable brands and have a proven track record in marketing new services to its telecom customers.
- The market for mobile telecommunications in India is highly competitive with subscriber growth numbers likely to peak soon—services like mobile banking and payments offer the most promising avenue for customer retention and consistent returns.

While it is difficult to say what the market for domestic remittances will look like in 2-3 years let alone 5 or 10, we can be reasonably confident that for a while at least all of these different models (hawala, BCs, telecom) will co-exist fulfilling the myriad needs of different consumer segments. The RBI, too, seems to be more open to allowing this to happen as long its concerns about consumer protection and money laundering are addressed.

In other areas of the payments business, too, similar developments seem likely to happen, with different models and standards vying for widespread adoption and network effects. For instance, banks in India may soon have to decide which next-generation payments standard they choose to invest in—the chip and pin based technology promoted by Mastercard, Visa and Europay (EMV) or the biometric based authentication platform offered by Aadhaar. It’s possible that both these standards will co-exist in India serving different consumer segments. The Aadhaar based platform, however, will be appropriate for the rural segment, first time bank customers and EMV for urban areas where consumers are already comfortable with the swipe and pin method for making purchases.

Conclusions

The most exciting chapters in the story of payments in India are still being written. Which model will prove the most cost-efficient and effective means of delivering financial services to India’s vast rural population—BCs offering doorstep financial advice and services or the self-assisted, card-less model delivered by telcos? What will the spread of cheap and fast broadband and 4G services mean for the business model of BCs? After all, every service they offer is freely available to anyone who can log into their bank account online. What will the establishment of Aadhaar as a universal and easily verifiable form of KYC identification mean for financial innovation? The RBI has indicated that this would address its concerns about money laundering. This would open a number of opportunities for, among other things, prepaid instruments ranging from online wallets to peer-to-peer mobile payment apps. In our interview with the CEO of Citrus, we learnt that the RBI recently granted them permission to offer an open-loop online wallet that can hold up to Rs. 10,000 (~$166), which Citrus hopes to launch in a few months (interview data). This will be the first innovation of its kind for the Indian market, and Citrus hopes to eventually become something like an Indian Paypal—a payments standard. Given the regulatory hurdles that the industry leader Paypal has faced in the Indian market, the evolution of RBI’s regulatory stance that is more risk appropriate is definitely good news for innovation in the payments. —After all Rs. 10,000 is hardly much money to launder. All the industry participants we spoke to had positive
things to say about the direction that RBI regulation in payments is heading towards, even if it is sometimes slow to adapt to new innovations.

Despite these positive developments, cash use in India is not going to go away. Given how prominent the informal economy is in India’s urban centers—where goods and services from haircuts to groceries can be purchased on the side of the road—cash will still be predominant in daily life. The other reason why cash use will continue to play an important role in India’s economy is that cash is extremely useful for those who want to pay fewer taxes. As we have already shown in our section on the link between cash use and India’s black economy, cash use is linked to many billions of dollars of lost revenue for the government. Many sellers of goods and services, very much part of the formal economy, offer a discount if you pay for a transaction in cash as this lets them underreport their income for tax purposes. No matter how effortless electronic payments become, such behavior is unlikely to change without significant changes in the underlying incentives for tax avoidance and greater enforcement. While the need for the latter is far more widely understood than the former, there is reason to believe this, too, is changing slowly.

The central government is in consultations with India’s state governments to introduce a Goods and Services Tax (GST) law, a significant reform to India’s tax structure that will standardize rates and reporting requirements across the country. A commentator once described the move as India signing a “free trade deal with itself,” (see “Aim Higher” 2012). It also proposes replacing many complicated tax structures for businesses, which are now mostly ignored, with a simple flat tax. In the state of Bihar, for instance, where a simple flat sales tax was implemented by the state government, the number of businesses filing their taxes electronically grew from 149 in 2009 to 78,000 in 2013. The total tax revenues for the state increased from $594 million to $2.75 billion during the same period (Narayanan 2013).

Once incentives for tax avoidance are reduced, and as more consumers have the ability to use non-cash payment methods, it is only a matter of time before non-cash payment use begins growing exponentially. India’s Finance Ministry would do well to consider a tax rebate for retailers who accept electronic transactions, as was done in South Korea, to further speed up the transition away from cash.

For a country with the size and diversity of India, it would be naïve to expect that a “one size fits all” solution will work. This is especially true in the payments business. For a subsistence farmer living in a village in Jharkhand, having to trudge 10 km to withdraw his government pension from the nearest micro-ATM, a payment he previously received in cash at his village from a local official, minus, perhaps, a small cut, may not represent much of an improvement. However, for the migrant laborer in Delhi, being able to deposit her day’s cash earnings at the local corner store, and then initiate a transfer the next day to her sister in a village in Manipur using her cellphone—represents a giant leap of progress in financial access.

To ensure that Indians have a diversity of options that meets their myriad needs, regulators and policymakers need to understand something that the FMCG marketer and telecom executive did long back—there is no one Indian consumer. Each region represents a distinct challenge for how you can deliver last-mile financial services profitably and at a low cost. Just like the evolution of its thinking on payments, there is reason to believe that the RBI is moving towards a more agnostic approach as to what the best means are to achieve its financial inclusion goals. This must continue.

For innovation in payments in India to truly take off, the RBI must adopt an approach more in line with what the FSLRC proposes—regulation ought to be risk adjusted and principles based. While ensuring inter-operability is an important goal for the country as a whole, this must not come at the cost of innovation, especially when the vast majority of the population does not have access to a financial system of any kind, let alone an interoperable one.
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