



Making New Arrival of India Financial Sector at Public Liquidity (Cashless Payments)

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Abstract:

One of Modi's main brands is that of a corruption fighter, and his demonetization initiative was rushed into effect in an attempt to catch the black market off guard which could potentially lead to a big payday for the central bank if a large amount of illicit cash wasn't redeemed. That plan flopped, as almost all of the recalled notes were officially accounted for one way or another. The government will have to create conditions—not necessarily by creating cash shortages to push cashless transactions to a threshold level after which the network effect will take over. India may not become a cashless economy in the foreseeable future, but it needs to reduce its unusually high dependence on cash to bring in much needed transparency and efficiency in the system. The payments landscape in India is undergoing a transformation: traditionally a cash-based economy, it has seen an increase in card-based and mobile transactions.

In spite of advances made in the recent years by the Government and regulators to popularize cashless transactions, India continued to be a high-cash-usage economy. But on November 9th, 2016 Prime Minister Narendra Modi took entire India by surprise when he announced the **demonetization** of INR 500 and INR 1000 notes. There was a mad dash to withdraw smaller bills, or deposit bigger ones, at automatic teller machines around the nation before they shut down temporarily. This demonetization decision has been the biggest and most ambitious step ever to crack down on black money and fake currency and to move India towards a 'cashless' economy.

Technologically it is feasible to switch to pin-based debit cards from signature-based debit cards without issuing new debit cards. In India, most credit cards have already transitioned to chip and pin-based credit cards from signature-based credit cards. This paper analyzes India's gradual transition towards a cashless economy.

Keywords:

Cashless transactions, Survey, Network effect, JEL classification: G18, G29, O53

Introduction:

India's demonetization scheme was a unilateral initiative that was planned in secret — in a back room of Prime Minister Modi's home, in fact — by a small group of insiders tied-in with the upper echelons of India's government. The strategy was to instantly nullify all 500 and 1,000 rupee banknotes, the most common currency denominations in the country, and then eventually replace them with newly designed, more secure 500 and 2,000 rupee notes. This endeavor instantaneously became policy when the prime minister announced it via a surprise television address at 10:15 PM on November 8. One of Modi's main brands is that of a corruption fighter, and his demonetization initiative was rushed into effect in an attempt to catch the black market off guard — which could potentially lead to a big payday for the central bank if large amounts of illicit cash wasn't redeemed. That plan flopped, as almost all of the recalled notes were officially accounted for one way or another.



- Read more about Modi's demonetization initiative here, here and here.
- Recommended by Forbes

But this surprise demonetization also did something else: it pushed millions of new users onto the country's digital economic grid by virtual fiat. Not even the banks were notified in advance of Modi's plan, and, even with strict exchange limits that prohibited people from exchanging over \$60 worth of rupees at a time, they simply didn't have enough of the newly designed banknotes on-hand to distribute to the masses looking to redeem their canceled notes. Rather than being a 50 day transition, as the Indian government projected, it is looking as if it will take four months to a year before the country's currency supply is restored. In point, the people of India were left in limbo as the government cancelled the bulk of their currency without providing them with the means to obtain the newly printed notes to replace it.

On the surface, this seems as if it was a matter of gross negligence, but there may have been more to it than that. As the demonetization process continues, Modi's rhetoric is less about fighting corruption and more about transitioning India to a cashless economy. Up until this campaign, India was an incredibly cash-centric economy. Cash accounted for upwards of 95% of all transactions, 90% of vendors didn't have card readers or the means of accepting electronic payments, 85% of workers were paid in cash, and almost half of the population didn't even have bank accounts. Even Uber in India accepted cash — the only country in the world where this option is available — and “Cash on Delivery” was the preferred choice of 70% of all online shoppers.

Methodology:

By temporarily turning off the engines which drove the cash economy, India hoped that more people could be brought into the fold by using track-able — and taxable — digital financing vehicles, like debit cards

and e-wallets. An Axis Bank cashier works at a makeshift ATM counter in the wake of the Indian government's demonetization move. (SAM PANTHAKY/AFP/Getty Images) Whether or not India was ready for this cashless revolution is another question. “Look, you still have a reasonably large part of the population that doesn't even have a bank account,” said Arpan Nangia, the head of the India desk for HSBC's commercial banking division. “Yes, our position is that everybody should have a bank account and everybody should be transacting through that, but if a large part of your population doesn't even bank it is going to take some time for you to invest before you can say let's go completely cashless.” However, reservations about the timing of India's big cashless push at this point are irrelevant. It's happening, ready or not. India is currently in the middle of an all out movement to modernize the way things are paid for said Pramod Saxena, the founder and CMD of Oxigen Services.

- A cashless society is a welcome idea but not without preparation. There is a precursor to taking such steps without which a move such as this would be more harmful than being beneficial.

Objective

- To know the technology using in financial industry and also know India's economy and society are ready to become a cashless system.

Cashless Indian Economy? -A Reality ??

Cash is like water a basic necessity without which survival is a challenge. Nevertheless, cash use doesn't seem to be waning all that much, with around 85% of global payments still made using cash. One of the main reasons is that there is nothing to truly compete with the flexibility of notes and coins. Of course, the digital era is something to embrace, and new methods of payments will continue to be introduced. But Indians need to recognize the risks and benefits of different payment instruments, the risks associated



with electronic payment instruments are far more diverse and severe. Recently lakhs of debit card data were stolen by hackers; the ability of Indian financial institutions to protect the electronic currency came into question also an important reason why people favour cash. In a courageous move to combat black money and counterfeit currency, Narendra Modi's government scrapped currency notes of INR 500 and INR 1000 denominations, which is seen as an unprecedented measure, though a giant leap towards curbing corruption and forged currency. The declaration created confusion across the spectrum, as these high-value notes form around 86% of total legal tender. However, the whole isometrics of moving from cash-driven economy to cashless economy has somehow been assorted with demonetisation that was aimed to extract liquidity from the system to unearth black money. Prime Minister Narendra Modi acknowledged the fact in his monthly radio programme, 'Mann Ki Baat' on Sunday that making the transition to cashless economy is challenging, and hence has urged the public to move to 'less-cash' society. A report by Boston Consulting Group (BCG) and Google India revealed that last year around 75 per cent of transactions in India was cash-based, while in developed nations such as the US, Japan, France, Germany etc. it was around 20-25 per cent. The depletion in cash due to demonetisation has pushed digital and e-transactions to the forefront; e-banking, e-wallets, and other transaction apps becoming prevalent.

Why Is Cash Required?

The magnificence of cash is that -- it just works; even in the isolated whereabouts of India, where the government might not be present physically with its paraphernalia, its injunction runs in the form of legal tender that public uses for business on an everyday basis. A large informal economy that supports a major part of Indian population and their livelihoods also runs in cash. This is why Cash is yet King.

The ground reality reveals, a majority of transactions in Kirana stores, the go-to shop for daily purchases in India are cash based transactions, because these are generally small ticket transactions. The customers, as well as Kirana store owners feel more comfortable in dealing with cash for small transactions, while these merchants also provide credit facility to customers. However, the governments drive to incentivise consumers and merchants alike to move to electronic modes of payments has not found many takers because our cash driven economy is fuelled through rampant corruption in society and black money. The modus operations for corruption are cash so unless we rid our society of corruption at all levels this will be a huge task. Imagine paying a corrupt official through your e-wallet it will never happen.

Also another point to ponder on is why India has such less tax payers in a population of over 1.2 billion people. Is 98% of our population earning below 2.5 lakhs a year. This is one of the issues that needs to be addressed and hopefully with many more transaction moving electronic & records of the same being made available many more people should fall under the tax net be it small merchants, professionals etc. Will this segment of society adapt to electronic modes of payment so that the nation can benefit from a higher tax collection leading to better benefits to society at large?

The challenge to go digital

A major obstacle for the quick adoption of alternate mode of payments is mobile internet penetration, which is crucial because point-of-sale (PoS) terminal works over mobile internet connections, while banks have been charging money on card-based transactions, which is seen as a hurdle. The low literacy rates in rural India, along with the lack of infrastructure like internet access and Power make things extremely difficult for people to adopt e-transaction route. The financial safety over the digital payment channels is important for pushing the cashless economy idea.



Imagine losing your credit cards or being the victim of digital hackers can lead to a whole host of issues like denied payment, identity theft, account takeover, fraudulent transactions and data breaches. According to the digital security company Gemalto, more than 1 billion personal records were compromised in 2014.

Cash is here to stay!

Despite the numerous State endeavors, India has always been driven by cash; while electronic payments are seen restricted to a small size of the population, compared to the cash transactions. Considering the demographics of India, two-thirds of the population live in rural areas, where farmers and poor people are still struggling to get their hands on their own money. As per Data in July this year, 881 million transactions were made using debit cards at ATMs and PoS terminals. Out of these, 92 per cent were cash withdrawals from ATMs. The sole purpose for cards in Indian is to withdraw cash. Changing this mind set will be an uphill task. The last few days have clearly shown that the country is highly underpenetrated as far as ATMs per million people and it's the ATM which will help the government fulfill its ambition of financial inclusion as the ATM will play a key role in the last mile towards customer fulfillment which is self-service 24*7 which even a Business Correspondent or Micro ATM cannot do. Also, important to note that if people start flocking to alternate currencies, governments could wind up losing much of their power to influence economic issues such as inflation and unemployment. The government can't set an interest rate for institutions lending in a currency it doesn't control.

By, Navroze Dastur, Managing Director, NCR India

Cashless society One of the arguments in favor of demonetization, that has been widely propagated by the government, is that it is a decisive move towards making India a cashless system. It has been argued that digital transactions are the future of India. It has been argued that electronic transactions can be tracked, and

hence it is possible to monitor any shady transactions easily. However, the more basic question that needs to be answered is whether India's economy and society are ready to become a cashless system, given our existing infrastructure. One of the basic criterion for making digital transactions a success is widespread Internet access. The two charts below show that Internet infrastructure in India is worse than any other BRICS nation and also in comparison to the world as a whole. Till 2015, only about one-fourth of Indian nationals had access to Internet facilities, while it is at more than half for other BRICS nations. Russia tops the group with about three-fourth of its citizens having access to the Internet; in Sweden almost 91 per cent of adults are Internet users. A similar scenario emerges with respect to access to secure Internet servers. China and India have worst figures while the remaining BRICS nations are far ahead. Here, one finds that Sweden is way ahead as compared to India and other BRICS nations. How can we expect India to conduct digital transactions without the required security?

Even as ordinary citizens queue up for cash and economists are busy estimating the extent to which economic growth will be hit because of the ongoing drive to replace high-value banknotes, there has been a lot of discussion on whether the government can use the current situation to push India towards a cashless future. In his radio address on Sunday, Prime Minister Narendra Modi once again pitched for creating a cashless society. Reducing Indian economy's dependence on cash is desirable for a variety of reasons. India has one of the highest cash to gross domestic product ratios in the world, and lubricating economic activity with paper has costs. According to a 2014 study by Tufts University, The Cost Of Cash In India, cash operations cost the Reserve Bank of India (RBI) and commercial banks about Rs21,000 crore annually. Also, a shift away from cash will make it more difficult for tax evaders to hide their income, a substantial benefit in a country that is fiscally constrained.



To be sure, the government on its part is working at various levels to reduce the dependence on cash. Opening bank accounts for the unbanked under the and adoption of direct benefit transfer is part of the overall idea to reduce usage of cash and increase transparency. RBI has also issued licences to open new-age small finance banks and payments banks which are expected to give a push to financial inclusion and bring innovative banking solutions. Things are also falling in place in terms of technology for India. The recently launched Unified Payments Interface by National Payments Corporation of India makes digital transactions as simple as sending a text message. So, will the exercise to exchange currency notes and the ongoing currency crunch be a decisive factor in making India a truly cashless economy? Nandan Nilekani, in an interview to this newspaper, termed this as “a defining point in India moving to cashless”. Shortage of cash has significantly increased the use of digital modes of payment, but the actual shift will only be visible after the cash crunch eases.

It is possible that a section of people which has used electronic mode of payment for the first time due to the cash crunch will continue to transact through this medium, but there are still a number of hurdles in making India a cashless economy. First, a large part of the population is still outside the banking net and not in a position to reduce its dependence on cash. According to a 2015 report by Price water house Coopers, India’s unbanked population was at 233 million. Even for people with access to banking, the ability to use their debit or credit card is limited because there are only about 1.46 million points of sale which accept payments through cards. Second, about 90% of the workforce, which produces nearly half of the output in the country, works in the unorganized sector. It will not be easy for the informal sector to become cashless, and this part of the economy is likely to be affected the most because of the ongoing currency swap. Third, there is a general preference for cash transactions in India.

Merchants prefer not to keep records in order to avoid paying taxes and buyers find cash payments more convenient. Although cashless transactions have gone up in recent times, a meaningful transition will depend on a number of things such as awareness, technological developments and government intervention. For instance, mobile wallets have seen notable traction, and it is possible that a large number of Indians will move straight from cash to mobile wallets. A study by Boston Consulting Group and Google in July noted that wallet users have already surpassed the number of mobile banking users and are three times the number of credit card users. However, as noted above, a material transition to a cashless economy will depend on a number of factors. First, the availability and quality of telecom network will play an important role. Presently, people face difficulties in making electronic payments even in metro cities because of poor network. Second, as one of the biggest beneficiaries of this transition, banks and related service providers will have to constantly invest in technology in order to improve security and ease of transaction.

People will only shift when it’s easier, certain and safe to make cashless transactions. Third, the government will also need to play its part. It will have to find ways to incentivize cashless transactions and discourage cash payments. Implementation of the goods and services tax, for example, should encourage businesses to go cashless. Government should also use this opportunity to revamp the tax administration, as more than taxes, small businesses fear tax inspectors. The payments landscape in India is undergoing a transformation: traditionally a cash-based economy, it has seen an increase in card-based and mobile transactions. In spite of advances made in the recent years by the Government and regulators to popularize cashless transactions, India continued to be a high-cash-usage economy. But on November 9th, 2016 Prime Minister Narendra Modi took entire India by surprise when he announced the **demonetization** of



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INR 500 and INR 1000 notes. There was a mad dash to withdraw smaller bills, or deposit bigger ones, at automatic teller machines around the nation before they shut down temporarily. This demonetization decision has been the biggest and most ambitious step ever to crack down on black money and fake currency and to move India towards a 'cashless' economy. In such a scenario, mobile as a platform has a unique set of capabilities that can overcome the challenges posed by the Indian payments landscape. Mobiles offer a low-cost means to create financial access and payments. It can extend the last-mile reach of banking services either through business correspondents or directly to the end consumers. Improvements in the telecom infrastructure, access to internet connectivity and low-cost smartphones will eliminate the need for hardware based on fixed line connections.

Mobile can be a platform that uniquely combines digital identity, digital value and digital authentication to create low-cost access to financial services. In fact, since demonetization has come into effect, if there is a clear winner, it is the class of startups offering online wallets and digital payments. Mobile wallets have witnessed a massive rise in app downloads. Paytm's traffic, for instance, increased by 435% and its downloads by 200%. Paytm is India's leading mobile wallet startup – it allows users to make transactions "at 850,000 places across 1,200 Indian cities, including mom and pop shops, branded retail outlets, and petrol pumps. Paytm even advertised in newspapers, congratulating Prime Minister on the demonetiz

Advantages of going cashless for businesses in India

1. **Pack of cards:** No need to carry bulky notes in a case. Just carrying the required cards or mobile banking will suffice.
2. **More sense of safety** with a PIN protected card etc. which will work only with your own credentials.

3. **No fear of being robbed** unlike carrying cash and letting everyone know that there could be something worth snatching.
4. **Tracking of expenses:** it becomes easier to determine how much was spent where.
5. **The exact amount in small denominations can be paid.** Unlike cash transactions, there is no need to pay fringe amount in case the exact amount is not available with either of the parties.
6. An important, though seemingly insignificant issue is that of **hygiene of the notes.**

Advantages of going cashless for businesses:

1. Easier accounting
2. **Direct payment to bank account.** You don't need to go every day to deposit cash to your current account.
3. Easier transactions

Advantages for the economy as a whole:

1. **Taxation:** with lesser availability of hard cash at homes and more in banks, there is lesser scope of hiding income and evading taxation and when there are more tax payers it ultimately leads to a lesser rate of taxation for the whole country.
2. **Transparency and accountability:** it becomes a lot easier to track the flow of money with every transaction being recorded with the buyer, seller as well as regulatory bodies, making the system much more transparent and compliant. In the long term it leads to better business and investment prospects for the economy as a whole.
3. More currency in bank will mean more **circulation of money** in the economy, leading to greater liquidity and would eventually mean lesser interest rates (according to the **monetary policy** of the country).
4. **Reduced red tapism and bureaucracy:** with cashless transactions through electronic means the wire transfers are tracked and people are



accountable which in turn reduces corruption and improves service time.

5. **Less availability of cash for illegal activities:** when people are encouraged to go cashless, there is lesser cash available with the people and there won't be a means to invest in other activities to use the idle cash. Channels like hawala (illegal remittance) will ultimately suffer the brunt of a cashless economy.

So, can mobile wallets pave the way to a cashless economy?

The future of mobile wallets

According to analysts, by 2018 the mobile wallet market in India will grow at a CAGR of 140%, while the global mobile wallet market will register a CAGR of 34% by 2020. What's fueling this optimism is the fact that India is one of the fastest-growing markets for smart phones in the world. It is expected to become the second largest market by 2017 – replacing the United States. The number of mobile internet users in India is expected to touch 314 million by 2017, up from 280 million now. According to a recent report by Growth Praxis, the market for mobile-enabled payments in India grew more than fifteen times between 2012 and 2015 to reach its current size of \$1.4bn. Interestingly, nearly 60% of users accessed the internet for the first time on their mobile phones – in marked contrast to many other countries, where desktop and laptop are the first web-enabled devices that people use. Earlier, most people used mobile internet for social networking sites, but that's changing now – as increasing numbers of people are using it to make mobile payments.” Service providers are looking to make money by taking a cut from vendors, as the apps are free for customers. They are also flooding the market with cash back offers and discounts to get more traffic. But the question remains, can mobile wallets in India mirror the success that mobile payment tech has enjoyed in countries like Kenya, where more than 90% of the adult population has signed up to Vodafone's M-pesa payment platform?

Telecom infrastructure is improving and 3G & 4G services are being offered at very affordable prices, giving a huge boost to mobile commerce in the future. With 4G becoming more and more affordable with entry of telecom giants such as GIO, the digital wallets adoption in Tier 2 and Tier 3 cities is going to increase many folds. If reliable and fast mobile networks can make it out to rural areas, then mobile wallets should see huge growth in India. But it will still take a huge cultural shift to wean people off hard cash. (Words 797). That is, had no activity over the past one year. From the database, a total of 22.25% of respondents have either a debit card (22.08%) or a credit card (4.17%). Finally, only 12.41% of the respondents in the past one year had either used cards, online payments, or other digital platforms to make payments. Among the banked population, this would mean that 23.54% of individuals have made cashless payments in the past one year. Given that slightly above half the population is banked, one would naturally expect a lower percentage of individuals using cashless payments.

However, cashless payments have grown considerably in terms of instruments, avenues, transactions, and volumes. While paper-based transactions cleared through checks amounted to INR 85 trillion in 2015, paperless transactions, including retail electronic transactions, such as ECS (electronic clearing system) debits and credits, electronic fund transfer, card transactions, Mobile transactions, and prepaid instruments, were around INR 92 trillion in the same period, as per recent RBI data. We consider monthly time series data on payment systems regarding transaction and monetary volumes by type of instrument, from April 2011 to June 2016. We ignore earlier periods because details about some of the payment instruments (prepaid cards), as well as transactions (ATM withdrawals), were not available prior to April 2011. Tables 5 and 6 provide an overall summary of how the financial payments have evolved in the past five years.

The growth has been impressive, particularly with respect to mobile payments. It is evident that, although all types of financial transactions have shown impressive growth, two instruments stand out both in terms of transactions as well as volumes. . Although ATM withdrawals outpace the other two in monetary terms, the growth of such withdrawals as well as usage at POS is linear, while that of mobile payments is exponential. Figure 6 establishes the trend clearly: while proportion of cashless card payments increased linearly, the proportion of cashless payments using cards and mobiles did so exponentially. This clearly establishes that the cashless payments in India are fueled by mobile banking. However, recent monetary growth in India needs to be adjusted for inflation, which often reached double digits. In Table 6, we present the Wholesale Price Index (WPI) adjusted monetary values for 2016. Based on adjusted WPI, the aggregate monetary value has grown by 17.4%, while the growth in per transaction amounts is around 1%.

Table 3: Main mode of withdrawal from banks, BRICS nations, 2011 and 2017 (proportion of account holders) (in %)

Countries	ATM		BANKAAGENT		BANK TELLER	
	2011	2016	2011	2016	2011	2016
Brazil	77	87	9	9	45	34
Russia	65	68	8	7	25	38
India	18	43	5	9	70	83
China	33	51	5	6	63	78
South Africa	89	82	8	7	13	25

Analytics (2013), studying the impact of card usage on gross domestic product (GDP) of 51 countries, found that electronic card usage added USD 1.1 trillion in real dollars to private consumption and GDP from 2003 to 2008. The study found that a 1% increase in card transaction volume would increase consumption each year by 0.039% and GDP growth by 0.024%. Similar benefits are expected for India as well.

In this paper, apart from identifying some of these benefits for India, there are two major issues we address: the share of cashless -both in terms of transactions as well as value and the factors that affect them most. This provides a roadmap to in- creasing the share of cashless transactions in the economy. The total number of non-cash payments in the EU increased by 4.8% in 2017 over percentage of households who make such cashless transactions almost doubled from 22.77% to 44.33%; (b) mobile payments have increased four-fold, from 3.06% to 12.61%; while (c) the percentage of dormant accounts have increased from 7.715 to 15.01%. These three observations suggest a pattern. First, more individuals are globally making cashless payments; second, mobile payments are on the rise; and, third, there is a drive among most governments to expand the banked population.

Conclusion:

Technologically it is feasible to switch to pin-based debit cards from signature-based debit cards without issuing new debit cards. In UK, most credit cards have already transited to ‘chip and pin’ based credit cards from signature-based credit cards. This had been primarily due to credit card industry’s higher expenses on fraudulent transactions than the cost of switching to ‘chip and pin’ cards and chip readable EDC machines. On the other hand, in USA, until recently, the cost incurred by the industry on fraudulent transactions had been less relative to that of the cost of transiting to ‘chip and pin’ credit cards. The industry need for ‘chip and pin’ credit cards depends on its capacity to absorb expenses on frauds vis- à-vis cost to transit to ‘chip and pin’. In USA and India, banks are working on the business feasibility of the transition and are introducing ‘chip and pin’ credit cards on a pilot basis. However, with the recent Dodd-Frank Wall Street Reform and Consumer Protection Act, US banks may relook at their strategies. Similarly, going by the present report, for India, it is more important to encourage need based use of credit cards for availing



real credit. Thus, the costs for transition to such 'chip and pin' should be borne by those credit card users who actually avail credit. 6. Presently, when a debit card is handed at POS to purchase a television having a displayed price of, say ` 10,000, one may encounter a situation where the merchant may demand a surcharge of ` 150, which is not demanded in case of cash payments. One may also encounter situations where the merchant has already absorbed this surcharge in its price and offers a ` 150 discount on payment received through cash. In both cases, the debit cardholder is prompted to move away from cashless payment to cash based payments. The pricing structure makes the debit cards disproportionately expensive not only for the consumer but for the economy as a whole by large cash dependence. The present surcharging structure of debit cards is a disincentive for small and medium merchants, who have less pricing power due to their low volumes, to transit to card based payments. Since the system is created exclusively by the providers, the other players, i.e. users, are dictated upon. The payment system regulator may like to look into this anomaly.