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Demonetisation and Digitisation: The Road Ahead


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SECURITY

Demonetisation and Digitisation: The Road Ahead

A panel discussion jointly
organised by
The Free Press Journal
and
Indo-American Chamber of Commerce

On 19h January 2017 at
CCI Club, Churchgate, Mumbai

Preface

Demonetisation was a shock for a nation that used to work with pillow money.

But it will lose its value, if it cannot be translated into epayment and digitisation of a significant part of financial transactions. Epayment allows for a digital trail of money. Using big data, it can catch those who have escaped the income tax net for such a long time.

HOW MUCH DO EPAYMENTS COST

ASSUMPTIONS	
Approximate cost of one Rs.1,000 note	3.7
Average Merchant discount rate (MDR) (%) @	1.0
Average transaction per day	1.0
Life of a Rs.1000 note (years)	3.0
Approximate transaction in 3 years (days)	1,000.0
Total MDR applicable over 1000 days on a Rs.1000 note	10,000.0
Multiple of currency to MDR in 1,000 days (times)	10.0
CALCULATIONS	
Total currency in circulation pre demonetisation (Rs.Trn)	17.9
Assuming 50% of currency goes to epayments (Rs.trn)	9.0
Total MDR in 1000 days Rs.trn)	89.5
India's GDP in 2015 $ bn)	2,095.4
India GDP in Rs. @ Rs. 70 to a $ (in Rs. Trn)	146.7
Average MDR for one year (Rs.trn)	29.8
% of MDR to GDP	20.3

Notes: trn-trillion; bn=billion;

@ = the NPCI has recommended an MDR of 1.5% for all transactions; and 0.75% for Aadhar transactions. We have thus assumed an average MDR of 1%

'* = We have assumed this figure on the basis of the figures given out by the RBI. Since Rs.15.4 trillion comprised high value notes, which in turn comprised 96% of total transactions, we have assumed the total currency to be around Rs.17.9 trillion

Source: Asiaconverge.com

But popularising digitisation and epayment will not be easy.

This is because India has relatively been a stranger to epayments. Less than 5 per cent of the total transaction value is done digitally in India (11 per cent after including NEFT, cheques etc.), compared to 40 per cent in China, 35-40 per cent in Europe, and 17-18 per cent in the rest of Asia. The cost of the cash economy is estimated at around 1.7 per cent of GDP in India. There are only 1.4-1.5 million card acceptance points in India, compared to 750 million debit cards.

First, the government will have to appoint a regulator – a point conceded by the finance minister when presenting his budget proposals before the parliament on February 1 this year.

Ideally, the regulator will have to be tech savvy, because he will have to deal with issues relating to cyberspace, connectivity, protocols and internet security. Already, there is friction among players like Yes Bank and ICICI over the protocols that ought to be used for digital transactions. Then there are some players whose practices in the area of epayments are fraught with ethical issues. Both issues need resolution*. There are hidden transaction costs that are not transparent. They too need resolution.

Second, there is the issue of costs. A 1, 000-rupee note costs around Rs 3.5 to print. It is transacted around once a day on an average and it has a life expectancy of 3 years. At 1.5 per cent of MDR (merchant discount rate) recommended by NPCI (see page 18), each Rs 1, 000 note involves a transaction fee of Rs 15. Over 350 days (350 transactions) the total MDR comes to Rs 5, 250. That is a multiple of 5x. When this is taken for 50 per cent of the total money in circulation, it comes to around 20 per cent of GDP#. This is higher than the cost of cash – 1.7 per cent of GDP. Unless the MDR is brought down further as transaction volumes increase, the only beneficiaries will be financial intermediaries, not consumers. Lastly, the government needs to work on ways to tax cash-based transactions.

If the government can do all this, demonetisation will be truly a gamechanger. It will be transformational. It will have nudged India on to the path of rapid economic development.

R.N. Bhaskar.

R.N. Bhaskar,
consulting editor, FPJ

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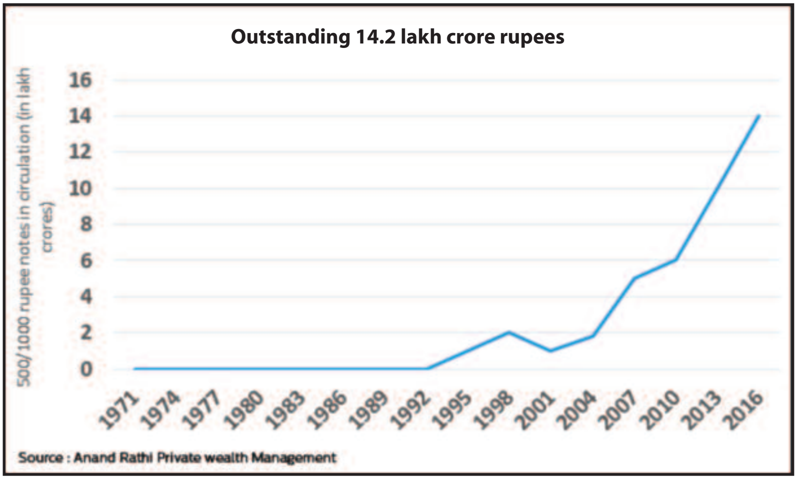
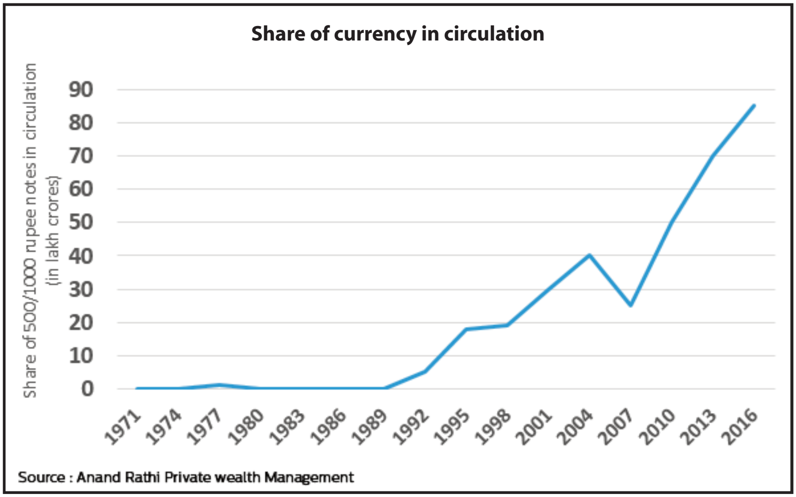
*Epayment report: http://www.asiaconverge.com/2017/01/epayments-an-scam-potential/

#MDR report: http://www.asiaconverge.com/2017/02/epayments-spell-boom-times-for-financial-intermediaries/

Position of cash before demonetisation





Why demonetisation?

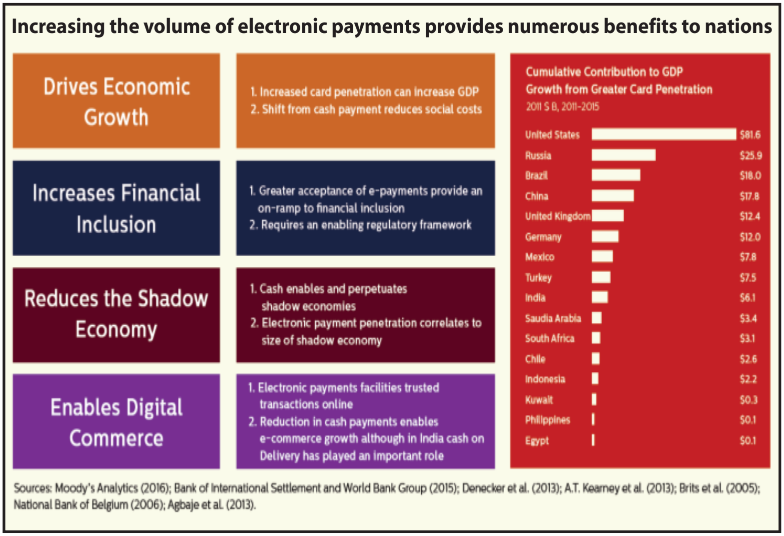
-Pankaj Joshi

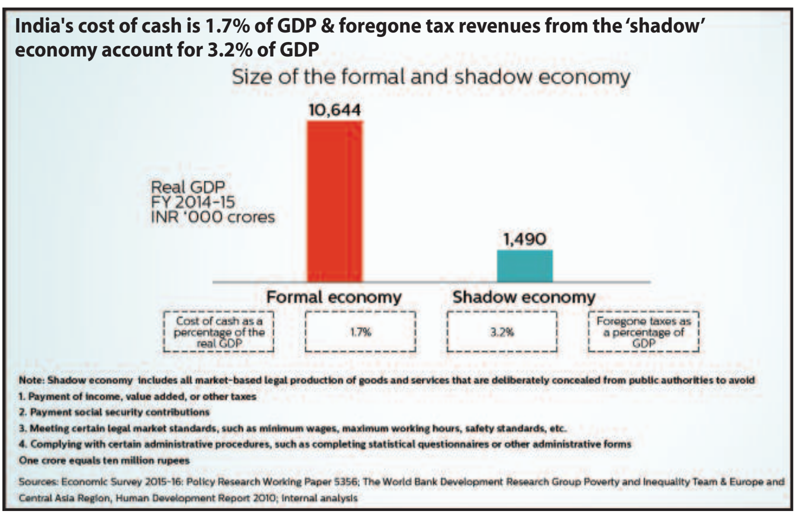
November 8 has become one of the historical days in the life of the present Indian generation. The announcement of Prime Minister Narendra Modi on November 8, stating that notes of Rs 500 and Rs 1,000 would be discontinued as legal tender, was unexpected and disruptive. The impact was huge mainly because these two currency notes which accounted for 85 per cent of the currency in circulation. It was much higher than the 2001 figure which stood at 26 per cent.

There are different perspectives to this rise in high-volume notes:

• Currency issuance depends on economic growth. India has grown substantially in the 1995-2010 period, as has been well-documented. The pillars of this growth have been demographics, infrastructure and international outsourcing opportunities.
• Growth has resulted in higher income, consumption, savings and investment. For an economy as unbanked as India, a good part of this would be in cash. A PricewaterhouseCoopers 2015 estimate stated that of all financial transactions in India, 98 per cent are cash-based in terms of volume. In value terms, these are 68 per cent.
• India has a large and varied manufacturing base. The GDP growth has percolated to pretty much all sectors. The size of the cash-based business segment varies across the different industries. A large amount of the investment in real estate, a sector with substantial growth from 2005-2015, happens in cash. Auto sector is also a sector which attracts cash.
• India's individual tax incidence is extremely low, with only three crore taxpayers in a population of 130 crore. The omnipresent unaccounted wealth (black money) would largely be in high-denomination notes.
• Lastly, the economics. It is estimated that printing ten notes of Rs 100 each involves a cost of Rs 14.10, while cost of printing a Rs 1, 000 note is only Rs 3.15.

Importance of Digitisation





Understand value of digitisation via financial inclusion

To get the perspective and value of digitisation, let us first deconstruct the term financial inclusion.

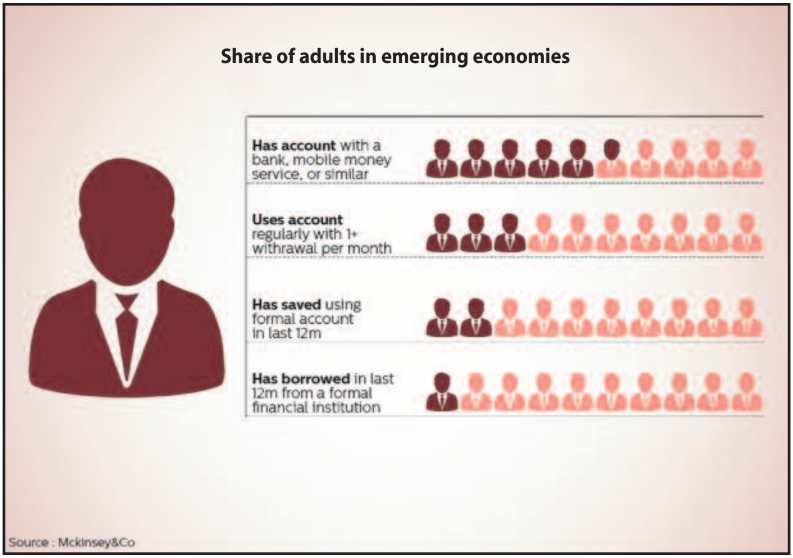
• Individuals, families and businesses need a system providing secure financial services through products and technologies, which offer convenient access, ease of use and affordability.

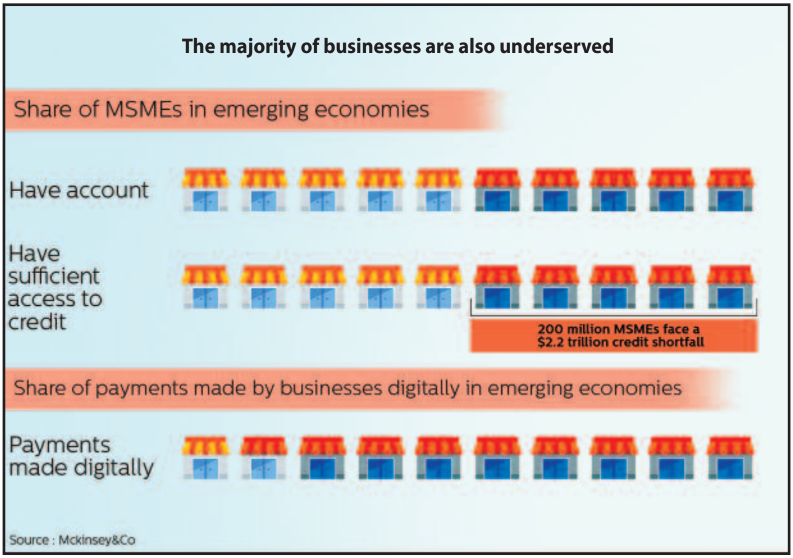
• This access – into the system that will provide these products – is what is called financial inclusion.
• The front-end of this inclusion is a transaction account, with a financial intermediary like a bank that would give benefits and also help access different credit and risk management products.

Financial inclusion is vital for India. In 2011, PwC estimated unbanked Indian population at 55.7 crore. Post Pradhan Mantri Jan-Dhan Yojana (PMJDY), these figures have fallen tremendous. By 2015, the unbanked population estimate had come down to 23.3 crore. As of February 2017, official estimated figure of total PMJDY accounts is 27.39 crore. While non-PMJDY bank account penetration is difficult to calculate, an estimate today is that 80-85 per cent of relevant Indian population who can now access the banking system through an account.

At the primary level, financial inclusion gets the unbanked population into the system and serves other purposes:
• Bank deposits provide a greater level of security of savings.
• A bank account is a proven magnet for creating the habit of regular savings. For long, banking system has been a good proven method to use retail cash flows to build assets, be it through fixed deposits or loans for a home and/or a business.
• Once a family unit gets into the banking system and builds a discipline of regular transactions, it automatically gets access to bank credit. This credit, at an annual cost of 12-18 per cent, is generally on much easier terms than the unofficial borrowing system, which normally runs at a cost of 24-28 per cent annually.

Severity of non-inclusion





•The sheer presence of an individual account enables linkages directly, be it subsidies, grants, government payments (pensions, refunds) or product-related payments (insurance policy claims, transactions of financial securities).

McKinsey gives a different viewpoint to financial inclusion by taking into account the user perspective.

Conventionally, people who have an account with a bank/ financial institution are considered financially included. That defination leaves us with a poor picture. A McKinsey study done across 15 developing economics discovered that across these economies, two billion individuals and 200 million SMEs did not have a formal finance account.

A more accurate (and disappointing) perspective would be to take the number of account holders using to meet financial needs. The study showed that, of all eligible population, 50 per cent has an account. Of this, regular users are around 30 per cent. Regular savers are around 20 per cent and those who have borrowed from a bank/ institution are just around 10 per cent. The last two transactions define financial inclusion at its core.

The implications of being underserviced are massive. McKinsey estimates that there is a $2 trillion deficit across the SME businesses which cannot access credit and who in turn borrow from the informal market at higher rates, and work on low margins and diminished profits.

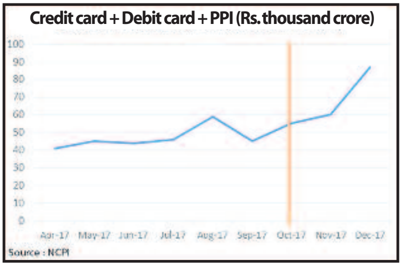
Other disadvantages of a cash-based economy are given below:

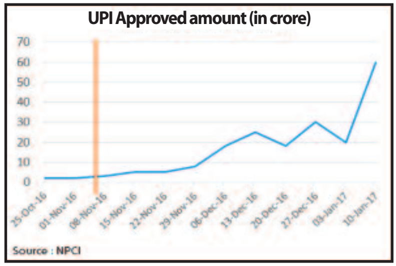
• From an economy perspective, capital formation at lower levels is hit. Cash income by and large is unaccounted for, and out of the tax net.

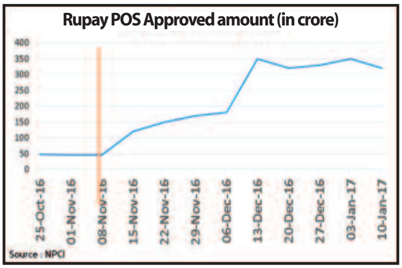
• A recent report by Visa puts the cost of cash as 1.7 per cent of GDP. Cost of cash here represents both the cost to create storage infrastructure and time spent in maintenance of cash, plus the time and cost of transactions and movement of cash.

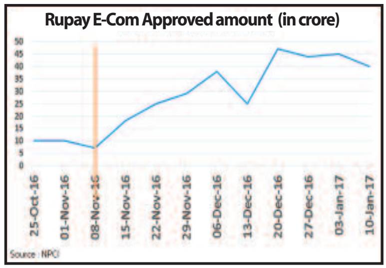
It is in this context that digitisation becomes very important.

Increasing digital transaction

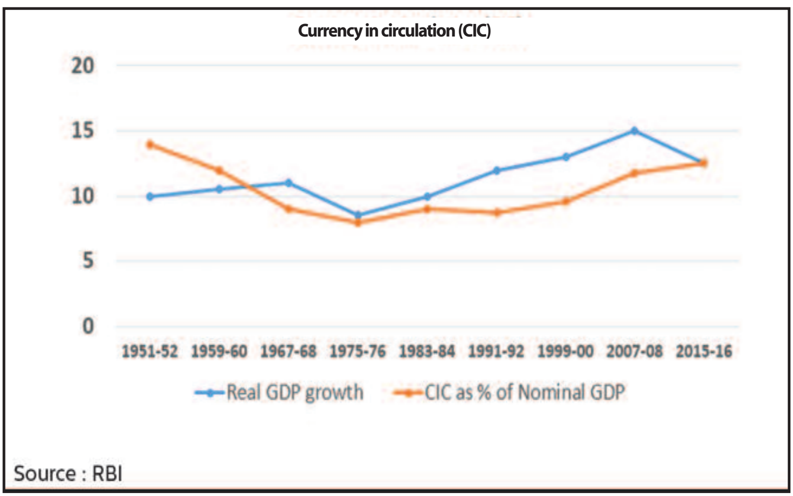








Note: PPI- Pre-Paid Payment Instruments; POS- Point-of-Sale; UPI-Unified Payment Interface



Digitisation: A vehicle of providing financial inclusion benefits

Find out how digitisation can help in enjoying benefits:

- It reduces income disparity in many ways.

- The cash spend tends to be higher in absolute terms as the income levels go up. With digitisation this is tracked, and taxed at higher levels.

- As already seen digitisation enables transfer of benefits to the intended beneficiary with greater speed and reduced leakages.

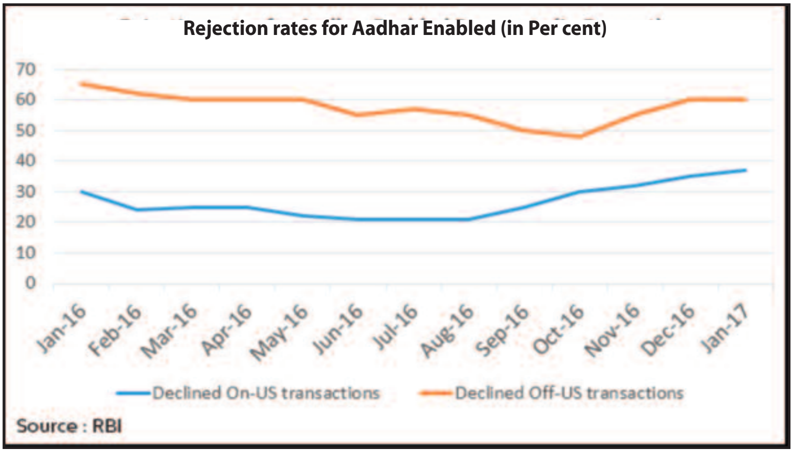
- Likewise, the cost of cash at 1.7 per cent has also been discussed. The greater the volume of transactions as cashless/ digital, the quicker this figure of 1.7 per cent will come down.

- There are other benefits to the economy that include increase in velocity of money flow. This by itself will generate a virtuous cycle culminating in quicker return of capital invested and therefore, lower investment requirements.

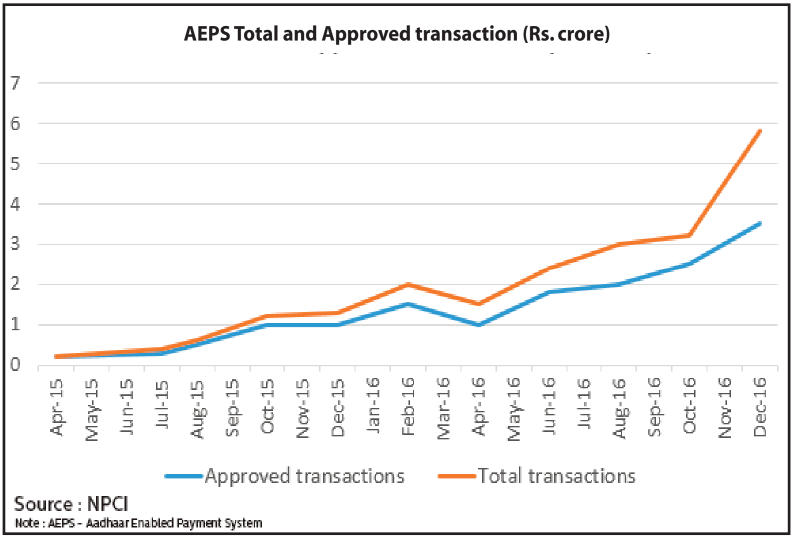
- More money supply means the system will be able to provide credit at better terms, as discussed earlier. This will aid economic growth and also bring down the overall cost of producing goods and services. Once both these factors are redressed, use of credit to boost personal financial growth will accelerate.

To sum up, digitisation improves money velocity, which would contribute to higher GDP. Trail and audit of transactions helps government benefits get transmitted without leakages. Simultaneously, improved tracking of transactions means that more transactions come under taxation purview. For all these to be realised, it is necessary that the taxpayer must have access to the banking system which enables tracking. For that, e-payment or digitisation is a must.

Aadhar's role in payment



Note: On-US transactions: The issuing and remitting bank is the same;
Off-US transactions: Transactions involves different banks.



While the benefits are evident, there are some ground issues.

- **Foremost would be the regulatory authority.**
  ❖ When digitisation brings together consumer, an income-investor and a vendor, a single authority is needed. Today, SEBI, IRDA and RBI regulate equities and funds; insurance; and banking respectively.
  ❖ A single authority is indispensable, especially in disputes. It was recently reported that ICICI Bank refused the transaction, citing security protocol issues. When NPCI (National Payments Corporation of India) raised the issue with Yes Bank, the bank responded that NPCI had no locus standi in the matter.
  ❖ Without an umbrella regulator, small issues like payments of gas bills and electricity bills can get compounded, which can cause inconvenience if not honoured for non-monetary reasons.

- **Technology and protocols are where the problems can emerge.**
  ❖ There is need to standardise protocol of digital transactions, Aadhar-backed or otherwise.
  ❖ Mobiles apps are a fast-growing transaction medium. Such apps can be intrusive in their data requests, and can be used to install malware.
  ❖ There is no framework on where the data acquired should be used and where it cannot be. Data theft is again a proven possibility.

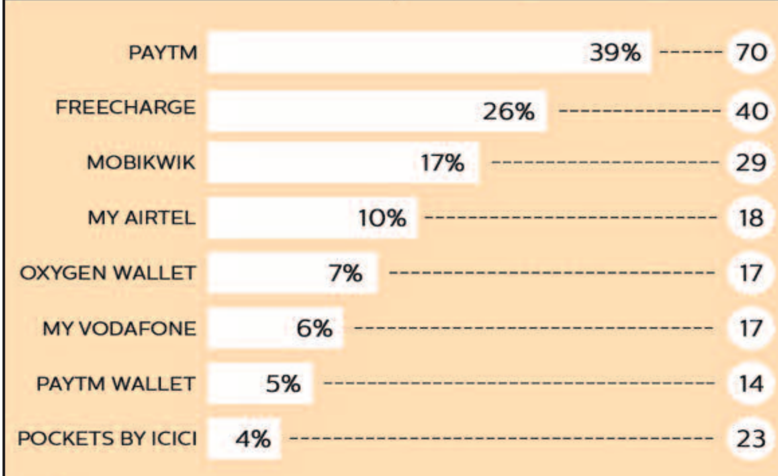
- **Another impediment is the sheer size and taxation structure of India.**
  ❖ India in aggregate has roughly 5,000 urban and 5, 00,000 rural settlements, housing 20-25 crore family units. Approximately, a quarter of this number form micro, small and medium business establishments, with varying requirements.
  ❖ A huge on-ground infrastructure – ATMs, POS and similar facilitators – is needed if digitisation is to service this scale of consumers.
  ❖ There is also the local and state-wise tax structure which again is not uniform for all the 29 states.

Game of transaction cost

Customer transactions cost across channels		
Channel		**Cost (Rs./transaction)**
Bank branch		40-50
ATM		13-17
Call Centre		8-10
Offline BC model		4-6
Onine BC model		2-4
Internet		0.2-0.5
Mobile		<0.2
Source: RBI,MOSL		
Note: BC=banking correspondent		

Top Mobile Payment Apps

Reach % Dec 2015 | **Time spent by users (mins/mth)**



Source: Nielsen
http://www.nfcworld.com/2016/03/14/343274/nielsen-reports-on-mobile-whole-wallet-market-in-india/

Cost of transaction

One important aspect in digitisation is the cost a digital transaction involves. It is referred to as a convenience charge or service charge. It implies that the time saved in generating cash from the financial system plus the time involved in purchase payments should be worth something. NPCI has recommended that payment platforms, independent or bank-related, should have a transaction cost ranging from 0.75 per cent (related to Aadhaar cards) to 1.5 per cent (independent).

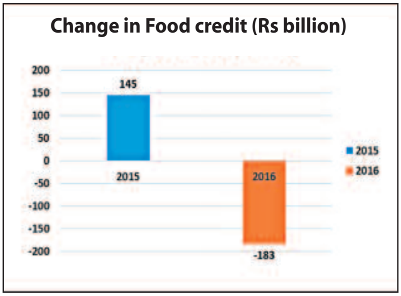
While these recommended charges are lower than those currently levied by MasterCard, Visa, Amex and others, they are still too high. They translate into a huge share of GDP (see preface). They need to be lowered further. Hopefully, with improving GDP, a surge in e-payment transactions and a nudge from the government, they will (in line with Moore's Law) see a huge reduction, maybe upto 20 per cent of the current levels.

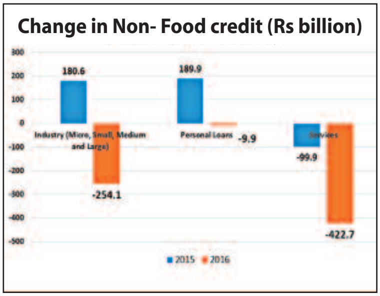
However, the aggregate of transaction fees would only rise, which explains the urgency of digital payment players to rush and capture some part of this market.

Charges relate to debit and credit card usage, as well as transactions through mobile wallets. The latter has no entry fee and no transaction charges for client/ merchant, but a 5 per cent exit fee. Another intermediary fee structure is PayU, which works out deals with government/ quasi-government bodies to manage their collections, but collects a (steeper) 5.7 per cent fee from customers, not the bodies.

There are also cases of merchants charging a convenience fee, like IRCTC which imposed a flat Rs 46 fee on customers. The recent Budget has removed this IRCTC charge. It remains to be seen if all such merchants, especially airlines like Indigo, would follow suit.

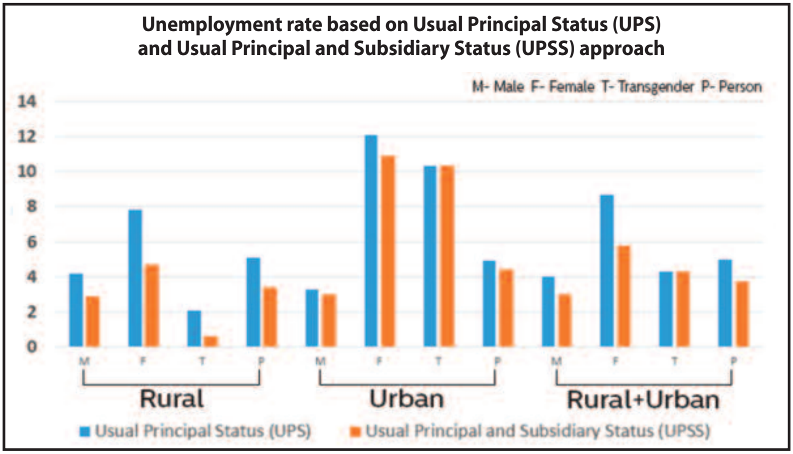
Gross bank credit





Source : RBI

Employment status



Source: Labour Survey 2015-16

Note
UPS: The major time criterion based on the 365 days is used to determine the activity pursued by a person under the usual principal status approach. Accordingly, the major time spent by a person (183 days or more) is used to determine whether the person is in the labour force or out of labour force.

UPSS: This approach is a hybrid one which takes into consideration both the major time criterion and shorter time period (30 days or more in any economic activity). Thus a person who has worked even for 30 days or more in any economic activity during the reference period of last twelve months is considered as employed under this approach.

Recommendations

If demonetisation were intended to vitalise the economy, there are certain cardinal parameters:

Foremost, money must flow to the real economy. What does that mean?

• There has to be a reliable mechanism so that 90 per cent of the population can deposit and withdraw money with ease. It includes ground infrastructure, as well as statutory filters where basic transactions do not invite harassment.

• There has to be enough security wherein entry into the digital economy (which is a phenomenon for 75-80 per cent families) should not compromise on ease and security.

• The cost-benefit analysis should work out in favour of the person who has the money, rather than financial intermediaries or the Government.

The urgent need for an epayment regulator, who monitors changes, manages and provides protection. The regulator who overtook security related issues and protocols.

In brief, when money flows into the real economy, it can serve its purpose of serving the economy in an appropriate manner. Digitisation can only accelerate the speed of money rotation.

The other measure is that employment must be catalysed.

• India needs a million jobs every month. Due to demonetisation and digitisation, this figure would be higher. So, new avenues are needed to manage this workforce.

• Mainly, it would be MSME sector which would create employment. Thus, this sector should be given incentives. It is acknowledged worldwide that small enterprises generate employment.

• Higher focus on skill development, in consultation with the corporate sector is necessary. So, that both employment and job disruption could be managed.

• Primary areas where job creation (of basic level) is easily done are housing and infrastructure. Lastly, driving foreign investment into industry would also be a catalyst, subject to confidence issues.

NPCI: Riding high over demonetisation wave

A P Hota, Managing Director and CEO, **National Payments Corporation of India** (NPCI).

The National Payments Corporation of India (NPCI) in its vision statement has said that it will touch every Indian through electronic payments by 2020. A P Hota, CEO and MD of NPCI, strongly believes that NPCI is a processor with a difference. Excerpts of a chat with R N Bhaskar:

NPCI against MasterCard and Visa:

NPCI is considered to be 'the umbrella organisation' of Indian retail payment systems. We organise clearing and settlements for various types of retail transactions. As per the Payment and Settlement Systems Act 2012, RBI continues to be a regulator and we are a processor. We have taken over three retail payment processes from RBI – ATM, cheque clearing and ACH – and built four more. In the current year, we are building five systems. In total, we are building 12 payment systems.

Regarding competition with Visa and MasterCard, only one segment of NPCI can be compared with Visa and MasterCard, the Rupay debit card which is issued by the banks, but monitored and implemented by us. We are a processor with the difference, as we process variety of retail payment transactions, with end-to-end activities and leading to settlement in the books of RBI.

The emergence of Rupay and competitive scenario:

The concept of Rupay was ideated by RBI and came into existence in 2005-06. They were keen for a domestic player, and requested NPCI to take up the task. For a country with such huge population and growing at such rapid pace, a payment system of its own was the need of an hour. China, with its own system called China UnionPay, banned MasterCard and Visa. But India allowed them to operate.

The decision to issue a card (Visa, MasterCard or Rupay) lies with bank management. Only in case of Pradhan Mantri Jan-Dhan Yojana (PMJDY) scheme which is a scheme of the government, it was made mandatory to give Rupay card to the account holders. With this context, today we have 315 million cards, out of which only 119 million cards are PMJDY card.

We are close to 50 per cent of India's 775 million cards and the largest issuer of debit cards although, not the largest transaction card company. The largest remains Visa. India, however, has 30 million credit cards and we are going to launch Rupay in the credit card segment as well.

The Rupay imperative:

Our fee to banks is one third of that of MasterCard and Visa, which is a big advantage. The charges paid by merchant establishments are uniform. Banks should ideally choose Rupay over MasterCard and Visa. The mindset here is that MasterCard and Visa is a global card company, whereas 93 per cent of the card usage is domestic. Customers in small towns do not need a global card, but that is dumped on them. The mindset is that anything foreign is good but we hope that in course of time this mindset changes.

Acceptance of NPCI:

For decades, MasterCard and Visa bought only 54 banks into the payment systems. NPCI now has around 700 banks in its card payment system, across public, private, regional and rural banks. About 95-96 per cent bank customers are already part of Rupay. Remainder are the co-operative banks which will be added when they get core banking enabled.

NPCI overall and in the new perspective:

In number of transactions, NPCI is third behind Visa and Master Card respectively. Market share in ATM channels is about 28 per cent, and 42 per cent in card transactions. In terms of point of sale (POS) and e-commerce transactions, we are 8-10 per cent, mainly because most of our cards are used in rural areas where infrastructure is lacking.

The Unified Payment Interface (UPI) is highly secure, as is the Immediate Payment Service (IMPS). The USSD (Unstructured Supplementary Service Data) has got some limitations, hence the RBI has limited the amount of transaction to Rs 5,000.

We have a daily capacity of 40 million transactions online and 60 million offline, which is comfortable. We aim to have the daily online transaction capacity 100 million in a year's time.

A cashless India:

Less than 10 per cent of India's daily expenses are electronic. The shift from cash to largely cashless or less cash is quite a task, but if we can maintain our pace, we should reach 50:50 ratio by March 2017.

***NPCI: Riding high over demonetisation wave Interview:** https://goo.gl/L6rDuV

‘Demonetisation and Digitisation: The Road Ahead’ Panel

(LtoR) Anu Madgavkar, Partner, McKinsey Global; Lalit Kanodia, Chairman, Datamatics Global Services; R N Bhaskar, Consulting Editor, Free Press Journal & Soumyajit Niyogi, Associate Director, Credit & Market Research, India Ratings & Research, after the panel discussion.

Demonetisation perspective

Lalit Kanodia: Many are unaware that India has demonetised its currency four times. The first time was under Emperor Akbar. The second was in 1964 towards the end of British rule, and the third was done in 1978, under Morarji Desai. Even in the United States, President Nixon demonetised $1,000 plus notes. The UK also demonetised their currency in 1971 when they had decimalised the pound sterling. The Sovereign Union demonetised in 1991 (time of dissolution) and Australia demonetised in 1996. Other examples are Nigeria, Ghana, Pakistan, Zimbabwe, North Korea, and Burma (now Myanmar).

LALIT KANODIA,
Chairman, Datamatics Global Services

Digitisation leaves an audit trail. It is then difficult to get outside of GST net or the sales tax net or the income tax net. Interest rates will certainly fall (post demonetisation). All the money the RBI does not get back will technically become deemed income to the Government.

Soumyajit Niyogi: Let us talk of cash in circulation. News reports talked about how the cash 20 years back was around Rs 5-7 trillion and now it is Rs 17-18 trillion, just because of black money. Cash in circulation actually depends on many factors like inflation, population, the wealth effect and so on. The GDP growth rate post liberalisation has gone up substantially, so have the population and per capita income. All this shows cash in circulation. Also, the two terms cash in circulation and black money are not synonymous or interchangeable.

SOUMYAJIT NIYOGI,
Associate Director,
Credit & Market Research, India Ratings & Research

Beyond the fiscal bonanza, is the liquidity shock. Till November 8th, we had around Rs 17 trillion of cash in circulation and after that the amount came down to close to Rs 5 trillion now its again 10 trillion plus.

Kanodia: Let me list some positives. It is estimated that 3.5 per cent of notes in circulation will disappear which is about Rs 50,000 crore. Terrorism has gone down because terrorist funding has declined. Tax collection has gone up because the authorities have stated that deposits would be subject to tax, and the tax net may widen. Digitisation leaves an audit trail. It is then difficult to get outside of GST net or the sales tax net or the income tax net. Interest rates will certainly fall.

All the money the RBI does not get back will technically become deemed income to the Government. So, fiscal deficit and inflation will decline. The digital economy will be accelerated. Bank accounts will increase. In the past two months, debit card transactions have increased by 80 per cent, credits card transactions have increased by 40 per cent and internet banking has increased by 75 per cent.

The pain each one had to withstand includes the huge expense of printing and distributing new notes and the much bigger price of it is the economy slowing down. GDP growth now certainly will not be 7.5 per cent.I believe many more such steps are coming.

During the Raj, India grew at 23 per cent and India's international trade stood at 27 per cent. These steps are in that direction. This is a surgical operation and better for the long term.

Digitisation

Niyogi: Beyond the fiscal bonanza, is the liquidity shock (given to India). Till November 8th, we had around Rs 17 trillion of cash in circulation and after that the amount came down to close to Rs 5 trillion now its again 10 trillion plus. The interim period was a classic illiquidity problem where people had money but could not use it. Apart from liquidity shock, there was income shock, and wealth shock. India, at SME level, is still grappling with the reduction in cash in circulation.

Anu Madgavkar: We at McKinsey Global Institute believe digitisation is an opportunity for emerging economies. Demonetisation in itself is challenging, perplexing, but is a trigger to accelerate some of the benefits of digitisation to the economy.

ANU MADGAVKAR,
Partner, McKinsey Global

Regulators stance is an evolutionary approach. There are pockets in Africa where financial regulators have actually been liberal about applying digital innovation, bringing together telcos and banks and allowing them more or less freehand.

I want to share some of the findings from a major research project that we published last year, across India and 15 other emerging economies. The old view of financial inclusion says that people either have a bank account or formal financial account with an institution or they don't. You are not financially included if you don't have a bank account. Even by this old definition, across these emerging economies there are around 2 billion individuals and 200 million small and medium enterprises (SMEs) that don't have a formal financial account with any institution.

But a new definition of being financially included is not just having an account, but using it. By those benchmarks across these economies, roughly 50 per cent may have an account, but regular users are just about 30 per cent. Regular savers are just over 20 per cent. Those who had actually borrowed from a formal financial institution in the last one year were about 10 per cent. It's only a small fraction of people and businesses in the emerging economy that are actually able to make use of formal institutions to meet their needs. The 200-million small and medium businesses which don't have accounts represent a $2 trillion credit shortfall. They pay very high interest rates to borrow money and are totally excluded from the benefits of aligning with the formal financial system.

The difference is huge if you compare number of adults having bank accounts with number of adults have mobile subscriptions. If you think about the pool you can reach through the mobile phone, is obviously large. On the back of digital platform, you can actually reach more people with very low per capita income and very low (sort of) ability to pay.

Focus on requirements

Niyogi: What are the challenges when digitisation replaces the trusted medium of money? The worst thing to happen is regulatory failure. Effective resolution for payment failure is vital. We have seen misselling of ULIP and the negative impact it had on the insurance sector for a long time. The same cannot be allowed here. Second factor is monetary policy in the era of Uberisation and the brown economy, if we buy 10,000 air miles we get 2,000 extra. This is nothing but creation of endogenous money and who governs this? The regulator will have to be ahead of the curve. India's financial regulatory system works in silos. We possibly need a super regulator.

Technology is a challenge. We need hardware as well as software. We need more transaction points. Can we ensure undisrupted power and internet for 24-hour use even on low transaction amounts? These are challenges we will face day in and day out and they are for monetary policy and cyber authorities, rather than the government. We need better mobile penetration, spectrum and handsets. You cannot expect people to invest or spend their own money. It is the producer or seller who has to invest. We have seen increase in mobile penetration and the Aadhaar card usage has reached more than 85 per cent, but the second level problem then is the failure of linkages. Can you replace Aadhaar-like authentication (which is biometric-driven) in case there is a security breach or your data is compromised?

Kanodia: Security is definitely a serious concern. Regarding hacking, today we have a technology where you put your thumb on the phone and it will identify you. One day I believe that an iris scan of your eye would be done by the phone to identify you. What I am more worried about is personal privacy, which will disappear by and large in the digital economy. Information in the wrong hands creates all kinds of misuse and abuse.

Madgavkar: Regulator's stance is more or less an evolutionary approach. There are pockets in Africa where financial regulators have actually been liberal about applying digital innovation, bringing together telcos and banks; and allowing them more or less freehand and consequently digital money has rapidly accelerated. Maybe those regulators, at a later stage, are thinking about security issues.

Our regulator has had a much more traditionally conservative approach, but has put in place many building blocks. Countries much ahead of the curve than India are grappling with similar security issues. We are unique as we are probably the only country with a large base of biometric IDs. So there are opportunities for Datamatics and other digital companies of India to actually become the McAfees of tomorrow.

Mobile and internet connectivity, coverage and affordability are still issues. The good news is the progress made in terms of the building blocks – digital payments infrastructure, the backbone in the form of UPI and other such Aadhaar-based systems –over the last 3-4 years. With India's innovative ability, the products people really need and value can emerge with these building blocks, and we won't have to wait a generation.

Niyogi: There are severe questions around data security in India. If I use my Aadhaar for the third-party payment mechanism, I do not know what they will do with the data they take from me. As discussed in the book 'Phishing For Phools', a free economy is free not only for consumers and producers, but also for those who are into phishing. Regulation becomes vital. Regulators must be judiciously balanced between ring fencing the user, and encouraging innovators to come up with better products at optimum cost.

Impact of digital transaction

Madgavkar: Look at all costs – opening an account, cash-in and cash-out through a system, cost of making a non cash-based transaction. When you compile all of that, the transaction cost of a digital platform is 10-20 per cent that of the traditional platform. Across all emerging markets over a 10-year period, $ 3.7 trillion – in terms of additional productivity and additional GDP – can be unlocked by driving and promoting more digital finance. For India alone that number was $700 billion, and most benefits flow to MSMEs, rural people, women and poorer people, making it an inclusive and equitable way of growing GDP.

FPJ: One of the puzzling things about digitisation is transaction cost, normalised at 1.5 per cent as merchant discount and 0.75 per cent for Aadhaar card.

Assuming 1,000-rupee note was a legal tender, most people would agree that a transaction velocity for a 1,000-rupee note is one per day, and such a note survives for three years, about 1,000 days. Here the merchant does not have to pay transaction fee. But if the same transaction takes place digitally, the daily transaction cost of 1.5 per cent into 1,000 days, the 1,000-rupee note ends up costing 15,000 rupees across three years for the merchant, adding to the GDP.

Madgavkar: GDP accounting at some level is a mystery. One fallacy is that the more your expenditure goes up, GDP rises, presumably because somebody else's income goes up.

Technically, GDP goes up simply in digitisation because the poor merchant pays more – but at some level cumulatively but there is also real savings that is happening there. There is a cost to a 1,000-rupee note that's turning over 1,000 times? There is a cost of printing and wearing out. It is not just the cost to spend time in the cash-in and cash-out process, but also reconciliation cost. All these are saved resources, which can be utilised for other productive uses.

Niyogi: Convenience fee payment should be shared, since convenience is there both for payer and the payee. This intermediary cost is dangerous because it can actually disrupt the entire ecosystem, as seen in several market mechanisms.

Kanodia: When you have digital transactions, cost will definitely decrease and velocity rise. But digitisation is much beyond just digital buying and selling. You can imagine multiple effects – less cost accounting, keeping records. Tax collection goes up and tax return filing is easier. I am sure lot more such activities will take place. And India is on the verge of it. We are a very digitally-minded people; even the domestic help today operates smartphones.

Madgavkar: Digitisation will start aggregation of expense along with income and then a pattern will be established for the taxation authorities.

Niyogi: Our Central Bank balance sheet is peculiar. To create a liability (cash in circulation) they create an asset (investments in government securities and forex reserves). Return on these assets called seigniorage income, rises with cash in circulation. When digitisation happens, this income may be sacrificed. Also, better finance access definitely helps end users in the long run, but in the short term there could be ample lending capacity without adequate application.

Aspects of education and evolution

Niyogi: The ground challenge is to educate common man especially rural people about digitisation. Accessibility is an issue in rural areas due to low ATM penetration, simply because of viability issues for banks on account of low per capita incomes. Still, money accessibility is important to the common man.

Madgavkar: The cash-based merchant discounts are not linked to customer's ability to pay. We have to target the consumer's need, or maybe tax cash transactions to push merchant mindset towards acceptance.

Digitisation has led to many new interesting business models like Tala, an American micro-credit company which focuses on lending in Africa particularly to borrowers without credit history using artificial intelligence to analyse their mobile money m-pesa and give a credit rating. Another example is low-cost primary school Bridge Academies, serving below poverty line students in Africa viably. All processes are on the mobile platform including payment for fees, expenses incurred by the school, curriculum, tests etc. Being digital has brought down operating costs of running a quality school to 10-20 per cent of traditional costs.

In India, there is a business in Tamil Nadu where rural, primary and preventive healthcare is offered on the back of a completely digitised system that runs off a tablet. A 12th-pass person with 6-8 weeks of training can run this system, because intelligence is all embedded in the device and payment mechanism.

(L to R) **Abhishek Karnani, Director, Free Press Journal; Anu Madgavkar, Partner, McKinsey Global; Lalit Kanodia, Chairman, Datamatics Global Services; R N Bhaskar, Consulting Editor, Free Press Journal & Soumyajit Niyogi, Associate Director, Credit & Market Research, India Ratings & Research, after the session.**

Kanodia speaks during the panel discussion.

Kanodia gives momento to Madgavkar and Niyogi.

A member from the audience quizzed the panelist on digitisation.

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