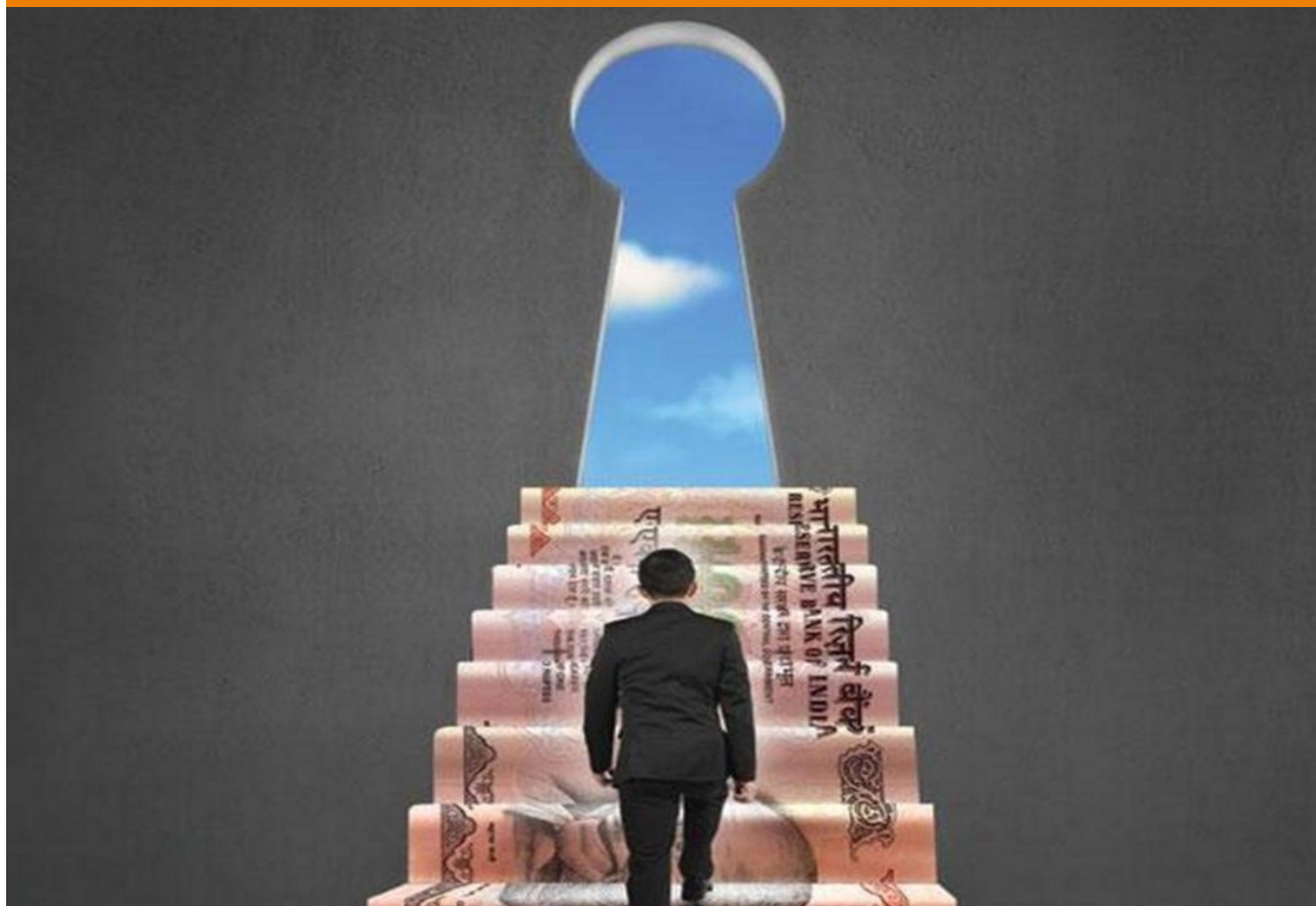




Demonetisation is the tool but cashless economy is the goal of India

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On November 8, 2016, India has seen a few historic announcements from the prime minister's office in relation to cancelling the high denomination of 500 and 1000 rupee notes with an objective to tackle the black money, access to cash by terrorists, curb tax evasion & encourage cashless transactions. The high denomination currency notes make about ~85% of the total cash circulated in India. In the announcement, Modi declared that use of all 500 and 1,000 banknotes of the would be invalid after midnight of that day, and announced the issuance of new 500 and 2,000 banknotes of the New Series in exchange for the old banknotes.

However, in the days following the demonetisation, banks and ATMs across the country faced severe cash shortages. Also, following the announcement, the BSE SENSEX and NIFTY 50 stock indices crashed for the next two days. The move received support from several bankers as well as from some international commentators. But it was heavily criticised by members of the opposition parties, leading to debates in both houses of parliament and triggering organised protests against the government in several places across India.

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. People seeking to exchange their notes had to stand in lengthy queues, and several deaths were linked to the inconveniences caused due to the rush to exchange cash. The civilians in the country are divided across the country on the issue of demonetisation at large. Whilst there seems to be a broader consensus across the country on the intent of the policy, there have been significant roadblocks in implementing such policies. The digital infrastructure is not ready to replace cash transactions for making this policy to be implemented smoothly. More importantly neither businesses, citizens of India are ready to move into cash less state nor the implementers of such policy being the banks, regulators and other fin tech operators who can give access to digital platforms are adequately resourced to deal with such a change in the government's policy of achieving a cashless economy.

Over the coming pages we try to dissect India's radical economic reforms to move towards cashless state, where India stands in the global digitisation race as well as the hurdles and enablers that India would need to realise a cashless economy.

## **Why are radical reforms important for a country to build the next important economic building block?**

Across the globe, radical reforms resulted in the creation of a new middle class and greater empowerment to the people. In the US, Ronald Reagan delivered jobs growth and high consumption through reduction in government control, low inflation and encouragement to private enterprises.

In Britain, divided between labour unions and the wealthy class, Thatcher's package insured establishment of the free market, with the help of privatisation, inflation control and limited government. This created a new pro-Thatcher middle class in British society.

While in China, Deng Xiaoping's reforms were launched to increase the income of its enormous population. Deng's reforms turned China into a global economic superpower and formed the world's largest middle class by pulling 700 million people out of abject poverty.

Demonetisation is India's most radical reform since Independence. As it approaches official climax with terrible economic and dubious transparency narratives, the debate is now divided between ostensible gains and tangible losses.<sup>1</sup>

We can at least surmise for now that:

- Initially, this reform has disempowered people from their economic liberties.
- Modi's political success is the result of the support of a restless middle class, which is waiting for growth in employment, income, socialism while hanging between growing pain and vague hopes.

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<sup>1</sup> [Daily O - Open to Opinion](#)

- Demonetisation may lead to greater government control on the economy.
- The political goals of this reform are visible, but a clear picture of economic benefits is yet to emerge.

## **Why is cashless economy for India is important?**

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 Rs 21,000 crore (~A\$2.4bn) 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 Jan Dhan Yojana (Prime minister Financial Inclusion scheme) and adoption of direct benefit transfer is part of the overall idea to reduce usage of cash and increase transparency.

RBI has also issued licenses 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 who 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 PricewaterhouseCoopers, 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, who produces nearly half of the output in the country, works in the unorganised 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.<sup>2</sup>

- 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.

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<sup>2</sup> [BCG/Google - Digital payments 2020 report](#)

- Third, the government will also need to play its part. It will have to find ways to incentivise 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 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.<sup>3</sup>

## Is Indian Digital economy is moving fast enough to achieve cashless economy?

Private equity and venture capital money have been concentrating in certain markets in ways that mimic the electronic gold rush in Silicon Valley. During the summer of 2014 alone \$3 billion poured into India's e-commerce sector, where, in addition to local innovators like Flipkart and Snapdeal, there are nearly 200 digital commerce startups flush with private investment and venture capital funds. This is happening in a country where online vendors largely operate on a cash-on-delivery (COD) basis. Credit cards or PayPal are rarely used; according to the Reserve Bank of India, 90% of all monetary transactions in India are in cash. Even Amazon localized its approach in India to offer COD as a service. India and other middle-income countries such as Indonesia and Colombia all have high cash dependence. But even where cash is still king, digital marketplaces are innovating at a remarkable pace. Nimble e-commerce players are simply working with and around the persistence of cash.

To understand more about these types of changes around the world, Harvard & Tufts University developed an "index" to identify how a group of countries stack up against each other in terms of readiness for a digital economy. Digital Evolution Index (DEI), created by the Fletcher School at Tufts University (with support from Mastercard and DataCash), is derived from four broad drivers: supply-side factors (including access, fulfillment, and transactions infrastructure); demand-side factors (including consumer behaviors and trends, financial and Internet and social media savviness); innovations (including the

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<sup>3</sup> [Live mint](#)

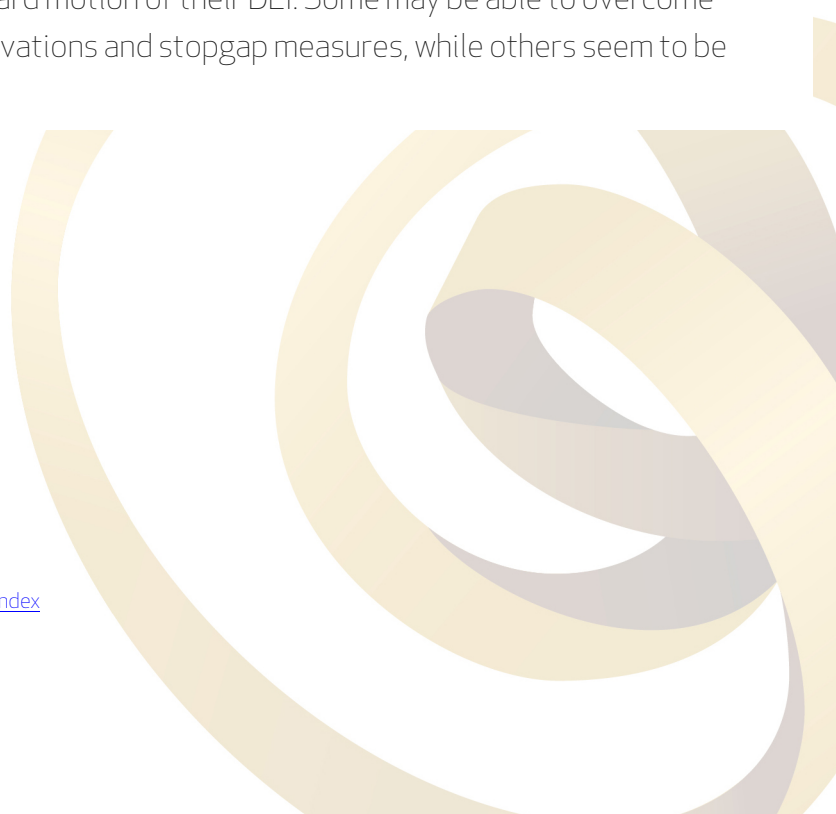
entrepreneurial, technological and funding ecosystems, presence and extent of disruptive forces and the presence of a start-up culture and mindset); and institutions (including government effectiveness and its role in business, laws and regulations and promoting the digital ecosystem). The resulting index includes a ranking of 50 countries, which were chosen because they are either home to most of the current 3 billion internet users or they are where the next billion users are likely to come from.

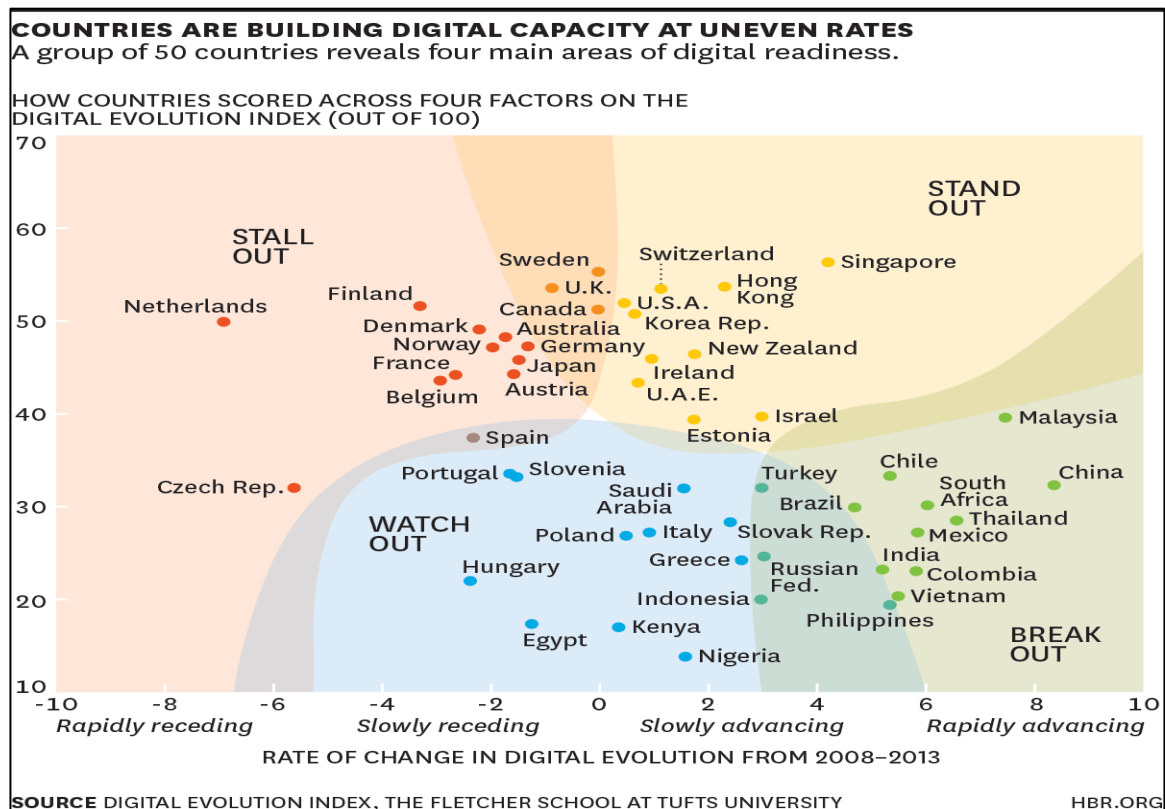
Based on the performance of countries on the index during the years 2008 to 2013, we assigned them to one of four trajectory zones: Stand Out, Stall Out, Break Out, and Watch Out.<sup>4</sup>

- **Stand Out** countries have shown high levels of digital development in the past and continue to remain on an upward trajectory.
- **Stall Out** countries have achieved a high level of evolution in the past but are losing momentum and risk falling behind.
- **Break Out** countries have the potential to develop strong digital economies. Though their overall score is still low, they are moving upward and are poised to become Stand Out countries in the future.
- **Watch Out** countries face significant opportunities and challenges, with low scores on both current level and upward motion of their DEI. Some may be able to overcome limitations with clever innovations and stopgap measures, while others seem to be stuck.

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<sup>4</sup> [Fletcher business school digital evolution index](#)





Break Out countries such as India, China, Brazil, Vietnam, and the Philippines are improving their digital readiness quite rapidly. But the next phase of growth is harder to achieve. Staying on this trajectory means confronting challenges like improving supply infrastructure and nurturing sophisticated domestic consumers

## India's Internet usage and its impact on achieving a cashless economy

As many as 68 per cent of transactions in India are done in cash, according to this analysis by Business Standard, while other estimates say 90 per cent of all transactions are in cash. There are five hurdles to Modi's ambition of converting India to a cashless economy<sup>5</sup>:

<sup>5</sup> [Firstpost.com](http://Firstpost.com) - 5 hurdles to narendra-modi's push for cashless economy.



- **342 million Internet users, 27 per cent of Indians:** Earlier this year, India surpassed the US to become the country with the second-largest number of Internet users, according to this June 2016 report by investment firm Kleiner Perkins Caufield & Byers. <sup>6</sup>There are 342 million Internet subscribers (an Internet “penetration rate” of 27 per cent) in India, data from Telecom Regulatory Authority of India (TRAI) reveal. The global median is 67percent, India Spend reported in March 2016. India lags most major economies and performs worse than Nigeria, Kenya, Ghana and Indonesia, among other countries, the data reveal. Put another way, 73 per cent of Indians, or 912 million, do not have Internet access. Of those who use the Internet, no more than 13 per cent live in rural India (or 108 million of 833 million who live in rural areas), which has been worst hit by the November 8, 2016, invalidation of Rs 500 and Rs 1,000 notes that made up 86 per cent of notes in circulation. In urban India, 58 per cent of people access the Internet.
- **Smartphone usage rate among adults 17 per cent:** For a majority of banking applications, a smartphone is a prerequisite. India is Asia-Pacific’s fastest-growing smartphone market, but no more than 17 per cent of Indian adults own a smartphone, according to this 2016 survey by Pew Research. Only 7 per cent of adults in low-income families own a smartphone; the figure for wealthier families is 22 per cent.
- **1.02 billion mobile subscriptions, but only 15 per cent have broadband internet:** India had 1.02 billion wireless subscriptions, but after scrubbing the data of inactive and duplicate connections, India has 930 million (90%) active subscribers, according to this November 2016 TRAI report. Of these, 154 million subscribers (15 per cent) have broadband connections (3G + 4G).
- **Average page load time on mobile 5.5 seconds, China 2.6 seconds:** The average time to load a page on a mobile phone is 5.5 seconds in India, compared to 2.6 seconds in China, 4.5 in Sri Lanka, 4.9 in Bangladesh and 5.8 in Pakistan, according to the “State of the internet Q1 2016” report by Akamai Technologies, a global content delivery network services provider. Israel has the fastest load time at 1.3 seconds. Mobile Internet speeds will make users less likely to use their phones for banking transactions, with Oracle Maxymiser, a website optimisation tool by Oracle, a US multinational, reporting a two-second threshold before users stop an online transaction—although 68 per cent of

respondents reported they would not wait six seconds for pages or images to load on a bank's website or mobile site.

- **856 PoS machines per million Indians:** There were 1.46 million PoS machines in use in India—that is, 856 machines per million people—according to this August 2016 Reserve Bank of India report. In 2015, Brazil—with a population 84 per cent lower than India—had nearly 39 times as many machines (32,995), according to this 2015 report from Ernst & Young, a consultancy. The PoS machine rate was 4,000 per million people in China and Russia. More than 70 per cent of the PoS terminals are installed in India's 15 largest cities, which contribute to more than 75 per cent of transactions, says the Ernst and Young report. This has not changed after #notebandi, as the scrapping of Rs 500 and Rs 1,000 notes is called colloquially. Most requests for more PoS machines are still from "tier 1", or metropolitan, cities, a banker with a leading private sector bank told the Indian Express on 29 November, 2016. "In tier 2 cities, customers are now slowly making the shift from using their debit cards to withdraw cash to using them for payments. The demand is progressing slowly," he said. As an incentive to banks and manufacturers of PoS terminals, the government has waived 12.5 per cent excise duty and 4 per cent special excise duty on these machines, as it hopes to install an additional 1 million PoS machines by March 2017.

## **What are the possible digital tools that will help the Indian government to achieve the cashless economy?**

Recently, Mr. Nandan Nilkeni, a founder team member of Infosys (One of India's leading IT Companies) and generator of the concept of Aadhar (National Biometric ID) made one presentation of the impact this Aadhar linked cell phone will create and revolutionize the market in general and finance market in particular in India.<sup>7</sup>

Major highlights of the presentation are as under:

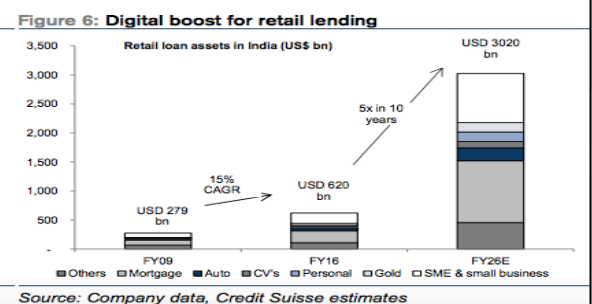
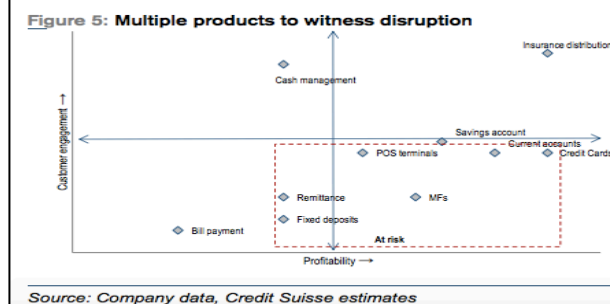
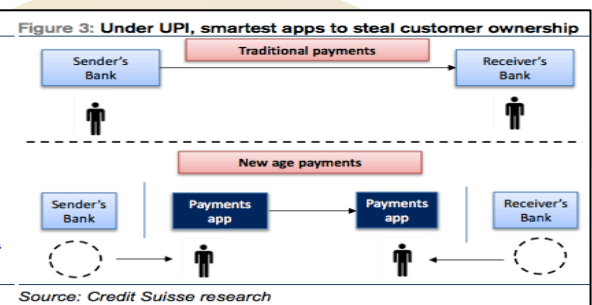
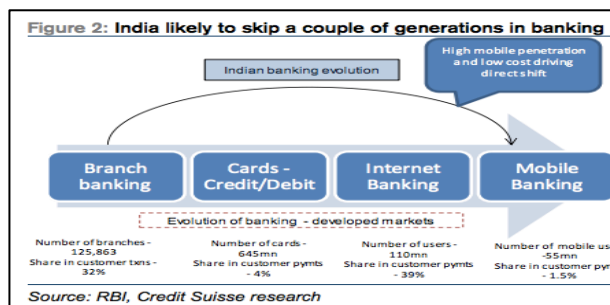
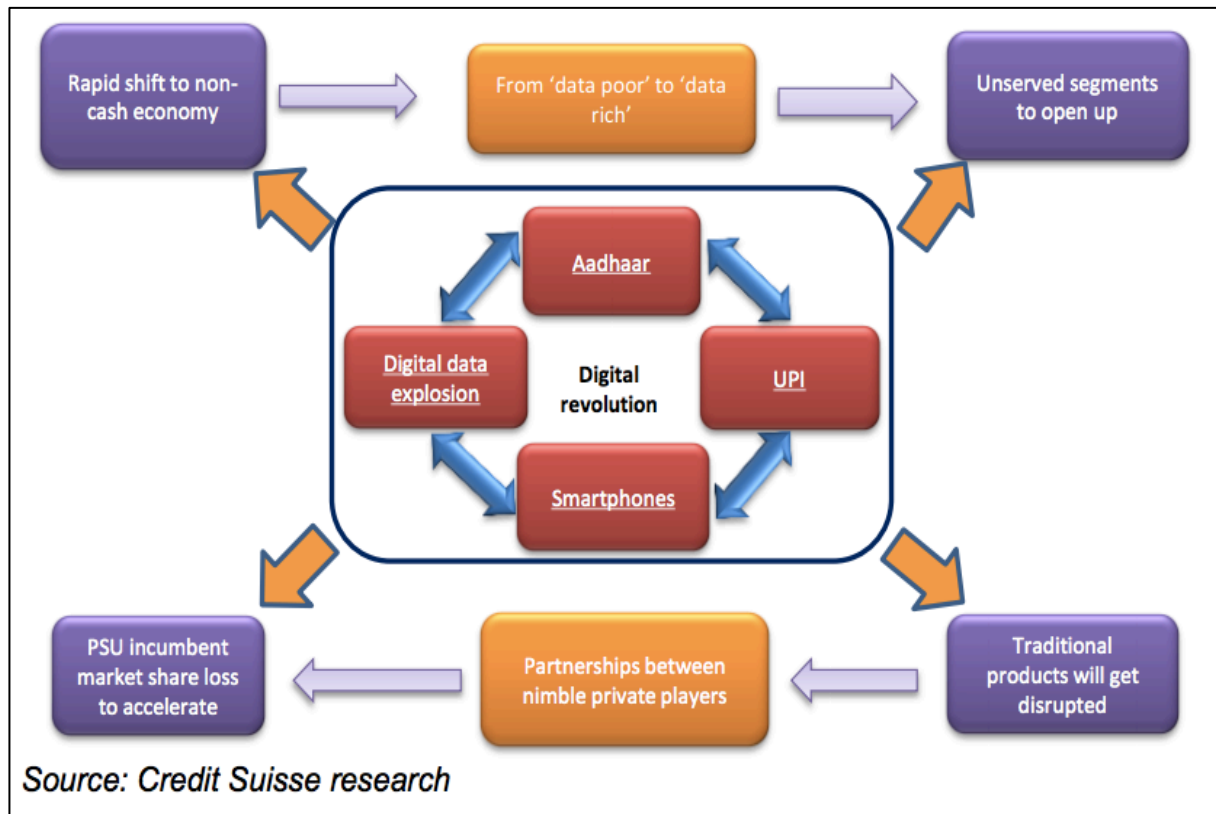
1. There will be a massive disruption in financial services on back of technology revolution.
2. The telecom revolution has changed the desktop based environment to mobile internet based environment

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<sup>7</sup> [Disruption in Financial Services: Nandan Nilekani at TiE LeapFrog](#)

3. "Whats App movement" is the concept to understand this revolution because today 30 billion messages in a day are passed through What's App in the world surpassing the SMS by large margin. This What's App movement like revolution is going to take place in the world of finance making the concept of traditional banking and lending to go away.
4. We are moving from cash based society to cashless and digital society very ver fast. Today India has more 900 million mobile users (More than 90 crores) which is a record in itself. The Aadhar when linked with the mobile set with IRIS authentication on will change the world we live in.
5. Today electronic clearing service NEFT-RTGS and IMPS have overtaken traditional payment system. With these 900 million mobile users, a mega trend is underway, which we are unable to apprehend. To put it in simple words, every mobile user will be an ATM.
6. When IRIS authentication (Biometric authentication linked with Aadhar server) will be on, the 900 million mobile users will be able to have online kyc, online authentication, online payment and online receipt on the basis of Unified Payment Interface (UPI). Smart phone will replace all type of debit and credit cards and Paytm like system will be fully operational. Physical cash to digital cash and digital cash to physical cash convertibility will be a game changer. Digital wallet and digital locker will revolutionize the security system. Enabling pear-to-pear payment system will do away many intermediaries and will be reimagining the infrastructure we have at present.
7. The whole process will lead to explosion of innovation, death of many businesses and birth of new ventures and business. India will become data scare to data rich country in five years in both, on consumer and business side. Credit process and credit appraisal will become obsolete and online loan payment will become possible. Think of 900 million people coming on one platform and remain connected!!! Almost all functions of the bank, Aadhar linked phones will do government and taxation department. This is even more important in the sense that IRIS authentication on cell phone is available only in India; no one has this system in the world!!!
8. Friends, this is not far away because the IRIS authentication on cell phone is practically started and will become a mass reality soon. So prepare yourself to live in the digitalized India with absolute transparency, no paper work, no bureaucratic intervention, no tax terrorism and much much more.

India's financial landscape is set for a dramatic transformation with the advent of Instantaneous, cashless, paperless, presence less financial transactions.<sup>8</sup>

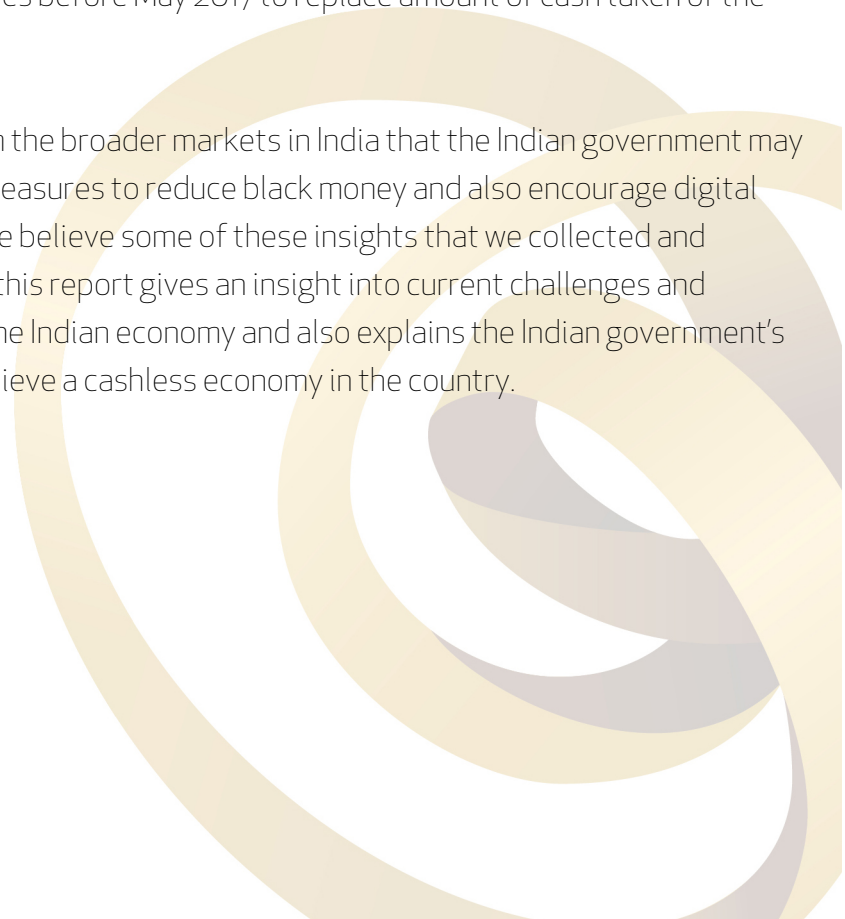


**Enablers in place:** Advent of Unified Payment Interface (UPI) and adoption Of the Aadhaar (1 bn-plus enrolled), has created a backbone for Instantaneous, inter-operable, cashless financial transactions. The Indian payment system will now leapfrog to digital where cost of transactions will be near zero, customer ownership will rest with best interface providers and Incumbency of deposits will be challenged.

**New business models will emerge:** Business models will be redefined and Unserved markets open up as financial providers move from being data poor to Data rich. We estimate the consumer and SME loan market will grow from US\$600 bn to US\$3,020 bn in the next ten years. As barriers of access and reach break a digitally empowered customer with instantaneous authentication through Aadhaar, inter-operable payments and app-based delivery of services will be able to compare and contrast products from multiple providers.

In conclusion, Whilst Indian government and all the stakeholders are trying to grapple with the implementation of demonetisation announcements from the government, there has been certainly increased participation by Indian citizens through digital payment gateways, internet banking, mobile and digital wallets and so on. There is broader consensus amongst the most of the economists in India that there will be at least 1-2.5% drop in GDP over the next two quarters in India. Also there is broader commentary that not enough cash will be pumped to replace the old notes before May 2017 to replace amount of cash taken of the circulation.

There is also expectation from the broader markets in India that the Indian government may come up with more relevant measures to reduce black money and also encourage digital transactions in the country. We believe some of these insights that we collected and assembled for the readers of this report gives an insight into current challenges and opportunities that prevail in the Indian economy and also explains the Indian government's longer term aspirations to achieve a cashless economy in the country.





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