Digital India - A year after demonetization

November 7th 2017

(Revised on November 28th, 2017)

Kausani Basak
kausani.basak@japanmacroadvisors.com

Executive Summary
Digital transactions in India went through a sudden jump due to the demonetization initiative which was undertaken by the government in November 2016. The notes in circulation to GDP ratio fell from 11.9% in October 2016 to 10.4% in October 2017. The use of m-wallet, a pre-paid payment method has more than doubled. The use of debit-card and credit card at the point of sales(PoS) have both gone through significant increases in the last one year.

However, India still remains a cash-intensive economy. Even after the demonetization initiative, cash withdrawal from ATM far outweighs the use of debit and credit card at points of sales. The note in circulation to GDP ratio is also creeping up. It has risen from 9.8% to 10.4% in the past 3 months. It will be such a disappointment if the ratio returns to the pre-demonetization level. Unless India makes a continued effort on its digitization, the progress it made at a huge cost of demonetization could be reversed.

Note: Details and timeline of demonetization are given separately from page 9.

The goals of demonetization

At 8 PM on November 8, 2016, Prime Minister Modi announced that currency notes of 500 and 1000 denominations will no longer be valid past the midnight, thereby withdrawing 86% of cash in circulation at that time. Those who were in possession of invalid notes were asked to deposit them into banks by December 30, 2016. The action, known as “demonetization”, was initially said to be aimed towards curbing black money. Through this process, people possessing illegal income in cash were expected to be forced to reveal themselves or give up the cash to avoid being prosecuted. In the end, 99% of the cash came back into the banking system, according to the Annual Report published by the RBI.

In early 2017, the government announced that one of the important effects of demonetization was to transform the structure of payment system of India. The cash crunch faced by the people incentivized them to shift to digital payment methods such as mobile and internet banking, m-wallets and UPI. Since Prime Minister Modi came into power, the government has been vocal about its goal of transforming India into a cashless, digital economy. Now, a year after demonetization, we have figures to measure the progress of digitalizing the payment system.

86% of the notes in circulation was withdrawn

![Chart showing the notes in circulation over time](chart.png)
Cash transaction in India accounted for a significant portion of the total transaction. Withdrawal of 86% of total cash in circulation dealt a heavy blow to day-to-day transactions. In India, financial literacy is poor in rural areas. Traders, manufacturers, and workers, who have dealt in cash all their life, were obviously ill-equipped to suddenly shift to the digital platform. Even though the government took various moves to promote financial inclusion such as the Jan Dhan Yojana initiative which brought about 99% of the households under the banking system, as per the ICE360 survey by PRICE, an independent think-tank, but a majority of those bank accounts remained unused.

**RBI has largely remonetized the Indian economy**

The RBI has been maintaining a steady supply of currency to the ATM’s throughout the remonetization process. Due to the demonetization, cash in circulation dropped precipitously in November 2016. Cash in circulation was Rs. 11.6 trillion at the end of November 2016 whereas it was Rs. 17.5 trillion at the end of October 2016 before demonetization. In December, notes in circulation dropped to the lowest point at Rs. 9.1 trillion. From there on, it has rapidly recovered to Rs. 15.2 trillion in July 2017 and continued to steadily expand to Rs. 16 trillion by October.

**Cash to GDP ratio fell from 12% to 10.4%**

In nominal terms, the total notes in circulation have recovered to 92% of the prevailing level before demonetization at the end of October 2017. As a ratio to GDP, it fell from 12% of GDP before demonetization to 10.4% at the end of October 2017. While the drop from 12% to 10.4% does seem significant, it remains to be seen if the steady increase we are observing in the size of note in circulation will stop anytime soon.
The cash withdrawal from ATM has returned to the pre-demonetization level

According to the data on cash withdrawals from ATMs, we see a sharp decline in the cash withdrawals in November due to the cash shortage. From November 2016, we see a sharp rise in the amount of cash withdrawal till March 2017, and a much steadier rise since then.

Debit card usage in the ATMs is virtually similar to pre-demonetization level

In September 2017, total cash withdrawal from ATMs using the debit card was Rs. 2419 billion, slightly higher than the pre-demonetization level.
Due to the cash crunch, usage of digital payment methods such as m-wallet rose significantly in the immediate months after demonetization. Between October 2016 and January 2017, it has nearly tripled from Rs. 33.8 billion to Rs. 83.5 billion. However, January 2017 seems to be the peak for now, and it has not surpassed the level since then. As of August 2017, the usage was Rs. 72.6 billion, more than double the pre-demonetization level, but lower than the peak it reached in January 2017. While the use of m-Wallet is certainly much higher than pre-demonetization, it is still relatively small, about 0.6% of the GDP, and it is uncertain if the usage is on an increasing or decreasing trend.

For payment methods such as m-wallet and Unified Payment Interface(UPI) to be widely used, people need to have access to smartphones and other mobile devices. In India, smartphone penetration was estimated to be around 22.4% by the end of 2017. That is only a fraction of the whole population that the government is targeting. It is necessary for the masses to have access to proper tools if they are to make use of the digital payment services.
Payments using Debit and credit cards has doubled since pre-demonetization

![Graph showing Debit and Credit Card usage at POS]

We also see a shift in payment methods in retail transactions. Usage of debit and credit cards at the POS (point of sale) i.e. for retail transactions saw a jump during the demonetization period. Debit card usage at POS increased by 46.6% month on month (MoM) in November 2016 and by 80.3% MoM in December 2016. By July 2017, the value of transactions through the debit card at POS has increased to Rs. 345.7 billion, more than double of pre-demonetization level but well below the peak achieved during November 2016.

**Mobile banking use is on a decline**

![Graph showing Mobile Banking value]

Source: RBI, IMA
The mobile banking statistics show that demonetization had very little effect on it. Though mobile banking grew in the November-December period, the growth was not significantly higher as compared to the same period in the previous years.

**UPI Payments have risen steadily**

United payments interface (UPI) allows transfer of funds instantly through mobile applications. Currently, about 60 banks are providing the UPI service and the user base on a rising trend though it is still limited to urban users possessing a smartphone.

**More than 2700 ATM’s deployed since December 2016**
The number of ATMs in the country is also gradually rising. The number of ATMs rose by 2.4% YoY in August, making the total number of ATMs in India 0.22 million. The RBI has recently introduced notes of the new denomination of Rs.200. They stated that the notes of Rs.200 are expected to facilitate transactions for the common man. Increasing the ease of transaction through cash will only diminish the incentive for the people to shift to digital payment methods.

So far, demonetization has forced India to use more digital payments only by eliminating the other mode of transaction(cash). Hence demonetization did not bring about a behavioral change in the way people transact which is reflected in the rising cash withdrawals post demonetization.

**Macroeconomic consequences of Demonetization**

The cost of demonetization to the Indian economy has been significant. Just the cost of printing of new notes has gone up to Rs. 79.65 billion in 2016-17 from Rs. 34.21 billion in 2015-16 for the RBI.

**GDP growth in the April-June quarter slowed down to 5.7% YoY**

The Indian economy has slowed down from 7.5% YoY growth in July-September quarter of 2016 to 5.7% YoY in the April-June quarter of 2017. While demonetization may not be wholly responsible for the slowdown, the fact that the growth slowed in India even though the world economy was accelerating suggest that India has its unique domestic factor. According to IMF World Economic Outlook published in October 2017, the world economic growth is expected to accelerate from 3.2% YoY in 2016 to 3.6% YoY in 2017.
Another effect of demonetization was reflected in the headline inflation. Due to the extreme cash crunch, the demand for food grains and vegetables fell. Overproduction of vegetables and food grain and distress sale by farmers further contributed to the fall in the prices. The upward push in the prices due to the disruptions in the supply chain because of demonetization was far outweighed by the above problems. In June 2017, CPI inflation hit an all-time low of 1.47% YoY. The effect of demonetization on inflation is fading though. Since July the headline inflation has gradually recovered and in September it stood at 3.28% YoY.

**The way forward towards digital India**

A successful transformation into a cashless society is possible only when a behavioral transformation takes place among the people. It can only be achieved through prolonged efforts by the government to spread financial literacy. This can be done through conducting awareness campaigns and incentivizing digital payments.

According to the current scenario, India still has a long way to go to call itself a digital economy. The sudden changes that took place due to demonetization were only temporarily successful in changing the payment behavior of the people.
Demonetization policy in 2016-17: Summary

In a televised speech at 8 PM on November 8th 2016, the prime minister Narendra Modi announced that the currency notes of 500 and 1000 denominations will cease to be legal tenders from November 9th 2016. From November 9th all transactions will 500 and 100 notes were suspended except in hospitals and petrol pumps. The government claimed that the move will curb the circulation of black money in the economy. The terrorist organizations that were funded by black money will not be able to continue their activities.

The banks and ATM’s were kept closed on November 9th 2016, to give the banks a day to stock their vaults with cash. The common people were allowed to exchange or deposit the demonetized notes in banks from November 10th. It was further stated that new notes of denomination 2000 and 500 will be introduced. These notes had improved security features which will make detection of fake currency notes easier.

On November 10th, when the banks opened, huge queues gathered outside to exchange the old currency notes. The stocks in the banks were quickly depleted due to high demand. After the ATM’s reopened the next day, similar situation occurred. Some ATM’s dispensed only 100-rupee notes as they were not recalibrated to dispense the new notes of 500 and 2000 which were of a different dimension.

The limit of withdrawal from ATM’s was fixed at 2000 rupees per day till November 14th and increased to 2500 till December 31st. From January 1st the limit was increased to 4500 per day and then to 10000 from January 16th. All restrictions on cash withdrawal was lifted on March 13th 2017.

Exchanging currency from the banks also had a limit imposed on them. Initially till November 13th, 4000 rupees per day was allowed to be exchanged which was increased to 4500 on 14th November. The limit was then reduced to 2000 per person form November 18th. The exchange of old notes was stopped on November 25th. People were allowed to deposit the old notes into their bank accounts till December 30th. For Indians who were abroad, the last date for deposit of the SBNs was March 31st, 2017 and that for the NRI was June 30th, 2017.

A press release by RBI stated that banks have reported that exchange/deposits of Specified Bank Notes(SBNs) of 500 and 1000 rupee from November 10, 2016 up to November 18, 2016 amounted to 5.44 trillion. The same figure grew up to 8.44 trillion by November 27th, 2016. Around December reports were published in newspapers that said around 82% of the notes in circulation has come back into the system, that is about 12.44 trillion rupees of the demonetized.

The RBI published on December 8th 2016 that 4.27 trillion worth of 500 and 2000 notes were issued to public during November 10 to December 7, 2016.

Around January 2017 the adverse effect of demonetization on the economy became prominent. The government projected GDP growth in 2017-18 to be in the range of 6.75-7.5% due to adverse effect of Demonetization. They also launched Operation Clean Money in order to e-verify the large sum of money deposited in the bank accounts between November 9th to December 30th. In July 2017 it was announced that 1100 searches were conducted by the Income Tax Department (ITD) between November 9th 2016 and January 10th 2017 and it resulted in detection of undisclosed income of 5100 crore.

On August 18th 2017, the RBI issued new notes of Rs. 50. Then on August 24th 2017, it issued notes of denomination Rs. 200 which they stated will facilitate ease of transactions.

The most comprehensive review was obtained from the Annual report published by the RBI on August 31st 2017 that stated that 99% of the demonetized notes were deposited to the bank accounts. The detection of fake currency notes increased only by a marginal amount. At the same time the report also stated that the trail of deposits of SBNs into bank accounts may provide valuable information to the revenue authorities in tracing unaccounted money.
Timeline of the demonetization policy events in 2016-17

<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 8th, 2016</td>
<td>Demonetization was announced by the Prime Minister in a televised speech around 8 P.M IST. Government said it will curb the usage of black money to fund illegal activities.</td>
</tr>
<tr>
<td>November 9th, 2016</td>
<td>Notes of 500 and 1000 ceased to be legal tenders. Banks and ATM's was closed. Old notes were only accepted in hospitals and petrol pumps.</td>
</tr>
<tr>
<td>November 10th, 2016</td>
<td>Long queues gathered in front of the banks to deposit or exchange old notes. The ATMs remained closed.</td>
</tr>
<tr>
<td>November 11th, 2016</td>
<td>ATM's started operating but they were out of cash after a few hours as people withdrew money and banks were unable to restock it due to shortage of cash. The cash withdrawal limit was set at 2000 rupees per day per person.</td>
</tr>
<tr>
<td>November 14th, 2016</td>
<td>The cash withdrawal limit from the ATM's was increased to 2500 from 2000 rupees per day previously. Notes exchange limit was increased to 4500 from 4000 per day.</td>
</tr>
<tr>
<td>November 21st, 2016</td>
<td>RBI states 5.44 trillion rupees worth SBNs were exchanged/deposited in bank accounts till November 18th.</td>
</tr>
<tr>
<td>November 28th, 2016</td>
<td>SBN's deposited in bank accounts till November 27th increased to 8.44 trillion rupees.</td>
</tr>
<tr>
<td>November 25th, 2016</td>
<td>Exchange of old currency notes suspended.</td>
</tr>
<tr>
<td>December 8th, 2016</td>
<td>The RBI published that 4.27 trillion worth of 500 and 2000 notes were issued to public during November 10 to December 7, 2016</td>
</tr>
<tr>
<td>December 16th, 2016</td>
<td>Ministry of Finance issues press release on the benefits of demonetization and various steps taken to make the deposit and exchange of notes easier.</td>
</tr>
<tr>
<td>December 30th, 2016</td>
<td>The window for depositing old notes at banks closed.</td>
</tr>
<tr>
<td>January 1st, 2017</td>
<td>Withdrawal limit at the ATMs increases to 4500 per day per card.</td>
</tr>
<tr>
<td>January 8th, 2017</td>
<td>The Finance Minister Publishes an article “Demonetization – A Look Back at the last Two Months”, discussing the merits of Demonetization.</td>
</tr>
<tr>
<td>January 16th, 2017</td>
<td>Withdrawal limit at the ATMs increases to 10000 per day per card.</td>
</tr>
<tr>
<td>January 31st, 2017</td>
<td>Government projects GDP growth to be in the range of 6.75-7.5% due to adverse effect of Demonetization and notes that digitalization has increased since Demonetization.</td>
</tr>
<tr>
<td>March 13th, 2017</td>
<td>All restrictions on cash withdrawals were lifted from banks and ATM's.</td>
</tr>
<tr>
<td>March 31st, 2017</td>
<td>Last date for Indian nationals who were abroad to deposit the SBNs in banks.</td>
</tr>
<tr>
<td>June 30th, 2017</td>
<td>Last date for NRIs to deposit the SBNs in bank accounts.</td>
</tr>
<tr>
<td>July 21st, 2017</td>
<td>According to the Minister of State for Finance and Corporate Affairs, 1100 searches were conducted by the ITD between November 9th 2016 and January 10th 2017 and it resulted in detection of undisclosed income of 5100 crore</td>
</tr>
<tr>
<td>August 24th, 2017</td>
<td>New notes of denomination 200 was introduced by RBI.</td>
</tr>
<tr>
<td>August 31st, 2017</td>
<td>RBI releases its Annual report which states about 99% of the SBNs have come back into the system. Ministry of Finance releases an article stating the success of Demonetization in curbing black money, Operation Clean Money, widening the tax base and spread of Digitization.</td>
</tr>
</tbody>
</table>
About India Macro Advisors
We (IMA) aim to provide well-structured interactive online database portal for the Indian economy along with a concise and insightful analysis on the data.

For details on our service, please see www.indiamacroadvisors.com/products
or send an inquiry to info@indiamacroadvisors.com

Kausani Basak,
Associate Economist
kausani.basak@japanmacroadvisors.com

Naman Mishra,
Associate Economist
naman.mishra@japanmacroadvisors.com

Monali Samaddar,
Associate Economist
monali.samaddar@japanmacroadvisors.com

Takuji Okubo,
Founder and Chief Economist
takuji.okubo@japanmacroadvisors.com