

Theme Paper

Demonetisation and its Impact



Geethanjali Nataraj



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1. Introduction

The formal announcement of demonetization of high currency denomination notes of Rs. 500 and Rs. 1000 worth nearly 15.4 trillion, constituting about 87 percent of the currency in circulation, took place on November 8, 2016. The move aimed at curbing corruption, black money, eliminating counterfeit currency and terrorism funding. Alongside, the move aimed at the promotion of a cashless economy mainly through digitisation, converting the informal economy to a formal one, increasing the scope for financial inclusion, enhancement of financial savings, larger scope for strengthening of treasury accounts of the Government ultimately to be utilized for development finance, etc. Lahiri (2016) mentioned that there are instances when countries, for example, Canada and Singapore, discontinued printing some high value notes and asked banks to return such notes to the central bank without calling them illegal tender. However Indian experience has tendered the high denomination notes illegal and supplied fresh notes of Rs. 500 and introduced new currency notes of Rs. 2000.² The biggest objective of demonetisation is linked to unearthing black money and corruption. As of now the journey of the government towards curbing black money and corruption such as the Income Declaration Scheme (IDS) in the Budget for 2016-17, the August 2016 amendment of the Benami Transactions (Prohibition) Act of 1988, and the reforms in indirect taxes in the form of GST are isolated measures but collectively create the massive scope for addressing the two problems.

In the past couple of months different views regarding the effectiveness or success of demonetization has been conveyed through reports, magazines and news paper articles. Most of discussion moved around the recent announcement of RBI under its annual report ending June 2017 that 99 percent of the declared illegal tenders returned to the Central Bank, merely 1 percent amounting to Rs 16,050 crore did not come back. This statistics puts the question mark on the black money target of demonetisation and critical thinkers call the move as a failure. The former RBI Governor Raghuram Rajan mentioned that the short-term economic costs of demonetisation would outweigh the long-term benefits of the move. The other view also points out the intention of demon as it has led to extra burden on RBI of Rs 7,965 crore on printing new notes post demon along with the extra liability on RBI to pay the interest on reverse repo deposits of banks lying with the Central bank. Also, the fall in economic growth in the first quarter of FY 2017-18 to 5.7 percent, against 7.9 percent the year before is attributed to the slowdown in the economy amid demon move. However the lower growth due to demon move cannot be netted out completely as another major reform, GST was announced. The apprehension of roll out of GST in its existing form has rendered the firms doubtful about the previous stock of goods.

The evaluation of demonetization from only the black money perspective is partial as the move has multi-fold targets such as giving boost to the tax base, financial inclusion, cashless economy, etc. In this regard, calling demon move as failure based on recovery of all stated amount of high denomination notes needs to be understood with other targets. The other likely benefits such as rise in number of tax payers, tax collection amount, less cash economy, revival in investment under surplus liquidity, fulfilling the capital requirements of banks under Basel III, balance to bubbles in asset prices are equally important. After examining the statistics related to income, it was concluded that the number of persons filing income tax returns as well as income tax³ has increased substantially. Moreover, about 1.8 million bank accounts are under probe and the unusual' cash deposits of Rs 1.6-1.7 lakh crore during demon period is under lens of

¹ Professor of Economics, IIPA, New Delhi.

² Ashok K. Lahiri (2016). Demonetisation and the Cash Shortage, NIPFP WP No. 184 (December).

³ Demon has raised the individual tax base by 20 per cent, advance tax collections for 2017-18 by 42 per cent and self-assessment tax (paid now for last year) by 34 per cent.

the Government. The demon move might have added the extra burden⁴ on RBI, but the cost of shortfall of capital in Indian banking industry under the international accord of Basel III is of utmost importance which can be managed through surplus balance with the central bank. Even the asset side of RBI has risen on the ground of increase in foreign investments and domestic investments by 2.70 percent and 7.45 percent, respectively. Herein the potential impact on investment revival in coming years through increased credit is yet to be confirmed. Also, the surmountable printed cash to GDP ratio⁵ has been a major challenge for Indian economy to safeguard itself from the asset bubbles as similar to what has happened in USA during 2004-08 amid reckless lending. Herein some of academicians have argued that demonetization acted as a safeguard for the India economy against the excessive flow of cash into the economy which rendered the hike in asset prices well above the real behavior.⁶ This side has been completely overlooked in the current debate about effectiveness of the move.⁷ In this regard demon is a move towards cash less economy and mainly a push to digital transactions. Alongside, the rise in bank deposits is obvious. People's deposits in the banks went up from Rs 97 lakh crore to Rs 114.2 lakh crore.

2. Impact Assessment: Overview of Literature

At the outset different economists have analyzed the impact of demonetization from various dimensions viz. impact on economic growth, real estate, small and medium enterprises, agriculture sector, informal economy, wages, employment and digital transactions. One group of researchers supported the present move, while other eminent economists like Paul Krugman, Manmohan Singh, Amartya Sen, Kaushik Basu, Larry Summers and Raghuram Rajan have cautioned the adverse impact on economy.⁸

RBI has argued that the transient impact was observed in the beginning of the demon move but economy could sustain the earlier level by mid-February of 2017, reflecting the fast pace of remonetisation.⁹ Bryson et al. 2017 mentioned that the transient negative effects of demonetization would eventually dissipate; however, the economic reform process is key to sustain the long-run growth.

The theoretical relation between money supply and economic output dates back to quantity theory of money where fall in money supply could be equalised to decrease in output amidst fixed velocity.¹⁰ It was reported that the share of 'currency with the public' in the total money supply 'M1' was reduced to 39.1% by December 09, 2016. Similarly, on 9 December 2016, 'demand deposits with the banks' saw a year-on-year increase of 29.4% in 2016, as compared to 13% in 2015. Bank credit to the commercial sector has seen a decline post demonetization.¹¹ The amount of currency in circulation edged higher in January although it remains 45 percent below its October level (Bryson et al. 2017). During demonetization, the impact on Gross value added was felt mostly in real estate and construction, but somehow offset by parallel rise in agriculture, manufacturing, electricity, and mining. As per the CMIE estimates the new investment proposals dropped to 1.41 trillion in Q3 of 2016-17 as against an average of 2.36 trillion in the preceding nine quarters. Food inflation has eased from 3.7 per cent (year-on-year, y-o-y) in October 2016 to 1.3 per cent in January

⁴ Notable the RBI has spent Rs 3,420 crore in 2015-16 for printing money thereby resulting into additional cost of Rs. 4545 crore for printing new currency.

⁵ In just 18 months between April 2015 and September 2016, the stock of Rs 500/1000 notes rose by Rs 4.8 lakh crores.

⁶ Asset prices in India rose by ten times during 2004-10 as compared to the earlier five years (1999-2004). The answer to high growth in asset price is not answered by only money supply rather the rise in cash in particular is the sole reason as one third of currency was circulating outside the banks.

⁷ S Gurumurthy, 05th September 2017, De-mon - a multidimensional project, Indian Express

⁸ Salvius, S (2017) Modi'sfying the Indian Economy-2 Months of Demonetization, Available at <http://www.sganalytics.com/blog/reviewdemonetizationindia/>.

⁹ Reserve Bank of India, March 10, 2017, Macroeconomic Impact of Demonetisation - A Preliminary Assessment

¹⁰ Demonetisation Module 13.1 Contemporary Themes in India's Economic Development and the Economic Survey

¹¹ CII (January 2017). Money Market after Demonetization, Communiqué, Confederation of Indian Industry

2017 mainly on account of plunge in vegetables and pulses prices. Manufacturing and services segments were hit hard amid the move as the auto sales contracted by 4.7 per cent in January 2017 but returned to expansion mode (by 0.9 per cent) in February. Cement production has declined continuously from November 2016 till January 2017. Sales of commercial vehicles also experienced the same phenomenon but revived in February by 7.3 per cent. Passenger vehicles noticed the fall of around 2 percent in beginning period of demo but rebounded sharply to 14.4 per cent in January 2017 and expanded by 9 per cent in February. In a recent study, it was added that real GDP growth in India slowed modestly from 7.3 percent in Q3-2016 to 7.0 percent in Q4, which was not as sharp fall as many analysts had expected.¹² Chand and Singh (2017) assessed the impact of demonetization on Indian agriculture and argued that growth story of agriculture is in-tact.¹³

On banking sector front, the fall in interest rate has been witnessed due to increased funds supply post demonetisation. Insurance sector has gained as the premiums collected by life insurance companies more than doubled in November and LIC has largely enjoyed the upsurge.¹⁴ The impact towards financial inclusion was evident as 23.3 million new accounts were opened under the Pradhan Mantri Jan Dhan Yojana (PMJDY) and the total balance reached to Rs 746 billion as on December 7, 2016 reporting a growth of around 65 per cent. The impact of demonetisation on the various segments of the financial market has varied. However, demonetisation impact on stock market, exchange rate, Government Securities market cannot be netted out as the parallel new leadership in USA had earmarked the agendas of more protectionist trade policies in the US, tightening of US monetary policy, and possibly looser US fiscal policy. There has been a significant improvement in the use of digital modes of payments albeit smaller base.¹⁵ Similar types of impact on real sectors, banking sector in terms of credit expansion and interest rates, government securities' market and availability of cash into the system was highlighted by CARE ratings.¹⁶

CARE Ratings¹⁷ had estimated that demon would have adverse impact on growth due to deferred manufacturing demand and irrevocable service sector. Few economists¹⁸ mentioned that demonetisation will lead to a significant reduction in the growth rate of GDP.¹⁹ IMF had also lowered the growth projection of India by 0.6 percentage points for 2016-17. Scholars have also argued that a larger chunk of Indian economy is contributed by informal sector and as the sector has experienced ground level difficulties²⁰ in settlement of transaction with shortage of cash. This could have perhaps led to the possibilities of recessionary impact of demonetisation with economic growth coming to below 5 percent for the FY 2016-17 in the third quarter. Few case studies like Jean Drèze (Delhi School of Economics) reports a 45% decline in earnings of small shopkeepers/businesses in Ranchi; Prateek Sibal (Paris Institute of Political Studies) reports a similar

¹² Jay H. Bryson, Global Economist, E. Harry Pershing, Economic Analyst, Indian GDP Growth Depressed by Demonetization, Special Commentary, Economics Group, February 28, 2017. This report is available on wellsfargo.com/economics and on Bloomberg WFRE

¹³ Ramesh Chand and Jaspal Singh, Member and Consultant, respectively, NITI Aayog, Agricultural Growth in the Aftermath of Demonetization

¹⁴ Premiums collected by Life Insurance Corporation of India (LIC) increased by more than 140 per cent (y-o-y) in November 2016 as compared with less than 50 per cent by private sector life insurance companies.

¹⁵ Reserve Bank of India, March 10, 2017, Macroeconomic Impact of Demonetisation - A Preliminary Assessment

¹⁶ Madan Sabnavis, Rucha Ranadive, Mradul Mishra (March 15, 2017), Four months after demonetization: Where do we stand?, CARE Ratings

¹⁷ Report titled : Impact of demonetization on GDP growth in FY17, dated 18th November

¹⁸ Dipankar Dasgupta, Ashoka University; Amartya Lahiri, University of British Columbia

¹⁹ Lahiri estimates this reduction to be 1.5-2 percentage points (from a base level of 7.6% in 2015-16) while Ashok Lahiri (National Institute of Public Finance and Policy (NIPFP)) has estimated a drop of 0.7–1.3 percentage points.

²⁰ Informal sector has the predominant use of cash in sales and purchase equalled 40% of total formal bank lending and 26% of GDP before the note ban.

figure of 46% in Amritsar; Vyom Anil (Jawaharlal Nehru University) finds a much larger drop in average income about 60% of small shopkeepers and casual labourers in Delhi; among others. The employment scenario mainly contributed by informal sector has noticed a sharp fall. As per the report of Ministry of Rural Development, the demand for MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) work increased by 60 percent in December 2016 confirming the jobless environment.²¹ Most of the studies have captured the time period of the study for November 2016 onwards to latest March 2017. However in the present study the previous two years (2014, 2015) and most recent time period till June is covered to draw a fruitful impact assessment of demonetization move in India. The rest of the paper is organised as follows. **Section 3 details the demonetisation history in India, outlining international experience. Section 4 presents the rationale for the recent demonetisation in India and the procedures followed for demonetisation are detailed in section 5. The impact of demonetisation on various sectors of the Indian economy including impact on the financial sector, rural economy, digital economy, etc. are analysed in sections 6. Section 7 presents the conclusion.**

3. Demonetization History:

3.1. Indian Experience

The recent demonetization in India is third in the sequence of major initiatives taken related to banning the high denomination notes in India. The earlier initiatives were carried out in 1946 and 1978. In 1946, the currency note of Rs 1,000, and Rs 10,000 were removed from circulation. But as per the literature the impact of demonetization had been very little as higher denomination notes were not available in the common public domain in large scale. However the same high denomination notes along with Rs. 5000 note were reintroduced in 1954. The 1978 demonetization has banned the high denomination notes of Rs 1000, Rs 5000 and Rs 10,000. The possible reason for the then note ban was to overcome the problem related to black money generation in the country. Though the notes of high denominations were banned earlier, it constituted a miniscule part of currency worth Rs 1.46 billion, merely 1.7% of total notes in circulation. But the Rs 1.0 billion (or 68%) of the banned currency was tendered back. Again the impact of currency ban was not much though short term impact had been observed in terms of sharp increase in deposit growth, increase in investment in Government securities by banks, slower credit growth etc. In the sequence, the third move took place on 8th Nov 2016, when government announced the demonetization of high-denomination currencies viz. Rs 500 and Rs 1,000 notes. The previous two initiatives of demonetization had similar features to the recent demonetization of 2016 only in terms of banning the highest denomination notes in the system, but the moves are not as such comparable. In 1978 the value of demonetization was to the tune of only 0.1% of GDP whereas recent demonetization affected a major chunk of currency in circulation (87%) and around 10 percent of the GDP thereby creating a huge difference in terms of volume of currency. In this context it is apprehended that such a move is likely to have greater implications on the desired targets.

3.2. International Experiences

The International experience on demonetization is not very successful. In case of Ghana the demonetization of 50 cedi currency notes took place in 1982 to monitor money laundering and corruption. The initiative had resulted in chaos across the country and finally resulted in a move back to physical assets and foreign currency. Nigeria experienced demonetization move in 1984 where the military government introduced different coloured notes to invalidate their old currency in order to fight black money. Myanmar has significantly demonetized its currency equal to 80 percent in 1987 to curb the black money which resulted in lot of protests and several killings. Russia had carried out the demonetization move for higher

²¹ Kaushik Bhattacharya, Siddhartha Mitra, Sarmistha Pal and Bibhas Saha (28-02-2017), Reviving the informal sector from the throes of demonetisation, London School of Economics

denominations of rouble bills, the 50s and 100s in 1991 under the Soviet Union regime but resulted into a takeover of then Mikhail's leadership within eight months of the plan.²² North Korea had undergone demonetization move in 2010 which led to major economy breakdown with people left to starve for basics. Australia became the first country to release polymer (plastic) notes to stop widespread counterfeiting. Since the purpose was to replace paper with plastic and only the material changed, it did not have any side-effects on the economy. Apart from these countries Zimbabwe, Zaire, USA etc have all attempted demonetisation with some adverse effects but with the objective of curbing black money.

4. Rationale for Demonetization in India

The recent demonetization move is multi targeted- in terms of reducing black money (unaccounted income) in the system, curbing funding of "illegal" activities and addressing the problem of fake currency notes. The move also aims to create the shift from more of an informal economy to a formal one. The launch of various schemes of the Government such as Jan Dhan Yojna, digital India mission, goods and services tax launch are proof to the same argument. It is apprehended that the demonetization may result into positive developments in terms of financial inclusion, higher deposit growth, lower lending rates, and higher growth amid the demand revival after temporary fall, faster technology adoption, and increase in tax base²³, possibility of lower tax rates, etc.²⁴

Academicians looked at the Prime Minister's move of demonetization from different motives viz. fiscal, monetary and political. Political motive is to have a sound grasp on the monitoring of defeating tax evasion and corruption ("black money") while increasing oversight of citizen activities. The fiscal and monetary goals are meant to generate higher revenue and force more economic activity into the banking system.²⁵ The economic rationale behind the demonetization is attributed to three factors mainly controlling the hyper inflation, removing counterfeit currency, and wider tax base. It is also expected that demonetisation would help in reducing the interest rates in the banking system amid the flush of huge funds and possibility of pass on effect of fall in interest rate to the investment in the country. However the critical analysis points out that the present economic condition of India do not conform the demonetization move in direction of economic rationality as inflation rate is very low and even the black money in the cash form constitutes only 6-8 per cent of the economy.²⁶ The remaining was invested in business, stocks, real estate, jewellery, or "benami" assets, which are bought in someone else's name. Some of the critical thinkers have attached the move with the political gain because of the five state assembly elections which were scheduled to be held post demonetisation.

The biggest thrust for the demonetization is attributed to address the corruption problem in the country. The same is perceived through a series of reforms or initiatives carried out by the present government such as setting up a special investigation team (SIT) on black money. In Budget 2016-17, it unveiled a new scheme under which those with undisclosed income and assets located in India could come clean by paying a tax of 45%. As an outcome, the tax department reported recovery of Rs. 65,250 crore from 64,275 declarations. The government also launched the PMJDY. Nearly 220 million accounts were opened as of April 20, 2016, with total deposits amounting to a little over Rs. 36,700 crore. Other impacts on cash less economy and mainly the internet banking or card payments have gained popularity whereby transactions

²² Neha Borkar (November 18, 2016). Here's A List Of Countries That Have Tried Demonetisation Before India, India Times.

²³ India Tax/GDP is 16.7%

²⁴ Vineet Kohli and R Ram Kumar Economic Rationale of 'Demonetisation', Vol. 51, Issue No. 53, 31 Dec, 2016, Economic and Political Weekly

²⁵ Monetary Policy Risk: Demonetization and the Real Value of Money, Money is the single most important infrastructure element of any economy. Termination and confiscation of money may therefore prove disastrous, and India's recent demonetization offers an excellent case study, January 26, 2017, By Joe Pimble

²⁶ Surjit S. Bhalla (December 06, 2016). Black Cash in India, The Indian Express.

can be settled with greater speed and efficiency. Higher efficiency puts forth the scope for assessment of pass through effect of monetary policy instances.

Non-cash payment users in India are only an estimated 10-15 % of the population, compared to 40% of people in countries like Brazil and China. Meanwhile, as of 2014, India's ratio of currency in circulation outside of banks to GDP was 11.1%, higher than other emerging economies like Russia, Mexico, and Brazil.²⁷ Nearly 87% of transactions in India use cash, meaning the country are more cash driven than Russia, Brazil and Mexico. Even online shopping in India is done with cash: about 70% of online commerce is paid with cash on delivery.²⁸ The unqualified winners of the demonetization period were the mobile wallet players, with the market leader, Paytm, claiming 170 million users, with a traffic increase of 435%, and a 250% increase in overall transactions and transaction value. Arguably, the surge in business for mobile wallets was natural, at least for the 17% of the population that owned a smart phone in early 2016.²⁹

Other targeted benefits of demonetization would be in the long run, as it will lift government revenues due to a broader tax base and less tax evasion. In addition, the operation will foster the use of bank accounts and digital payments, making the Indian economy less cash-dependent and improve efficiency and productivity.³⁰

5. Procedures for Demonetization Management

In terms of preparation, the preliminary exercise started since January 2016 where the Reserve Bank of India and the government were in regular touch over the demonetisation of Rs 500 and Rs 1,000 notes and printing of a new series of notes. The secrecy of the move was kept at a high level with no formal record of minutes of all the interactions. The actual decision was taken around May 27, 2016.³¹ The design of new banknotes of Rs 500 and Rs 2,000 denominations was approved at the May 19, 2016 meeting of the Central Board of RBI.³² RBI governor informed the parliamentary committee in January 2017 that of the Rs 15.44 lakh crore that was demonetised, Rs 9.2 lakh crore had been replaced by way of new currency notes. In fact Government had a challenge to replace the Rs 23 billion notes.³³ In order to ensure that there is no premature leak it was mentioned that the ministers who attended the Cabinet meeting on 8th November had to stay back till PM's address to the nation got over. Even members of the Reserve Bank of India board too left only after Modi's speech. The move was very strategic in terms of timing as the Cabinet meeting ended around 7.30 pm and RBI board also met around the same time. Add to it, about few weeks ago of the demon move, the cabinet secretariat had issued a circular, to personal staff of all ministers, advising ministers not to carry mobile phones to the Cabinet meetings.³⁴

5.1 Processes after the Announcement

The demonetization in the economy got adjusted amid various notifications around 70 in number in 50 days time. The notifications came in view of the contemporary market practices related to the exchange or

²⁷ Pravakar Sahoo and Ashwani, Here's what the impact will be of Rs 500, Rs 1,000 note ban: A massive change in informal cash-carry system to formal financing, November 10, 2016, Financial Express

²⁸ <https://www.adamsmith.org/blog/the-very-real-impact-of-indias-demonetization>

²⁹ <https://hbr.org/2017/03/early-lessons-from-indias-demonetization-experiment>

³⁰ <https://economics.rabobank.com/publications/2017/march/india-where-is-the-negative-impact-of-demonetization/>

³¹ 2016: Preparations began in Jan, decision on May 27, RBI, govt were in touch over note ban since Jan 2016, Jan 19, 2017: The Times of India

³² Designs approved on May 19, 2016, New note designs got RBI nod in May, 2016: Jan 25, 2017: The Times of India

³³ Six months' preparation, RBI got 6 months to prepare for this, Nov 09 2016 : The Times of India

³⁴ http://indpaedia.com/ind/index.php/Demonetisation_of_high_value_currency_-_1946,_1978,_2016:_India#.EF.BB.BF2016:_Demonetisation_of_Rs._500_and_Rs_1000_notes

deposit or withdrawal of the money. On the first day (November 9), it was notified to keep the banks close and ATMs to be closed on 9th and 10th day of November. Initially the limit for ATM withdrawal was pegged at Rs. 2000 per day per card however same was increased to Rs. 4000 and then finally Rs. 10,000 per day. In order to ease the transactions banks were notified to operate even on Saturday and Sunday (12th and 13th Nov 2016). Keeping in view the transactions problem due to shortage of new currency into the system, the old notes of Rs. 1000 were made the legal tender at specific places such as at international airports: For passengers up to Rs 5,000; for foreign tourists to exchange forex or specified bank notes (SBN's), up to Rs 5,000. Meanwhile the cash withdrawal over the counter was restricted to Rs 10,000 per day per subject to an overall limit of Rs 20,000 per week till Nov 24.

On November 13, the weekly ATM limit for withdraw was gradually raised to Rs 24,000. By November 15, with the possibility of illegal exchange of money increasing, while exchanging SBNs, the bank branch and post offices used to put indelible ink mark on the right index finger of the customer to identify that he/she has exchanged old notes only once. On December 30, the closure of the scheme of exchange of SBNs at banks, all banks had to report information on collection of SBNs on Dec 30 itself in email. Further, daily limit of ATM withdrawal was raised from the existing Rs 2,500 to Rs 4,500 per day per card with effect from January 01, 2017. Meanwhile the digital transactions were incentivized as finance ministry announced 0.75 per cent discount on purchase of petrol/diesel through digital means, and 8-10 per cent discount on online insurance purchase from public insurers.³⁵

6. Assessment of Demonetisation: Empirical Assessment

6.1 Demonetisation and Indian financial sector

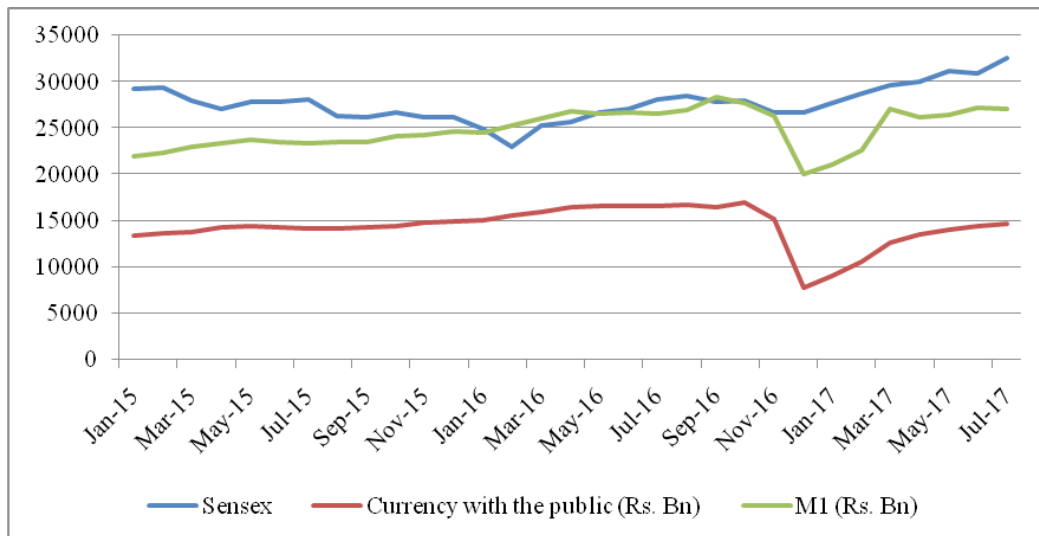
As per the monetarism view, the effect of demonetization on economic activities and stock market is attached to the fall in interest rate. This phenomenon creates the scope for attractive cash flows, in turn resulting into rise in stock prices. Thus, a positive relationship between money supply and stock prices are expected. Further, a change in the interest rate also affects the discounting process and thus, accentuates this positive relationship. However, the real side impact of any demonetisation move will also depend upon the relative share of connected and unconnected sectors of the economy (Waknis, 2017). Demonetization has led to increase of cash flows in banking system. This liquidity is also expected to move to Mutual Fund as Investment.

The previous experiences of India related to demonetization had produced mixed response in terms of impact on Indian stock market. The stock market reacted negatively to the 1946 demonetization move however, shown the positive move during the 1978 move. An event study utilized the daily data of BSE 200 stock index and revealed a 9 percent reduction in the shareholders' wealth during eight trading days immediately after the announcement of the demonetisation. The market perceived the move negatively.³⁶ The short-run impact of demonetization on creating volatile market is intuitive. However the long-run impacts are well aligned to the economic theories. Figure 1 highlight that the Indian stock market has moved stably in the past two years. At the time of demonetization a marginal decline was noticed but after that stock market has shown consistent upward trend. The line for currency with public indicates the gradual rise in public currency since November 2015, but reported a substantial decline during demonetization and again surged however the value is lower than its peak level of July September 2016. The narrow money has also witnessed similar trend in past couple of years.

Prior to demonetization, the Indian public held cash equal to 62% of India's M1 money supply. In contrast, the U.S. public held less than 0.1% cash relative to M1. This phenomenon also speaks the intention

³⁵ Express News Service (December 31, 2016). Demonetisation: 50 days, 74 notifications, Indian Express.

³⁶ Narain and Asha Rani (March 2017), The Stability of Indian Stock Market after Demonetisation, Business Analyst, ISSN 0973-211X, 37(2), 39-56,

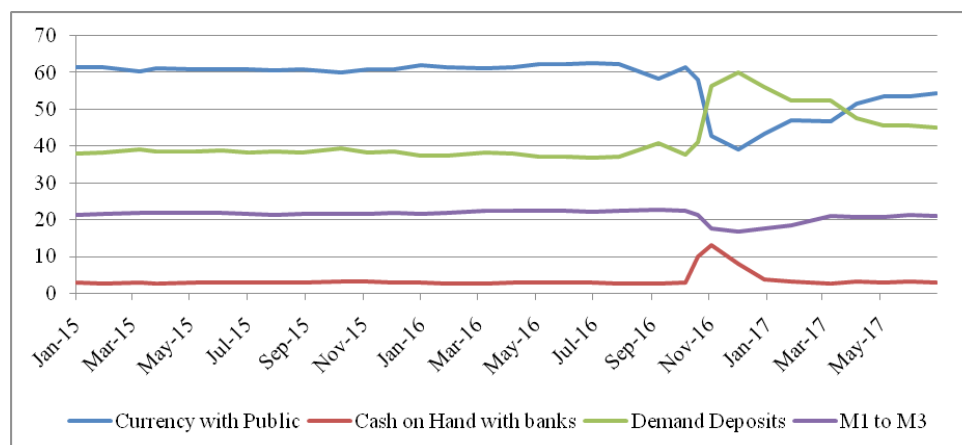
Figure 1: Money Supply and Indian Stock Market

SOURCE: RBI, Monthly Bulletin and BSE Website

of Government to reduce the public cash ratio through demonetization. The ratio of public currency to narrow money (M1) had declined to 40 percent by the month of December 2016, after that the ratio increased but still the value was much lesser in the month of May 2017 as compared to its previous peak level of more than 60 percent during mid 2016. Even the demand deposits had witnessed the jump quickly and gradually came down but still higher than the pre demonetization level. It can be inferred that demonetization has helped in reducing the cash in hands and improved the deposits base which may be fruitful for banking sector to maintain the capital requirements amid the new accord of Basel III³⁷.

6.2 Demonetization and Banking Sector

One of the objectives of the government's demonetization scheme is to inject desperately needed cash into India's mainly state-owned banking sector. The Public Sector Banks (PSBs) are hobbled by mounting "Non-Performing Assets" (NPA), primarily business loans that are not being repaid or paid only sporadically.

Figure 2: Currency Components (as % of M1)

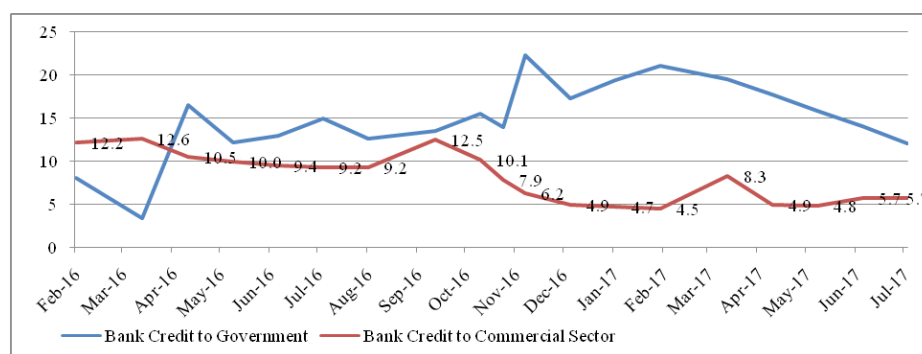
SOURCE: RBI, Monthly Bulletin

³⁷ Basel III aims to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector and to improve the banking sector's ability to absorb shocks arising from financial and economic stress.

Because the threat from their NPAs is so large, India's banks have cut back their lending to India's capital-starved and already overstretched business houses. The paucity of lending threatens in turn to gut economic growth, which has already declined sharply in key sectors including industrial production, IT, and merchandise export. As of June 2016, the banks' total NPAs stood at Rs. 6 trillion (\$90 billion), but these figures probably grossly understate the problem.³⁸

In terms of channelization of financial resources for credit purpose to the Government sector and commercial sector is presented in figure 3. The values in figure are year over year percentage growth rate. The bank credit to commercial sector has been around 10 percent in the first nine months of financial year 2016-17. The month over month comparison of credit flows since 2016 has experienced the downturn. For the period February to July 2017, the growth rate is just around 5 percent compared to the growth of over 10 percent in comparable periods of 2016. On bank credit to commercial sector the fall is attached to the stressed assets scenario for the banking sector and moreover banks are moving towards the capital requirement norms to be realized by 2019.

Figure 3: Growth Rate in Bank Credit (% , Year over Year)



SOURCE: Compilation from RBI, Monthly Bulletin

In table 1 the growth rates in sector-wise bank credit extended by commercial banks are presented. The dominant sectors receiving the largest pie of total credit include large industry, services, personal loans and agriculture and allied activities of priority sectors. In the dominant sectors the month over month growth for year 2016 and 2017 is presented. In December 2016 the growth rate as compared to the same period of 2015, most of the sectors had lower growth rates except services sector. Same pattern was observed in the comparison of March 2017 and March 2016. By the month of June 2017, almost every sector has shown fall in the credit growth rates. The interesting observation is that the growth in large industry sector has continuously dipped and turned negative.

Above figure 4 presents the average turnover behaviour for select financial markets. It is observed that the call money and treasury bills market experienced marginal dip during demonetization but these markets have regained its level of the previous years. CBLO market and repo market have noticed upward movement during December 2016 but again came back to their original level and moving in a stable manner. As such the financial markets have not shown the drastic volatile behaviour.

6.3 Macroeconomic Impact of Demonetisation (Impact on growth, inflation, industry, manufacturing trade and external sector)

Table 2 presents the year over year growth rates for various quarters in gross value added for different sectors. In order to see the impact of demonetization, the fourth quarter values of different years are compared.

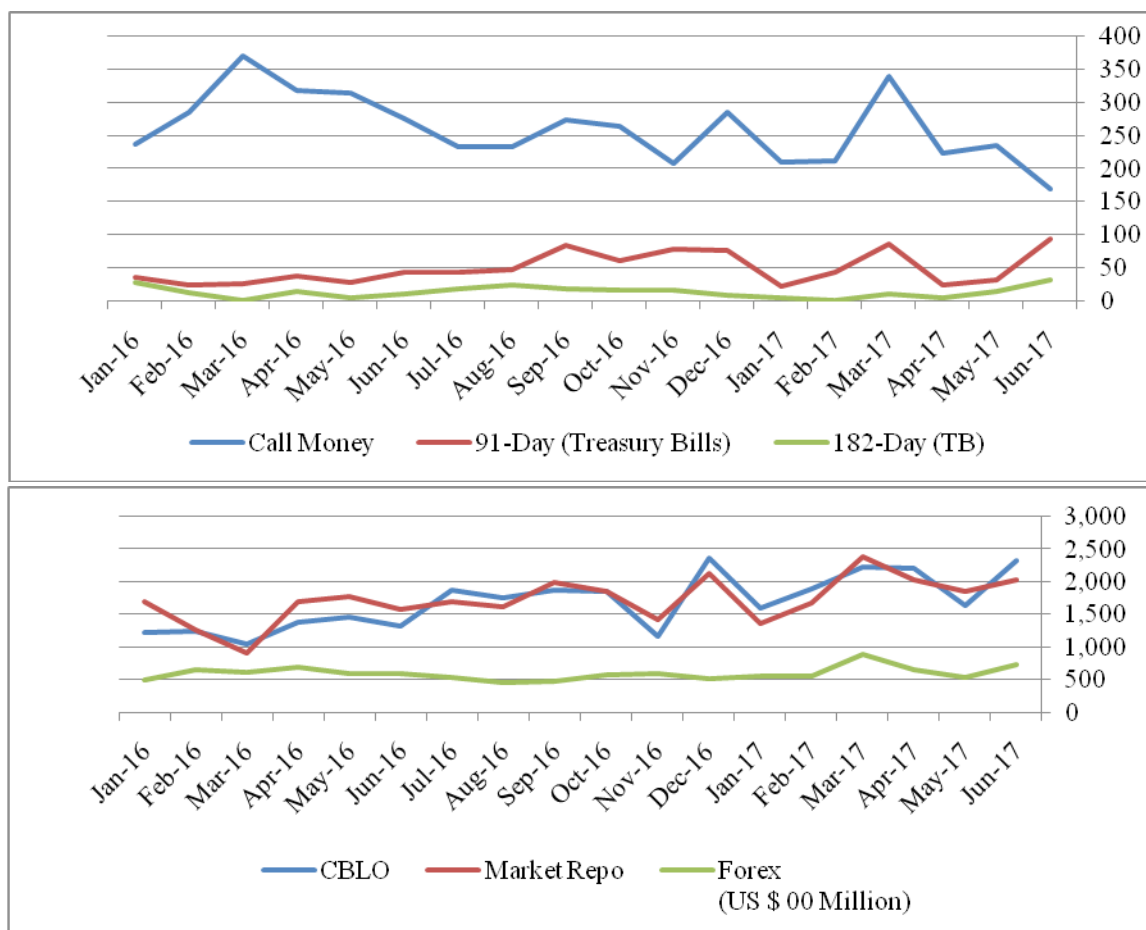
³⁸ <https://www.wsos.org/en/articles/2016/11/21/inde-n21.html>

Table 1: Sector-wise Bank Credit (Growth in %)

Sector	Dec 2015	Jan 2016	Feb 2016	March 2016	April 2016	May 2016	Jun-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Credit Outstanding*	Shares (%)
Non-food Credit (1 to 4)	9.30	9.83	9.89	9.06	8.44	8.39	7.95	6.67	4.75	4.01	3.51	3.29	8.37	4.54	4.08	4.82	68698	74.52
1.Agriculture & Allied Activities	12.72	13.37	13.52	15.28	15.29	15.60	13.81	13.01	10.31	8.18	8.08	8.95	12.40	7.38	7.39	7.46	9719	10.54
2.Industry	4.93	5.63	5.36	2.75	0.12	0.92	0.64	-1.73	-3.35	-4.31	-5.06	-5.25	-1.85	-1.39	-2.12	-1.07	26185	28.40
2.1.Micro & Small	2.50	2.42	1.74	-2.25	-6.67	-6.48	-3.81	-4.30	-7.71	-8.16	-7.41	-5.24	-0.47	-0.26	0.09	0.50	3616	3.92
2.3.Large	6.10	6.96	7.00	4.24	2.19	3.06	1.99	-1.20	-2.25	-3.47	-4.39	-4.89	-1.73	-1.20	-2.11	-0.99	21567	23.39
3.Services	8.10	8.91	8.64	9.06	10.86	9.33	9.21	9.28	7.10	8.31	8.09	7.68	16.95	4.10	4.02	4.74	16393	17.78
4.Personal Loans	18.47	18.09	19.23	19.37	19.75	19.07	18.45	16.99	15.21	13.55	12.93	12.03	16.36	14.41	13.67	14.11	16401	17.79
4.2.Housing	18.89	18.41	18.96	18.81	18.12	18.19	18.37	16.58	15.61	14.81	13.51	11.45	15.17	13.14	12.07	11.44	8619	9.35
4.8.Other Personal Loans	23.37	25.53	28.67	25.24	31.69	27.18	23.59	20.42	17.31	12.88	13.28	15.91	26.97	23.15	24.73	27.96	3982	4.32
5.Priority Sector	10.96	10.61	10.79	10.72	11.24	11.73	9.73	8.29	5.84	4.08	4.29	4.74	9.42	5.66	4.13	4.00	23492	25.48
5.1. Agriculture & Allied Act.	12.72	13.37	13.47	15.24	15.15	15.57	13.69	12.81	9.91	7.80	7.72	8.66	12.27	7.29	7.22	7.35	9698	10.52
5.2.Micro & Small Entrprs	9.08	7.87	7.80	5.90	3.97	4.57	5.59	3.26	1.18	-1.07	-0.36	0.68	6.42	3.55	2.92	2.80	8733	9.47
5.3.Housing	6.27	5.61	6.63	6.17	7.64	7.95	8.25	10.36	6.64	5.54	5.08	4.58	7.62	5.07	1.48	2.81	3571	3.87

Note: * Rs. Billion as on July 2017, ** Percentage shares in total bank credit, Source: Compilation from RBI, Monthly Bulletin

Figure 4: Turnover in Select Financial Markets (Rs. Billion)



SOURCE: Compilation from RBI, Monthly Bulletin

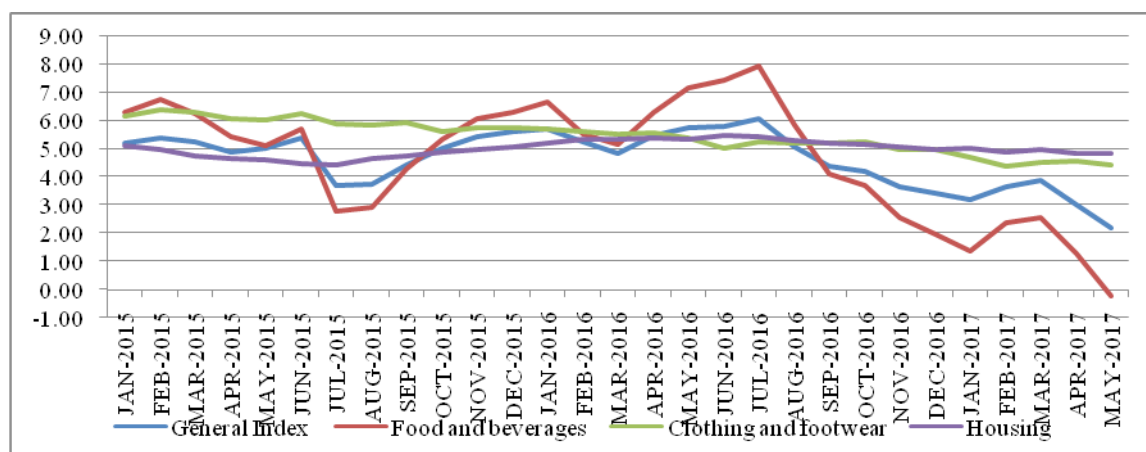
For agriculture and allied sector the growth in Q4 for year 2014-15 was negative, however same has witnessed a phenomenal growth of 5.16 percent in year 2016-17. The interesting observation that the agriculture sector has rebound even in the third quarter of FY 2016-17 by reporting the growth of 6.85 percent. In case of mining sector there was fall in growth since the third quarter (Q3) of FY 2016-17 meaning after the demonetization period. Similar trend is observed in manufacturing sector, but it is worthwhile to present the growth rates of the sector. It is observed that the sector grew by 13.2 percent in Q3 of 2015-16 whereas the growth came down to 8 percent in same quarter of 2015-16 mainly the demonetization period. Even the Q4 comparison of FY 2016-17 with previous year reveals that the growth has come down from 12.6 percent to 5.3 percent. It is quite evident that the manufacturing sector has experienced downfall after the demonetization. Electricity, gas and water supply has noticed dip but marginally. Construction sector is seen badly affected by the demo move as the growth in third quarter fell from 6 percent to 3.4 percent and in the Q4 the growth appeared negative. A massive impact is reflected in trade, hotels and communication sector as the sector had the strength to sustain the growth rate of double digits (around 12 percent in the Q4 of every year, but the sector contracted to growth rate of only 6.5 percent). The financial, real estate and professional service sector is also hit hard by the move as the sector had maintained the double digit growth in third and fourth quarters (Q3 and Q4) of year 2014-16 but lost its momentum with growth rate of merely 2.2 percent in Q4 of 2016-17. The overall economic growth is largely dependent on the public administration and defence sector as the sector reported whopping growth of 17 percent in Q4 of 2016-17 and thereby offsetting the fall in growth of crucial sectors such as manufacturing and services. In nutshell, it can be

argued that the growth rate of India seems to revolve around defence growth. Even the agriculture growth is attributed to good monsoon condition and also the agriculture growth usually has lag impact of policy measures.

The growth rate in consumer price index (month over month) for aggregate level is presented in figure 5. It is evident that inflation has remained around 5 percent during the fourth quarter of FY 2014-15 and even the inflation reached around 6 percent in the Q1 of 2015-16. But the comparable figures for Q4 of 2016-17 have seen a substantial dip and the fall remained consistent even in Q1 of 2017-18. The figures clearly show that inflation level has eased after the demonetization move. One interesting observation is that the inflation level for housing and clothing and foot wear has remained similar in past couple of years. The fall in inflation is mainly attributed to substantial fall in food and beverages prices and may also be associated with required supply of food grains in India.

The disaggregate behaviour of food inflation indicates that fall in aggregate food and beverage inflation is attributed to the significant fall in pulses and products inflation from peak level of around 40 percent by late 2015 to negative growth in first quarter of 2017-18. However the inflation for cereals has remained stagnant in past year and sugar and confectionary showed the upward surge before the fall in Q1 of 2017-18. The inflation scenario clearly speaks that supply side has eased the inflation whereas the demand side is constantly managed at its level.

Figure 5: Inflation Behaviour in India (Aggregate Commodities)



SOURCE: Compilation from RBI, Monthly Bulletin

The index of industrial production is the demand side indicator in the economy. The comparison in the indices of IIP is presented based on sectors (table 3) and based on use-based classification (table 4). The year on year comparison of index number for December 2015 and Dec 2016 is worth-full. Also the comparison of Jan to May 2017 IIP is compared with same period of previous year. The comparable figures for first half (H1) of 2017 over the 2016 reports the marginal increase in general index. In the same period the growth of 2016 was noticeable compared to 2015. It can be inferred that the demand side indicators have slowed down after the demonetization. The manufacturing sector having three fourth weight in the overall index computation has noticed least increase. However the mining and electricity has seen the significant surge. The same can be confirmed that if we make the comparison between the index values for year 2015 and 2016, it is observed that the index value has got momentum in every month of 2016 but showed a relatively lesser increase in the index value in December 2016 compared to same period of previous year. It can be argued that demonetization has halted the growth momentum of industrial production. More surprisingly the manufacturing sector has seen no gain in the post demonetization period as compared to same period of earlier year.

Table 2: Growth Rates (Y-o-Y) in Quarterly Estimates of Gross Value Added (%)

Quarter	Q1			Q2			Q3			Q4		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
Agriculture, Forestry and Fishing	3.5	2.41	2.52	4.98	2.32	4.07	-1.56	-2.12	6.85	-0.08	1.54	5.16
Mining & Quarrying	17.77	8.29	-0.93	3.81	12.19	-1.28	6.76	11.72	1.86	10.05	10.49	6.4
Manufacturing	9.1	8.17	10.72	8.6	9.29	7.73	3.22	13.19	8.15	6.78	12.65	5.27
Electricity, Gas, Water Supply & Other Utility	8.13	2.78	10.29	8.72	5.67	5.07	6.44	4.03	7.44	2.41	7.62	6.08
Construction	3	6.22	3.08	3.32	1.55	4.28	2.41	6.04	3.39	0.99	5.95	-3.67
Trade, Hotels, Transport, Communication and Services Related to Broadcasting	9.26	10.31	8.89	6.24	8.26	7.75	4.11	10.07	8.28	11.58	12.8	6.45
Financial, Real Estate and Professional Services	10.28	10.06	9.39	14.37	13.01	7.01	14.17	10.48	3.26	11.45	9.03	2.18
Public Administration, Defence and Other Services	1.53	6.25	8.57	7.19	7.17	9.55	21.77	7.48	10.26	1.33	6.7	16.99
Total Gross Value Added at Basic Price	7.26	7.59	7.56	8.27	8.2	6.77	6.37	7.29	6.65	6.13	8.65	5.57

Note: Growth is computed on constant prices values, Source: Compilation from RBI, Monthly Bulletin

Table 3: Sector-wise Index of Industrial Production

Month	General Index (100)			Mining and Quarrying (14.37)			Manufacturing (77.63)			Electricity (7.99)		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
January	114.5	119.5	123.1	103.0	105.3	114.4	115.6	120.8	123.1	124.4	132.1	138.9
February	110.1	118.3	119.2	94.9	105.6	110.5	112.1	119.6	119.7	117.4	128.6	130.2
March	121.3	128.0	132.8	110.8	116.0	127.9	122.9	129.1	132.2	124.5	139.3	147.9
April	107.4	114.4	117.6	89.9	95.9	99.0	108.9	114.9	117.6	124.9	142.9	150.6
May	113.1	122.2	124.3	95.9	101.4	100.5	113.8	123.6	125.1	137.6	146.0	158.7
June	110.8	120.7		89.3	98.4		112.7	122.4		131.4	144.3	
July	111.9	117.7		87.6	88.4		113.5	120.6		139.6	142.5	
August	112.0	117.5		88.5	84.7		113.4	120.9		140.5	143.5	
September	112.6	119.0		88.8	87.7		114.4	122.1		138.5	145.6	
October	115.5	121.2		100.0	101.0		115.7	122.5		140.9	145.1	
November	110.3	116.6		98.2	106.2		111.2	116.6		123.2	134.9	
December	119.4	122.5		103.0	114.1		121.4	122.5		129.5	137.8	

SOURCE: Compilation from RBI, Monthly Bulletin

In terms of use based classification, primary goods hold the highest weight in the overall index; the index value for this classification has increased substantially during the demonetization period as compared to November and December months of previous year 2016. Even infrastructure sector has reflected the same story. In the month of December 2017 capital goods and durable goods index value has noticed the dip. For year on year comparison in first half H1 of 2017 over 2016 reveals that the primary goods showed upsurge but relatively lesser than the growth of same month of previous year (2016 over 2015). In majority of months capital goods and durable goods had shown downfall. The major pull to the IIP index is coming from the consumer non-durables in the first half of 2017.³⁹

The impact of demonetization on Union Government accounts was mainly on the tax revenue collection. Table 4 presents the pre and post demonetization scenario of government accounts. It is observed that in the first half of year 2017, the revenue receipts as percent of budget estimates have remained stagnant to the same ratio for the year 2016. But in case of tax revenue the ratio has experienced an increase in year 2017 over the corresponding months of the previous year. Non tax revenue was lower in early months of 2017 but in the recent months the ratio has regained its level. The capital receipts have seen consistent rise in every month of 2017 as compared to same month of 2016. Even the fiscal deficit as percentage of budget estimate had shown an upsurge.

The figures for revenue receipts as percentage of budget estimate was 56 percent in November 2015 and the same reached to 58 percent in 2016. In the month of December the figures were 70 percent and 68 percent (lower in 2016), respectively. In fact during the demonetization the revenue receipts ratio had fallen from the comparable period of previous year. The January, February and March 2017 comparison over same months of 2016 reveals that the revenue receipts had been lower. The table 4 also covers the growth rate (year over year) for different months where it was observed that tax revenue rose with 12.5 percent in November 2015 as compared to November 2014 but the growth appeared whopping at 33.6 percent in November 2016. The comparable figures for December were 14 percent and 21 percent reflecting the positive impact on tax revenue of the Union Government. This behaviour continued till April 2017 where the growth in every month was considerably higher than the growth of same months for 2016. Interestingly the tax revenue had negative growth in April 2015 and 2016 but reported a growth rate of 80 percent in April 2017. However, the same is a sign of little expansion in tax revenue as the previous value has fallen drastically and therefore the increase in growth figures. In sum, if we see the growth pattern, the tax revenue has improved which favors the positive impact of demo. But based on ratio terms the tax revenue receipts have not increased considerably and hence demonetization has not had much impact.

6.4 Demonetisation and Rural and Informal Economy

As per the IBEF statistics, unemployment rate in India has come down to 4.8 per cent in February 2017 compared to 9.5 per cent in August 2016. In this regard the rural schemes such as MNREGA seem to have had a favourable impact on employment. Demonetization initiative may help the Government to strengthen the treasury and the increased revenue is likely to help rural development in terms of attaining the annual targeted length of 48,812 kilometres of rural roads by March 31, 2017 under the Pradhan Mantri Gram Sadak Yojana (PMGSY). As on January 27, 2017, about 68 per cent of target has been realized.

With growing cashless economy and promotion of more digital economy, NABARD has planned to facilitate around 200,000 point-of-sale (PoS) machines in 100,000 villages and distribute RuPay cards to over 34 million farmers across India, to enable farmers to undertake cashless transactions. In setting up of payment bank Bharti Airtel has taken a remarkable step to facilitate rural transactions.⁴⁰ In this regard the Payworld one of the digital wallet solutions in India has enabled a rural village to go online. And as per the

³⁹ The statistics are available with authors upon request.

⁴⁰ IBEF (March 2017). <https://www.ibef.org/industry/indian-rural-market.aspx>. India Brand Equity Foundation.

Table 4: Union Government Accounts

Actual Values to Budget Estimate (%)												
	Revenue Receipts			Tax Revenue			Non-tax revenue			Capital Receipts		
Month	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
January	63.3	77.2	73.3	60.9	73.8	77.5	74.5	91.2	59.8	96.7	87.3	101.2
February	68.6	83.0	79.5	66.7	80.0	84.0	77.6	95.3	64.7	106.3	95.7	109.6
March	94.7	104.7	100.0	93.0	102.7	104.6	102.5	113.1	84.9	91.7	90.9	99.6
April	2.2	1.6	2.3	-0.3	1.2	1.9	12.7	2.9	4.2	20.3	23.3	32.8
May	4.6	4.8	5.5	2.2	4.7	5.5	14.6	5.0	5.3	33.1	38.7	59.6
June	12.4	13.1	13.2	11.1	14.9	14.5	17.8	7.3	7.6	45.6	55.1	71.6
July	18.3	18.6		16.7	21.0		24.9	10.6		61.6	66.7	
August	30.3	28.0		22.8	26.6		61.5	32.5		60.8	69.3	
September	45.0	41.2		40.2	42.5		64.8	36.8		62.5	76.7	
October	51.8	50.7		46.6	50.3		73.0	52.0		67.8	75.4	
November	55.9	57.8		50.5	58.9		78.1	54.2		79.3	81.6	
December	70.4	67.9		67.7	71.4		81.9	56.5		80.2	89.0	
Growth Rates (%) (Year over Year)												
Month	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
January	4.3	17.0	14.6	3.3	14.1	20.2	8.5	27.8	-4.6	6.8	-5.1	9.6
February	4.2	16.0	15.5	3.9	13.0	20.3	5.3	28.2	-1.1	4.4	-5.4	8.2
March	188.9	6.1	15.1	195.3	4.0	16.7	164.6	15.1	9.4	32.3	4.2	3.6
April	265.3	-12.8	58.9	-387.0	-554.0	80.3	372.7	-66.9	29.4	13.8	8.2	48.0
May	36.0	25.5	26.4	-30.6	149.8	36.2	229.5	-50.7	-4.1	-13.0	10.4	61.8
June	23.4	28.0	10.2	2.6	54.7	12.7	157.6	-40.6	-6.5	-3.1	14.2	36.4
July	19.0	22.4		4.8	44.1		91.6	-38.2		19.4	2.3	
August	27.8	11.5		13.2	33.5		60.4	-22.9		-3.9	7.7	
September	22.8	10.4		14.4	21.2		51.7	-17.3		-10.6	16.0	
October	23.1	18.2		16.2	23.6		45.6	3.7		-10.6	5.1	
November	17.8	24.8		12.5	33.6		34.9	1.0		-5.3	-2.7	
December	15.9	16.3		14.0	20.9		22.6	0.5		-6.0	4.9	

SOURCE: Compilation from RBI, Monthly Bulletin

report Payworld had over 100 million users and 1 lakh retail touch points across 630 cities and 80,000 villages till the first week of November, has seen a 25% jump in new users mostly from rural and semi-urban areas.⁴¹ However, rural loans have increased by only 2.5 percent between October 2016 and April 2017, compared with 12.9 percent a year before.⁴²

On the agriculture front, it was feared that the sector would have adverse impact as most of transactions are settled by cash. Farmers would experience difficulties in access to seeds, fertilisers and pesticides.⁴³ But the demonetization came at a time that coincided with the end of the Kharif season (harvesting) and the beginning of Rabi (sowing). As per the central government statistics, the sown area of wheat till 18th November 2016 was 79.40 lakh hectares as compared to 78.83 lakh hectares last year.⁴⁴ Hence most of the sowing activities had been carried out before demonetization came into effect. Also, farmers rely on credit finance of mandi aarthi for fertilizers and pesticides where payment is made at the end of the crop season. One possible loss for the farmers is that they had to sell the produced output with lower rates amid lower demand due to cash shortage. But the ground reality is that there is trend pattern of lower price of agriculture produce at the time of harvesting and hence saying that farmers lost much pie due to demonetization is not factually correct. Impact on tiny and small and medium enterprises is found to be adverse. As per the report of All India Manufacturers' Organisation (AIMO), the MSME suffered 35 per cent jobs losses and a 50 per cent dip in revenue in the first 34 days of demonetisation.⁴⁵ The AIMO covers vast number of MSMEs of over 300,000 along with large scale industries.

The impact of demonetisation was also seen on wages and income. As per the report of India Ratings and Research (Ind-Ra) borrowers were unable to meet their dues as earning members lost one to three-month wages or income due to demonetisation in FY2017. In an estimate Fitch Group Company, indicated that aggregate collection efficiency of majority of Micro financing institutions stood at 75%-80% in May 2017 compared with a low of 50%-60% in December 2016.⁴⁶ These statistics help us to infer that due to demonetisation there was a fall in temporary employment opportunities as well as fall in income of the people. Two Wheelers sales is an indicator of largely rural demand for vehicles, registered a growth at 9.24 percent in April-July 2017 over April-July 2016. Within the Two Wheelers segment, Scooters and Motorcycles grew by 18.16 percent and 6.58 percent respectively, while Mopeds declined by (-) 13.04 percent in April-July 2017 over April-July 2016.⁴⁷ However, as per the speech of Union Minister, MSME the workers and laborers who left their occupations during demonetization were once again joining the MSME.⁴⁸

6.5 Demonetisation, formal economy and digital economy

This section attempts to understand whether demonetisation has pushed India towards a more formal and digital economy. Has it been effective in countering fake currency and black economy?

⁴¹ Acharyya, K., 2016. Demonetisation: Digital transactions meet roadblocks in rural India, effects felt everywhere. [Online] Available at: <http://www.firstpost.com/india/demonetisation-digital-transactions-meet-roadblocks-in-rural-india-effects-felt-everywhere-3166058.html>

⁴² KAUSHIK BASU, 29, 2017, India and the Visible Hand of the Market,

⁴³ DEMONETISATION AND AGRICULTURE: LESSONS FOR EXTENSION AND ADVISORY SERVICES, Agricultural Extension in South Asia (June 2017).

⁴⁴ Agri Nation, Government must assess impact of Demonetization on Agriculture at the earliest to arrest Production and Earnings loss

⁴⁵ Outlook Web Bureau (January 09, 2017). Demonetisation: 35% Jobs Lost In Micro And Small-Scale Industries, But Finance Ministry Refuses To Acknowledge The Report.

⁴⁶ Moneylife Digital Team (June 15, 2017). Demonetisation could cause capital erosion for MFIs, NBFCs and SFBs in FY2018.

⁴⁷ SIAM (August 11, 2017), Automobile Wholesale Picks-ups for Stock Replenishment, Press Release.

⁴⁸ Jyoti Bhagat (July 06, 2017). New Plans to Boost Self-Employment: Shri Kalraj Mishra, PCQUEST.

The RTGS transactions have witnessed an increase of 12 percent in volume and 9 percent in value in the Month of December 2016. In the next two periods the RTGS transactions both in volume and value fell down, but significantly jumped in the month of March 2017. In the first quarter of 2017-18, the growth has been very slow. Similar phenomenon is observed for retail electronics clearing system. The usage of cards in volume terms has gone up but fell in value terms in the demonetization period (December 2016). However, in subsequent months the value term has shown growth but again declined in Q1 of 2017-18. Prepaid instruments such as m-valets and PPI cards witnessed an upward trend in December but again fell in subsequent periods.⁴⁹ Based on these statistics, it can be inferred that the shift to digital transaction was temporary and again came back to the previous level. The slow move towards digital transactions may be related to deep rooted mind set of insecure transactions or illiteracy about the digital banking or unavailability of digital infrastructure in remote areas. Moreover, the cash culture in India is dominant and people prefer to use cash wherever possible.

Table 5 presents the behaviour related to card transactions for different time periods. It is evident that debit cards dominate in the total card transactions as almost 90 percent transactions are settled through debit cards. And the usage of debit card has been largely for the ATM purpose however the usage for POS purpose constituted around 6-7 percent of total debit card transactions before demon. In the months of November and December 2016, the ATM based transactions have been to the tune of 80 percent and 60 percent, respectively. It is interesting to note that out of the total cards transaction in the Month of December 2016, POS based transactions were of 40 percent, highest since last many years. Since then the POS share has not reached to that level but still higher than the comparable months of previous years. It is worth to point out that people have used the cards for facilitating the transactions meaning that the demand side was still maintained but the biggest fall in manufacturing and services sector during this period casts doubt of more tax evasion practices in these two sectors. It may be apprehended that transactions were not settled through cards rather the consumption was postponed. The behaviour of card usage for ATM and POS purpose is also presented through the month over month growth rates. The growth rates were surprising in the early months of demo period but came down at fast rate. It can be concluded that the demonetization has resulted in temporary increase in digital transactions but could not be sustained thereafter.

Conclusion

The magnitude of the decision by PM Modi to go in for demonetization is enormous. It involved criticism from all quarters and major inconvenience to the public at large. There was a considerable drop in economic activity by about 1 percent in GDP immediately after demonetization and on account of currency squeeze even during remonetisation period there was an impact on several sectors of the economy albeit for a brief duration. The decision was also enormous since it involved complete secrecy in printing of substantial amounts of currency, distribution through banks etc.

Even though several sectors of the economy were affected and the economy also witnessed a decline in growth in 4th quarter of 2016-17, the period of pain and inconvenience is over. Business and economic activity has been restored and the banks are flush with funds to help lend and give a boost to growth. Money entering into the banking system and officially transacted would give ample scope for higher taxation – both direct and indirect. The Centre and the State Governments would both stand to gain. The economy would also be serviced by both cash and highly digitized transactions. The government's increased digital push is a huge positive outcome of demonetisation though the data says that it's temporary given that the cash culture has always prevailed in India. Introduction of lottery scheme for digital transactions and launch of Bhim App, which already crossed 1 cr downloads, are the success stories from demonetisation. This increased digitisation has forced the consumers to fight against banks levying service charges on all card transactions which is another positive spillover effect. There is mounting pressure on the government and

⁴⁹ The statistics are available with authors upon request.

Table 5: Digital Transactions: Usage of Cards, Mobile Banking

Month/ Year	Share in Total Cards' Value Transaction (%)		Share of Debit Card Usage (%)		Growth Rates in Values (% , Month over Month)							
	Credit Cards	Debit Cards	ATMs	POS	Debit Cards	Usage at ATMs	Usage at POS	PPIs*	m- Wallet	PPI Cards	Paper Voucher s	Mobile Banking
2017-18												
Jun	12.10	87.90	85.55	14.45	2.39	2.63	0.97	-20.27	-26.19	-8.78	4.76	-15.30
May	12.55	87.45	85.34	14.66	-0.31	-0.22	-0.85	2.88	-3.33	19.31	8.76	32.34
Apr	11.60	88.40	85.26	14.74	-2.79	-4.02	4.99	-2.87	1.77	-11.11	-33.34	-6.83
2016-17												
Mar	11.39	88.61	86.36	13.64	14.41	17.17	-0.40	10.90	5.81	22.57	39.66	35.23
Feb	11.22	88.78	84.33	15.67	13.97	27.17	-26.86	-12.48	-17.27	4.00	-12.12	-7.46
Jan	14.07	85.93	75.58	24.42	40.35	78.54	-15.56	12.60	12.15	15.92	-2.94	-7.68
Dec	17.93	82.07	59.41	40.59	-8.14	-31.20	80.37	92.53	125.29	36.19	-0.75	9.70
Nov	14.64	85.36	79.33	20.67	-43.76	-51.55	46.64	-15.73	-2.32	-36.98	15.47	19.86
Oct	9.85	90.15	92.07	7.93	16.31	14.78	37.72	6.99	6.04	11.98	-22.71	9.29
Sep	9.33	90.67	93.30	6.70	-0.05	1.06	-13.27	-0.31	3.84	-8.22	28.97	0.35
Aug	9.87	90.13	92.28	7.72	0.75	0.22	7.48	5.72	11.38	2.57	-25.04	28.33
Jul	9.44	90.56	92.77	7.23	0.13	-0.58	10.27	-0.12	-0.53	0.35	0.00	20.21
Jun	9.32	90.68	93.43	6.57	0.09	0.10	-0.09	7.05	13.96	-1.77	24.68	8.95
May	9.67	90.33	93.42	6.58	-1.78	-2.21	4.81	6.91	6.19	8.05	3.04	17.78
Apr	8.75	91.25	93.83	6.17	0.83	0.28	9.95	-18.26	-3.65	-28.19	-33.35	-8.37
2015-16												
Mar	8.80	91.20	94.34	5.66	4.84	4.90	3.87	14.36	5.69	19.34	46.33	6.07
Feb	8.43	91.57	94.29	5.71	-2.46	-1.87	-11.29	1.81	1.71	2.76	-7.24	16.08
Jan	8.43	91.57	93.72	6.28	-0.96	-1.03	0.19	10.72	7.27	15.67	-3.44	-5.12
Dec	8.37	91.63	93.80	6.20	2.22	2.49	-1.57	2.16	6.88	-2.39	5.63	46.48
Nov	8.38	91.62	93.56	6.44	-1.92	-2.45	6.49	14.01	24.93	6.37	8.24	9.50
Oct	8.55	91.45	94.07	5.93	9.65	9.10	19.12	-6.72	-13.96	2.17	-24.13	13.38
Sep	8.27	91.73	94.54	5.46	-3.26	-2.56	-13.85	5.34	34.54	-14.49	44.40	23.71
Aug	8.36	91.64	93.87	6.13	-0.36	-0.17	-3.22	2.16	-6.58	8.42	-3.10	-7.54
Jul	8.21	91.79	93.68	6.32	6.02	5.12	21.50	17.39	12.65	27.62	-25.21	6.57
Jun	7.70	92.30	94.49	5.51	-5.51	-5.45	-6.46	14.56	7.84	18.52	25.13	11.04
May	7.94	92.06	94.43	5.57	4.65	4.50	7.31	2.30	-1.65	4.91	8.24	5.60

NOTE: * Prepaid Payment Instruments, Source: Compilation from RBI, Monthly Bulletin

RBI to remove service charges on all debit and credit cards. SBI has already waived it for small businesses (i.e. annual turnover upto Rs 20 lakh) till December 31, 2017. Some positive impact is visible on the political front as well. The Election Commission of India has already suggested that the limit for cash donations has been reduced from Rs 20,000 to Rs 2,000.

Overall, the effects of demonetisation on the economy can be said to be neutral. Initially the economy suffered hiccups and the informal sector was largely affected. But the positive effects of demonetisation far outweigh the negative outcomes. As per Moody's, Demonetization will strengthen India's institutional framework by reducing tax avoidance and corruption. It would result in efficiency gains through greater formalization of economic and financial activity, which would help broaden the tax base and expand usage of the financial system. It would be positive for large organised players in retail sectors and banking sector. However, it is too early to carry out any comprehensive analysis of demonetization till at least a year is completed. But it is a landmark initiative to deal with the problem of rampant corruption and black money in the economy.



INDIAN INSTITUTE OF PUBLIC ADMINISTRATION

Indraprastha Estate, Ring Road, New Delhi-110002.

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