## **IMPACT OF DEMONETISATION ON ONLINE TRANSACTIONS**

#### Manisha Gandhi\*

Dr. Alpana Agarwal\*\*

#### Abstract

"Demonetisation 2016" was not less than a socioeconomic and political shock for the nation. It barred 86.9% of the total currency in circulation comprising the highest denomination currency notes of an economy. The lower sections of the society suffered a lot and unorganised sector along with real estate and construction experienced hard times. The cash crunch was severe but was fruitful for organised sector. The immediate cost of demonetisation was gigantic as the implementation was on back foot. However it was expected that economy would reap benefits in the long run. It had a huge impact if compared with previous acts of demonetisation in 1946 and 1978. Dearth of cash forced people to go cash less or to purchase on credit. This led to boost in demand for the other modes of payment. This case has been prepared to project the impact of demonetisation on the overall Indian economy. This study also intends to discover the revolution in different modes of payment in India during monetary contraction.

The analysis shows that demonetisation failed miserably and the sufferings weighed heavier then the benefits in the given interlude. Lately a positive attempt was made to mitigate the evils of the economy and turn it into cashless system. Government launched various schemes and policies to promote the digital transaction instead of cash-centric payments. However, because of remonetisation, the leap in electronic mode of payment got diluted gradually and came back to its normal level as before. Therefore, government needs to put further labour in the planning and structuring of economy to make it cash free and black free economy. The project objectives were realised with the help of exploratory and inferential research on the secondary information obtained from RBI official forum.

**Key Words:** Demonetization, Indian economy, Cashless economy, Digitalization, Modes of payment, Monetary contraction.

#### I. Introduction

Demonetisation is stripping a currency unit as legal tender. It is done either to introduce new currency by replacing the older one or to curb the black money and counterfeit currency notes. On 8, November 2016, when everyone was busy in their regular hustle, Indian Prime Minister Shri Narendra Modi delivered a wave of surprise to the entire nation by announcing the demonetisation of Rs. 500 and Rs. 1000 banknotes of Mahatma Gandhi series from midnight8, November 2016. This move was a part of measures taken by Government of India to mitigate corruption, black money, counterfeit notes, terror funding and a firm effort towards digitisation of transactions. It intended at deriving long term benefits by formalisation of economy and increased flow of funds in the organised sector through which an upturn was expected in overall growth rate. The move was welcomed widely because of the conviction that people have on the leadership of Prime Minister Modi. But it was criticised over its inapt implementation and money laundering activities within the domestic banks.

Nevertheless India has experienced demonetisation twice before in January 1946, wherein banknotes of INR 1000 and INR 10000 were withdrawn and in January 1978 wherein banknotes of INR 1000, INR 5000 and INR 10000 were demonetized (Karangale and Waghmode, 2107). However, those demonetisationsbarely impacted common people because of low circulation of demonetized currency during that time (Joshi, 2017). However, the

perspectives of those demonetisations were hyperinflation, wars, political upheavals, or other extreme circumstances along with black money. Demonetisation 2016 is exceptional in economic history owing to its combined confidentiality and abruptness through the normal economic and political conditions. The term demonetisation is much more than a word and with this bold stroke 15.4 trillion rupee i.e. 86.9% of total currency was wiped from circulation (Unnikrishnan, 2017). And being a cash reliant economy, it suffered through a short-term cost, which is believed to be transient and medium-long term affects and are awaited to reap maximum benefits.

The impact reported in the given short term gives a cyclic movement of activities, like liquidity crunch leading to a sudden panic and causing decline in business of unorganised sector and discretionary expenditure by consumers. This has benefitted the organised retail sector and payment banks like Paytm and other mobile wallets. The impact of this act was severe on the liquidity in the economy and people did not have any option other than to switch from cash-centric to cash-less economy.

Moreover, the digitisation of transactions has recorded a significant change in a very short span of time. The gravity of this change lies in the fact that India has been conventionally a cash intensive economy and 78% of consumer transactions were affected by cash and after demonetisation when people were left with less liquidity in hand, there has been a greater weigh on digital modes of payment (Srivastava and Bisaria, 2018). So this case is conducive to throw light on affect of demonetization on intensity of change in mode of payment and its sector wise and macroeconomic impacts.

## II. Review of different opinion on demonetization and its impact

On Nov. 8, 2016, approx. 86% of India's currency was declared worthless and void suddenly in a great demonetization decision that intended to clean out the black market's cash supply and fake notes which completely disturbed the social, political, and economic arena of the worlds perhaps the second largest emerging market. Under the given circumstances an affirmative effort has been made to build a review of literature in this field.

Demonetisation remained on the front page of several newspaper for many days. An article titled 'Demonetization and after' published in Mint (December 29, 2016) reported immediate consequences of withdrawl symptoms and evidently gave RBI statistics showing digital mode of payment as last resort in the currency crisis.

Rao, Mukherjee, et al. (2016), discussed about the demand for cash by various agents which can be explained by four kind of transaction viz. unaccounted transactions on which no tax is paid, illegal transaction like corruption and crime, the informal sector transaction under which income is earned and spend in cash and the accounted transactions.

Singh and Singh (2017) constructed a conventional framework to study the reasons behind demonetisation. According to them, making India cash less economy was one of the major reasons; and enhancing transparency in economy and making people familiar with e-payment and use of plastic currency among other reasons. They further pointed out that although the near term effects are sour for cash centric business but the use of plastic money and transactions through online payments would continue to increase in the retail market.

According to one of theRBIpublication (2017), "alongwith pushing digitisation of transaction it is very crucial to ensure that digital payment platforms are safe and secure from any e-

crime". Also there is a need to e-literate the people of the country and execute the transition from roots to tip.

Economic Times shared an overall impact of demonetisation on the economy. It mention how it created unavoidable loss to the poorer sections of the society who were daily bread earner and doesn't know about digital culture. In an interview of Hindustan Times, Prof. Rajeswari Sengupta said –"Digital cannot substitute cash. The share of digital among transactions might increase in the long run but cash is affordable" (Waghmare, 2017).

#### III. Impact on Macroeconomic Variables

**3.1 GDP:** India is considered to be the fastest emerging economy in the world with a growth rate of 7.6% prior to demonetisation. However, the forecast by the international and domestic agencies reflect a negative change in expectation after the event (Table 1). This has adversely affected India's international worth, making investors to have second thought for investing in India.

	2016-	-17	2017-18		
	Pre-	Post	Pre-	Post	
Agency	Demonetization	Demonetization	Demonetization	Demonetization	
IMF	7.6	6.6	7.6	7.2	
World Bank	7.6	7	7.7	7.6	
ADB	7.4	7	7.8	7.8	
Economic					
Survey,					
Government					
of India	7.0 to 7.75	6.5 to 6.75		6.75 to 7.5	
Morgan					
Stanley	7.7	7.3	7.8	7.7	
HSBC	7.4	6.3	7.2	7.1	
Nomura*	7.8	7.1	7.6	7.1	
Goldman					
Sachs	7.6	6.3	_	—	
ICRA	7.9	6.8	_	—	
CARE					
Ratings	7.8	6.8		_	

Table 1.Comparison of Estimates of GDP growth before and after demonetisation (y-o-y growth in percent)

Page 5

CRISIL	_	6.9	—	—
FITCH	7.4	6.9	8	7.7
BofA-ML	7.4	6.9	7.6	7.2

\*Pertains to calender year

Source: Growth projections by the Financial Institutions and Ranging Agencies were compiled on the basis of media reports published during November and December 2016.

**3.2 GVA:** Gross Value Added has declined sharply due to contraction in money supply. The impact occurred in two forms- a) turn down in demand due to lack of cash to make payments (especially on discretionary spending); b) interruption in production activity due to man hours lost as the workers in unorganized sector get their wages paid in cash. The overall GVA growth in the Sixth Bi-monthly Monetary Policy Statement on February 8, 2017 was evaluated lower at 6.9 per cent. The impact of demonetisation on GVA growth was estimated at about 33 bps for the full year 2016-17. However the effect is seen as transient and the projected growth for next quarters of fiscal year showed some improvement (Table 2).

Period	2017-18				
Q1	7.1				
Q2	7.5				
Q3	7.7				
Q4	7.5				
Financial Year	7.4				
Cource: RBI Website					

Table 2: Projected GVA growth (y-o-y basis)

Source: RBI Website

3.3 Money Supply: Demonetisation created a shortage of currency, which impacted the money supply with a multiplier effect. It has also affected the speed of circulation because of which the transactions in the economy have been strained to contract. This led to an impact on production and income generation. The data for Nov. 11 2016 shows that M3 declined by Rs 38320 Crores in the fortnight and as per the Economic Survey 2017 cash declined by 9.4% (Macroeconomic Impact of Demonetisation, 2017).

**3.4 Employment:** The labor market dynamics changed significantly after 'demonetization' and render millions of workers exposed to increased uncertainty in employment. They resorted to reverse migration. The decline in GDP ranged from 0.5 percent to 2 percent in next quarters. Tentatively, the rate of decline in growth rate resulted in decline in employment growth with the same rate (Macroeconomic Impact of Demonetisation, 2017).

**3.5 Inflation:** The demonetization expected to have a negative impact on inflation. Consumers were not making any purchases except essential items from the consumer staples, healthcare, and energy segments. Food item inflation, measured by changes in the Consumer Food Price Index accounts for 47.3% of the overall CPI. The supply and demand of food items fell due to 86.4% of the value of the currency notes in circulation going out of the financial system and slow re-monetization (Ashworth, 2016). It has put forth more downward pressure on inflation.

#### **IV. Impact on Various Sectors**

#### 4.1 Agriculture Sector:

Agriculture was affected through the input-output channels as well as price and output feedback effects. Sale, transport, marketing and distribution of ready product to wholesale centres or mand is, is dominantly cash-dependent. Disruptions in the supply chains and reduced sale led increased wastage of perishables and lower revenues; which show up as trade dues instead of cash in hand and when credited into bank accounts with limited access affected the sector.

Since it was a sowing season, farmers faced a problem to purchase seeds. The months of November and December are season for sowing of Rabi crops and Samba crops in many parts of the country. This season requires a lot of cash in hand for purchase of seeds, pesticides, fertilisers and hiring labours.

Moreover, a significant portion of the farmers depends on bank credit for their cash needs. However, banks only grant new loans, if farmer repay their existing ones. Because of lack of cash, many farmers are unable to repay existing loans, hence, they were unable to avail the agri-credit required for sowing of rabi crop and deprived of the interest waiver scheme without their fault.

#### 4.2 Packaged Consumer Goods:

The traditional trade had a hit hard, especially wholesalers and *kirana* stores where transactions are largely in cash. The Sales Managers Index (SMI), which is one of the earliest monthly indicators of Indian economic activity, shows terrible after-effects of demonetization. The February SMI has fallen to an index level of 60.2 in unadjusted terms, the lowest level in over 3 years (Figure 1).



Figure 1: Sales Managers Index (SMI) Source: World Economics.com

Overall, February SMI data reflects an erratic situation for Indian businesses as they rally market challenges with noticeably lower levels of confidence, slower monthly sales and elevated prices caused by the currency position.

#### 4.3 Retail

India has a high tendency to transact in cash, and as an effect, the immediate aftermath of demonetisation caused considerable difficulty among retailers and their customers. The impact was felt more by small traders and the unorganised retailing segment, as most of these small retailers are not equipped enough to make provisions of non-cash payments for their customers.

The organised retail sector is a clear beneficiary of demonetisation as consumers flock to large stores that accept non-cash payments. The nature of purchases at modern retail stores has changed. Consumers were stocking and purchasing more of daily needs and essentials such as fruits, vegetables and staples such as sugar and flour. Organised retail sector reported sales turn up by 15% on a week-on-week basis in the first week after demonetisation was announced at retail stores of Future Group and 25% compared to a year ago.

#### 4.4 Gold:

India's gold imports declined to 661 tonnes in the calendar year 2016, which is were lower than 10 years average. On the day of demonetisation announcement, domestic demand for gold (or gold items) spiked over the night. Buyers, who were ready to pay huge premiums to dispose of old currency notes with jewellers, purchased approximately 15 tonnes of gold with 2-3 days of announcement. Reflecting this development as well as the seasonal jump, the volume of gold imports surged in November, even above the elevated October level. Gold imports, however, declined sharply in December 2016 and January 2017 as around 80 per cent of the gems and jewellery purchases in India are made in cash.

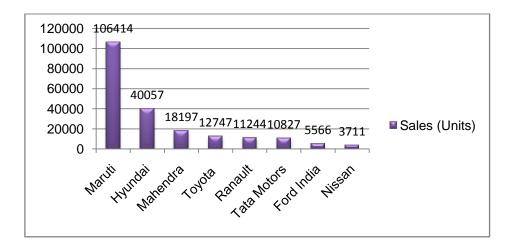
### 4.5 Tourism:

The most difficult period of demonetisation sits squarely in the busiest season for the tourism industry. There was a slump in hotels and associated services bookings in the first week after the currency withdrawal. However, the premium hotel segment has not seen any impact as bookings are mostly done in advance and online. So the hit has mostly been confined to the unorganized sector.

#### 4.6 Automobile:

Passenger vehicles sales at India's top three automakers slipped in December, despite an aggressive sales push to beat the year-end sluggishness and demonetisation impact (Figure 2).

The December 16 data from company sources shows a slow month for car sales, as buyers tend to postpone purchases to the New Year. Monthly automobile sales growth rate in India slipped to a 16-year-low in December 16 with total vehicle sales declining by 18.66 percent (Mathur, 2018). Along with the Supreme Court's verdict on sale ban of BS IV vehicles (from April 1, 2017) the industry is suffering a lot.





### V. Impact on mode of Payment

Government has been trying hard to make a transition in the economy from cash dominant to cash submissive economy. Demonetisation has provided a catalytic push to the digital payments, but for a shorter duration.

An empirical study has been conducted to ascertain the relationship between demonetisation and various modes of payments. The data of twelve months prior to demonetisation (Oct 2015-Oct2016) and four months post demonetisation (Nov2016-Feb2017)was taken from RBI official forum of monthly data releases and RBI Bulletin on payment and settlement system and electronic payment system(Table 3 and 4). The data include volume of transactions in million units for each mode of payment in two data group. Data 1 consists of volume of various modes of payment for the interim of twelve months (October 2015-October 2016) prior to demonetisation and Data 2 consists of the same but for four months (November 2016- February 2017) after demonetisation.

According to the preliminary assessment by RBI several measures have been taken to promote other mode of payments and few of them are:

- Decline in the merchant discount rate (MDR) and point of sale (POS) fees.
- Monetary incentives in the form of discounts and prizes.
- Service tax relief on MDR for small transactions.
- Denial of charges for small value transactions under Immediate Payment Service (IMPS), Unified Payment Interface (UPI) and Unstructured Supplementary Service Data (USSD)
- Expansion of Prepaid Payment Instrument (PPI) reach by enhancement of limits.
- Introduction of a new category of PPIs.

- Permitting National Payments Corporation of India (NPCI) to launch a common app for UPI; ٠ and National Electronic Toll Collection (NETC) system.
- Permitting banks to issue PPIs to a larger set of entities.

Mode of	OCT	NOV	DEC	JAN'	FEB'	MA	APR'	MA	JUNE	JUL	AUG	SEP	OCT
Payment	'15	'15	'15	16	16	<b>R'16</b>	16	Y'16	6	Y'16	'16	T'16	'16
RTGS	8.34	7.6	8.03	8.22	8.23	9.87	8.33	8.71	8.83	8.26	8.56	8.47	9.01
			111.5	118.9	110.1	129.2	111.8		118.9	113.4	118.5	120.1	133.2
NEFT	114.6	99.82	5	7	7	4	4	117.5	1	8	5	5	1
CTS	82.97	70.81	82.07	77.58	83.54	88.24	78.95	77.24	78.64	79.24	81.62	78.94	82.04
IMPS	19.42	19.08	20.52	22.48	23.86	25.98	26.78	27.66	29.68	32.18	33.89	35.93	42.09
		116.5	125.1		151.8	160.2	174.8	160.5			153.3	157.2	169.3
NACH	110.7	9	5	132.5	2	6	5	9	166.5	189.6	3	9	9
	872.6	840.9	885.8		866.3	917.4	913.0	950.5	927.2	955.4	971.8	945.8	1,031
CARD	9	8	5	884.1	4	2	5	9	7	3	7	8	.93
PPS	61.82	62.66	68.67	65.25	65.37	72	69.3	70.95	76.98	77.85	96.28	97.07	126.9
Mobile													
Banking	32.48	40.45	39.49	42.75	42.75	49.26	48.38	60.76	62.52	64.44	71.76	72.62	78.08
	Source: D	RI Webs	ito										

Table 3 : Prior to Demonetisation (Volume Million)

Source: RBI Website

Mode of Payment	NOV'16	<b>DEC'16</b>	JAN'17	FEB'17
RTGS	7.88	8.84	9.33	9.11
NEFT	123.05	166.31	164.19	148.21
CTS	87.08	130.01	118.45	100.44
IMPS	36.17	52.78	62.42	59.75
NACH	152.51	198.72	158.74	150.45
CARD	896.14	1,162.39	1,154.21	1,039.40
Prepaid Payment System	169.32	261.09	295.45	280.02
Mobile Banking	87.47	110.64	106.12	95.41

Source: RBI Website

#### 5.1 Real Time Gross Settlement (RTGS)

Looking at the mean value of data we can see that the average was quite closer to each other but variations in data 1 (prior to demonetisation) is larger and this is because of large data values as compared to the data 2 (post demonetisation). Data set shows that there is a

significant change in the volume of RTGS after demonetisation. This is because of the contraction in cash transaction elevated the electronic mode of payment during demonetisation and it was easy for people to digitally transfer the money rather than waiting for cash withdrawal after standing in long ATM queues.

Looking at the figure 3 we can clearly see the lift in volume of transaction made through RTGS however the change is transitional as after January 2017 the trend is returning to normal level after the gradual infusion of currency.

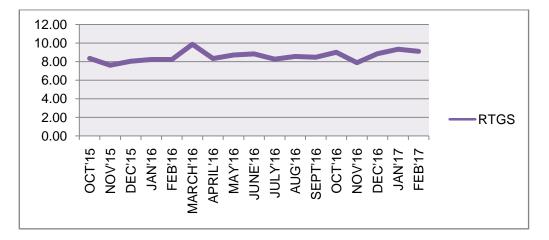


Figure 3: RTGS Volume (Million) Source: RBI Website

#### a. National Electronic Funds Transfer (NEFT)

The volume of NEFT has also increased after demonetisation. The possible reason behind this could be lack of cash in hand leading to increased electronic transfers.

Figure 4 shows us that after November 2017 there is a hike in the volume of RTGS and the average which were around 8.5 initially rose to 9.09 during the cash crunch.

However if we look at the trends (figure) we can see that the average of prior to demonetisation data lies around 116.95 million but after November 2016 economy experienced a major change in the volume of NEFT shifting the average to 159.57 million but in February 2017 we can see that there is a drop in the volume and the reason behind it is the release of cash in the economy bringing the situation back to the normal level.

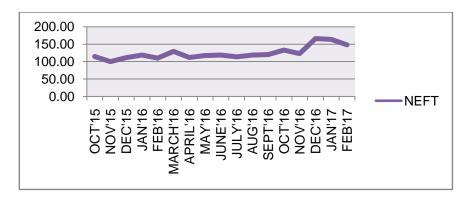


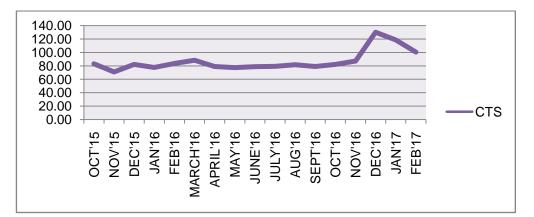
Figure 4: NEFT Volume (Million)

Source: RBI Website

## b. Cheque Truncation System (CTS)

Figure 5 below shows a great leap in the volume of CTS but the trend rolled down

After December 2016 and the transaction involved less usage of cheque.





## c. Immediate Mobile Payment Systems (IMPS)

There is a huge difference in the average value of both data. Also the variations in data1 are quite high in comparison to data2, which look quite consistent. The reason could be that it is quite manageable for people to use this mode as an alternative for cash payment.

The figure 6, below clearly displays that initially IMPS was not a popular mode of transaction but it has experienced an increase after February 2016. However, major rush in the

volume of IMPS transaction came after November 2016 which was fairly high till February



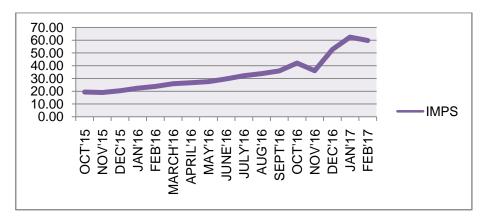


Figure 6: IMPS Volume (Million) Source: RBI Website

## d. National Automated Clearing House (NACH)

The volume of NACH transactions declined after demonetization (Figure 7).

The reason behind the decline in NACH is however related to the nature and application of this mode of payment. NACH is usually used for high volume transactions like payment of dividends, salaries by the corporate and subsidies, pension by government along with other utility bills, loan amounts, EMI etc and due to slow down in economy during demonetisation, most of these payments were delayed due to lack of liquidity.

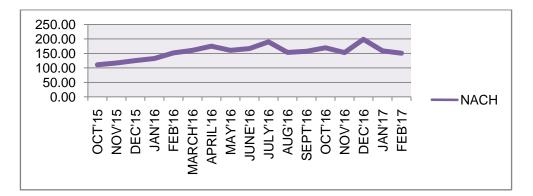


Figure 7: NACH Volume (Million) Source: RBI Website

### e. Card (Debit & Credit)

Depositing the of old currency notes in bank accounts and limitation on withdrawal during those 50 days (November 8 to December 31) pushed the usage of debit and credit cards. The heave in point of sale transaction was much high as most of the people were avoiding long ATM queues to withdraw the limited money.

The average transaction lied at 924.22 million for a long time but after demonetisation there was a sudden hike (figure 8) in the average volume of card usage and every second person with a bank account was using these cards and mitigating the ill-effects of demonetisation.

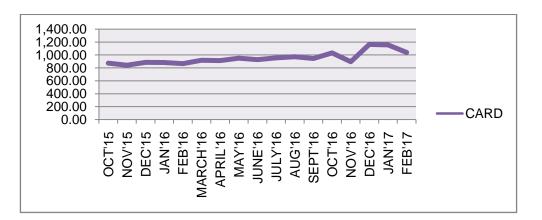


Figure 8: Card Volume (Million) Source: RBI Website

## f. Prepaid Payment System (PPS)

Figure 9, shows a gigantic increase in the usage of PPS after demonetisation, a notifying fact regarding this increase is that mobile wallet like Paytm, Mobikwik, UPI, BHIM, SBI Buddy and many other were heavily promoted by government and the private owners during the critical situation and before that too though people realised the utility of these platforms later and are still using them on large scale.

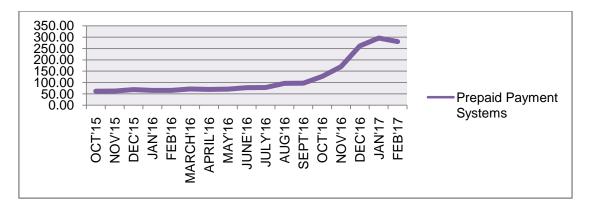


Figure 9: PPS Volume (Million) Source: RBI Website

#### g. Mobile Banking

The spurt in mobile banking was already there but demonetisation fuelled banking transactions and therefore along with offline banking, mobile banking also experienced a lift in the volume.

From Figure 10, it can be observed that mobile banking was already in a phase of elevation but the uninvited event accelerated the volume on a faster pace. Although trend also show a decline in mobile banking after December 2016, but the volume is still relatively higher than before.

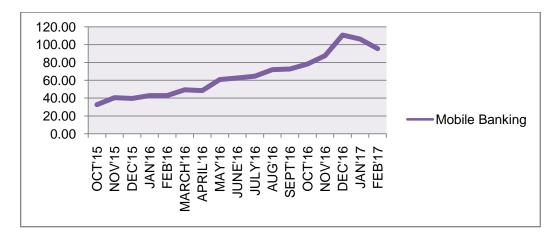


Figure 10: Mobile Banking Volume (Million) Source: RBI Website

### VI. Conclusion

After the evaluation of impact of demonetisation on overall Indian economy it can be concluded that "Demonetisation 2016" was a bitter pill for the economy. The intention was to curb the black economy and lessen the counterfeit currency, terrorism and corruption. But due to inapt implementation strategy and poor planning, it failed to mark any significant change in the economy. Injection of new currency notes led the economy went back to its normal routine. It absorbed the productive hours of common people by making them stand in long bank/ATM queue to get their own hard earned money. According to news reports 97% of total demonetised currency has came back to the banks reflecting the failure of the whole operation. From the above study we can say that demonetisation has impacted the growth of the economy adversely in short period but it is expected that if government continues a strict regime to formalise the economy, GDP may increase via buoyant taxation principle. Increased government revenue would further help to fetch more investments and employment opportunities.

The time chosen for demonetisation was a peak season for the market due to upcoming wedding arrangements, festivals etc. The consumer demand had a deep fall and economy faced a huge loss of business in November'16 to January'17 but with gradual remonetisation normalcy has been restored in the system. However real estate, construction and automobile sector are still struggling to lift it out of the slow down caused by this sudden shock. Talking about the mode of payments we can say that the jump was consistent after November till January but most of the modes of payment are showing a slight decline in the volume of transaction. Furthermore, analysis of the data on modes of payment shows that their volume dropped significantly immediately after October in both the fiscal year (2015-16 & 2016-17).So the immediate fall after demonetisation in November could be seen as a seasonal

volatility but after than trends show an increase for all in December depicting the true effect of demonetisation on electronic mode of transaction. The most significant effect of demonetisation as per the obtained quantitative data was on Prepaid Payment System which includes digital wallet like Paytm, Mobikwik, and SBI Buddy etc. Several payment banks especially Paytm reported a forward rush after demonetisation and was racking up 7 million transactions per day. All modes of payment have experienced a gradual decline except the mobile wallets.

The move taken by PM Modi was undoubtedly bold and has had many pros and cons on each sector. The aftermath done till date shows how it made people suffered due to cash shrunk and loopholes existed in the approach to curb black money. We hope the government will come with more calculated and sensible plan to cut down the evils of economy.

#### VII. Implication and Recommendations

The study implies that demonetisation was hard to digest because of its inapt implementation. The sufferings weighed heavier then the benefits in the given interlude but a positive attempt was made to mitigate the evils of the economy and turn it into cashless system. Government launched various schemes and policies to promote the digital transaction instead of cash-centric payments and it was fruitful for a short period but as remonetisation took place, the leap in volume of electronic mode of payment has reduced evidently from February'17. India that is conventionally a cash-centric economy is paving its way towards digitisation but that requires consumer sentiments in the favour of new technology and there is a need to e-literate the countrymen especially in the backward and rural regions. Therefore, government needs to put further labour in the planning and structuring to make it cash free and black money free economy.

#### References

Ashworth, D. (2016). Why India Demonetized 2 Currency Notes. Market Realist. Published online on November 22, 2016, Retrieved from https://marketrealist.com/2016/11/great-indian-demonetization, on January 15, 2017.

Demonetisation and after. (2016). *Live mint*. Published online on December 29, 2016. Retrieved from

http://www.livemint.com/Industry/NZC6GNcDYMJgd1RwiKxz2I/Demonetisation-Themove-the-consequences-and-the-aftermat.html.

Electronic Payment Representative Data. (2017). Released online on February 03, 2017. Retrieved from

https://www.rbi.org.in/Scripts/Pr\_DataRelease.aspx?SectionID=368&DateFilter=YearMonth.

How demonetisation has impacted key sectors. (2016). *Live mint*. Published online on December 9, 2016. Retrieved from

http://www.livemint.com/Politics/a0Fk7NwHWsKcxiu4A3i4tK/How-demonetisation-hasimpacted-key-sectors.html.

Interim Report of the Committee of CMs on Digital Payments. (2017). NITI Aayog, National Institution for Transforming India. Retrieved fromhttp://niti.gov.in/content/interim-report-committee-cms-digital-payments. On March 15, 2017.

Joshi, P. (2017). Cashless economy: Swot Analysis. Asian Journal of Research in Social Science and Humanities, Vol. 7 (3), 1477-1485.

Kapoor, D. (2016). Demonetisation- the long and short of it. *Forbes India*, Published online on December 20, 2016. Retrieved from <u>http://www.forbesindia.com/blog/economy-policy/demonetisation-the-long-and-short-of-it/on</u> February 16, 2017.

Karangale, L.K., and Waghmode, B.S. (2017). Impact of demonetization on Indian economy. Proceedings of National Conference on Smart India Vision 2020- Innovations in Computer Applications, Management and Commerce, On 18th February 2017, Vidyabharati International Interdisciplinary Research Journal, 6 (1), 1-4.

Macroeconomic Impact of Demonetisation- A Preliminary Assessment (2017). Reserve Bank of India – Publications. Retrieved from

https://rbi.org.in/scripts/PublicationsView.aspx?'on March 15, 2017.

Mathur, S. (2018). Sales Analysis: CVs, two-wheelers post-robust double-digit growth in Dec. Published online on January 3, 2018, Retrieved from https://auto.economictimes.indiatimes.com/news/industry/sales-analysis-cvs-two-wheelers-post-robust-double-digit-growth-in-dec/62346503, on February 15, 2018.

Mohammed, R. (2017). India: from demonetisation to digitisation, Published online on January 27, 2017. Retrieved from https://www.finextra.com/blogposting/13601/india-from-demonetization-to-digitalizationon February 16, 2017.

Muthulakshmi, E.K. (2017). Impacts of demonetisation on Indian economy- issues & challenges. *Journal Of Humanities And Social Science*, 2(1), 34-38.

Payment and Settlement System. (2017). RBI Bulletin, Data Period Dec 10, 2015 to April 10, 2017. Retrieved from <u>https://www.rbi.org.in/Scripts/BS\_ViewBulletin.aspx</u> on April 16, 2017.

Rao, K., Mukherjee, S., Kumar, S., Sengupta, D.P., Tandon, S., and Nayudu, H. (2016). Demonetisation: impact on the economy, NIPFP- Working Paper Series No. 182. Retrieved from http://www.nipfp.org.in/media/medialibrary/2016/11/WP\_2016\_182.pdf on December 16, 2016.

Shah, A.Y. (2017). Impact of demonetization on rural India. *International Journal of Scientific and Research Publications*, 7 (3), 220-223.

Shirley, M. (2017) Impact of demonetisation in India. *International Journal of Trend in Research and Development*, Published online on February 11, 2017, Retrieved from: http://www.ijtrd.com/papers/IJTRD7787.pdfon March 10, 2017.

Singh, P. & Singh, V. (2016). Impact of demonetization on Indian economy, *International Journal of Science Technology and Management*, 5 (12), 625-635.

Srivastava, S., &Bisaria, C. (2018). The Unanticipated Enforcement of Demonetisation and it's Implication on Indian Economy. Espacios. 39 (11), 18-30.

Sunil. (2017). Demonetisation at glance in India scenario: a conceptual study. *International Journal of Applied Research*, Published online on January 30, 2017 Retrieved from http://www.allresearchjournal.com/archives/2017/vol3issue2/PartA/2-12-117-970.pdfon February 16, 2017.

Worstall, T. (2017). Reserve bank of India report- GDP effect of demonetisation small and fleeting. *Forbes India*, Published online on March 11, 2017, Retrieved from https://www.forbes.com/sites/timworstall/2017/03/11/reserve-bank-of-india-report-gdp-effect-of-demonetisation-small-and-fleeting/#6548067a414aon April 20, 2017.

Unnikrishnan, D. (2017). Demonetisation: RBI says 99% banned notes are back; where is the black money? First Post, Published online on November 3, 2017, Retrieved from https://www.firstpost.com/business/demonetisation-rbi-says-99-banned-notes-are-back-where-is-the-black-money-3991829.html on December 10, 2017.

Waghmare, A. (2017). Threat to cashless economy? After demonetisation push, digital transactions recede. Hindustan Times, Published online on March 21, 2017, Retrieved from https://www.hindustantimes.com/india-news/digital-india-threatened-after-demonetisation-push-digital-transactions-recede/story-CpMaY0kcYoGLVreLhIYVHN.html on April 16, 2017.

#### Annexure

Annexure 1: Characteristics of various modes of payment

Payment Mechanism	Salience of form	Salience of amount	Transparency	Temporal Separation
Cash	Very High	High	High	Do not exist
Cheque	Medium	High	High	Low
Credit Card	Medium	Medium	Medium	High
Debit Card	Medium	Medium	Medium	Do not exist
Store Value of Card	Low	Low	Low	Medium
Auto Pay (Direct debit from bank account)	Very Low	Very low	Very Low	Low
Digital wallet	Medium	Medium	Medium	High

(NIPFP Tax Research Team: Demonetisation- Impact on the Economy.)

## Annexure 2. Facts regarding Demonetisation in other nations

Country	Year	Step Taken	Status
United	1969	Due to black money existence in the nation, the country	Success. Even today \$100 bill is the
States of		was losing its sheen built on Silicon Valley and the so-	maximum available for circulation
America		called even today existent American Dream	
Nigeria	1984	The government run by Muhammadu Buhari has declared	Failed. He was thrown out of power
		demonetization of all existing currencies to improve the	in 1985-86
		high-inflation-debt economy	
Zaire	1990	The Dictator Mobutu ran the demonetization drive, which	Failed
		led to economic instability in the country, which won	
		freedom in 1970 making it more vulnerable to foreign	
		funding at that time. The country recovered in 2000	
Soviet	Janua	Mikhail Gorbachev, withdrew 50 and 100 ruble notes, in	Gorbachev faced a coup within eight
Union	1991	order to eliminate black money and increase the currency	months in August, as the move was
		value. The notes accounted for a third of the total money in	not a success. The 1991 attempt led
		circulation	to a successful re-denomination of
			the ruble in 1998 where three zeros
			were removed. This was followed by
			another currency control in 2010
			when two more zeros were removed
			from the old currency. The 2010
			attempt was not successful as the
			timing coincided with s poor harvest.
Australia	1996	The government to the curb black money crises and	Success. This improved the life of the
		improve security features on the notes, they withdrew all	bills and helped in making Australia
		paper-based notes and replaced them with long life	a business friendly country, despite
		polymer-based notes of the same denomination	the initial costs incurred to
			manufacture polymer-based notes
Zimbabwe	2010	Due to chronic inflation in Zimbabwe, the government	Failed. The country replaced their
		started printing notes with a face value of 1 hundred	currency with US Dollars
	0.16	trillion Zimbabwean Dollars' worth just 40 cents	
North Korea	2010	The then dictator of North Korea Kim Jong-IL has decided	Miserable Failed. Due to bad return
		to eliminate two zeroes from the currency denominations	and high inflation, this move was
		to curb black money threat and tightly manage the	highly criticized by the International
		economy	Media, making the dictator to
DI	x		apologize in the public
Pakistan	June	The Government of Pakistan has announced the	Messes up. One and Half Years for
	015	demonetization of Rs. 5 and Rs. 500 in June 2015 with	demonetization. To exchange notes.
		immediate effect and phase out of all other denominations.	Can't curb black money neither
		The people of Pakistan had one-half-year time to exchange	counterfeit notes
		these notes, after which (December 1. 2016) the notes will	
Vanan1	Derr	be declared null and void	Formed 4a 4a ha 44 hards a ft and a ft and a ft and a ft a ft and a ft a ft and a ft a ft a ft a ft a ft a ft a
Venenzuela	Dece	An emergency decree ordering the country's largest	Forced to take it back after chaos &
	er 11,	banknote, 100 Bolivar bill, to be illegal tender within 72	death of a person
	016	hours was signed by the president of the country Nicolas	
		Maduro. This was a decision to control the hoarding of	
		cash by international "mafia"	

\***Manisha Gandhi** is a student of Vasant College for Women, Banaras Hindu University, Varanasi. She can be reached at <u>gandhimanisha1995@gmail.com</u>, Phone: 7065390855

**\*\* Dr. Alpana Agarwal**, (**Corresponding Author**) is Assistant Professor in the area of HR-OB at GL Bajaj of Management & Research, Greater Noida. She is a MBA (Gold medalist) from Mody Institute of Technology and Science, Laxmangarh, Rajasthan. She has over 11 years of experience in teaching and research. She has carried out her Ph.D. work on a new and unique area of research i.e. 'Bio-inspired Management System'. She has eleven national and international publications to her credit with journals of repute. She can be reached at <u>alpana.agarwal1984@gmail.com</u>, Phone: 9716578725