"A STUDY ON DEMONITIZATION EFFECT ON ONLINE BANKING TRANSATIONS"

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ABSTRACT

"The present study has been emphasized on online banking transactions during the demonetization period in India. Demonetization effect has been observed on various segments including citizen's usage of online transactions to overcome the liquidity crunch, the present study has been emphasized on 150 days data which includes 50 days before demonetization, 50 days during demonetization and 50 days after demonetization , the correlation analysis has been applied between money in circulation and selected online banking transactions and observed negative and positive relationship with money in circulation to selected online transactions, the linear regression has been applied on Granger casualty test result variables and found significant influence on all the banking transactions i.e., Before demonetization, During demonetization, the study found due to the demonetization the usage of online transaction got increased many folds in volume wise this study is useful to the regulators, banks and citizens."

INTRODUCTION

On 2016 November 8th, the Government of India has announced the demonetization of 500rs and 1000rs bank notes. The Government has claimed that the action would restrict the black shadow economy and crack down the use of unlawful and counter feit cash for funding illegal activities and also terrorism. The sudden announcement and the drawn out cash shortages with in the weeks have created a significant discontinuity throughout the economy and threaten economic output.

Definition of Demonetization: It refers to policy of an economic activity where a certain currency unit will be stopped to recognize. In other words, a currency unit loses its legal value in the economy as a new currency comes into circulation replacing the old currency.

Meaning of Demonetization: The End of something as it is no longer the legal tender of a country.

Prime minister of India Mr. Narendra Modi has announced the demonetization through live in television news at 12.00 (midnight) on 2016 8th November. In that announcement Modi declared that use of all 500rs & 1000rs notes will be invalid and also announced the issuance and issue of new 500rs & 2000rs note in exchange for the old notes.

On that day, after announcement the BSE & NIFTY 50 stock indices fall over 6%. In the following days of Demonetization India has faced cash shortages with detrimental effect all over across the Indian economy. People had to stand in lengthy queues for exchanging their notes, and also not only that several deaths of people were linked due to the rush to exchange old currency with the new currency.

Procedure of demonitization:

The plan which has impelemented to demonetize the 500rs & 1000rs notes have began five to ten months earlier, and it was kept as confidential with only between ten people, only they were aware of it. The process and preparations for printing the new notes of 500rs and 1000rs began in early May. A meeting was held by Prime Minister Narendra Modi in his cabinet and the discussion was followed by

the Modi's public announcement about the Demonetization of 500rs and 1000rs notes.The notes which have been issued by the Government of India on 2016 December 28 finish the liability of the government for banned notes, and not only that government also imposing a fine up to 10,000rs or 5 times the amount of the original value of notes, whichever is higher, and for the people transacting with them after 8th November 2016 or holding more than 10 of them after 30th December 2016. The citizen have been provided for the exchange of notes after 30th December for the non-resident citizen and other will be on a one by one basis. However, at some places like, railways and airlines booking counters, government hospital, Petrol, CNG and gas stations, recognized dairies of the state and ration stores, and crematoriums were only allowed to accept the banned 500rs and 1000rs notes till December 2nd 2016, thereafter bank notes can be exchanges only with RBI with a valid reason for delay.

Limit of Withdrawal:

Cash withdrawal from bank accounts was restricted to only 10,000rs per day and 20,000rs per week from 10th to 13th November. The amount of withdrawal was increased by 4000 that is (24000)for a week this has been started from November 14th 2016. And for a day withdrawal of cash was varying from 2000rs each day till 14th November and 2500rs each day till 31st December. After This limit of 2500rs have been increased upto 4500rs each day from 1st january 2017, and again to 10,000 from 16th January. For savings account withdrawal limit was 50,000rs on 20th February, and then RBI removed all withdrawal limits from savings bank Accounts.

Advantages:

- Demonetization will help in tracking people who are dealing with large sum of money which is not recorded, cash on which no income tax has been levied (it is called black money or illegal money) because people who keeps croupted money as cash in their houses or somewhere in secret places either in the form of cash or gold. And due to demonetization all money will became of no value and people have only two ways one is to deposit the whole money in their bank accounts and pay the taxes on all the money they have and second way to let the cash they have become useless.
- Black money is used for many for unfair activities because of demonetization the level of all illegal activates will be lower for a period of time and it will take years to re generate the black money again, so it will put an end for doing illegal activates.
- Another benefit of demonetization is that when people deposit their income by in their bank accounts banks will maintain a record all the incomes in the bank accounts of the customer's then government will be able to get information about in amount of money deposited by the people in their bank accounts.

Disadvantages:

- The disadvantage of Demonetization is that people are not aware of the information conditions etc. our Prime minister has announced people have to exchange their old note for new notes then for some days there was confusion and craze among public as everyone wants to exchange their demonetized notes.
- This situation has lead to law and order problem and unpredictable situation especially at banks and ATM's were the only medium for exchanging the old currency to new one.
- Another situation is that most of times government uses this method is to target the people who kept money in their houses or in secret place and rotated or invested that money in real estate, buying gold

etc. but if they have invested in real estates then demonetization cannot help in finding out the corrupted people.

April fools prank:

The Guajarati newspaper has published an article in their newspaper about the demonetization of 500rs and 1000rs notes. This news was published about exactly 7 months before the real announcement of demonetization of notes is made. The editor of the newspaper said that it was only an April fool's day prank. The article contained most of the details that exactly matched the actual announcement in November, including the issue of new 2000rs notes. This coincidence received wide range of coverage and was called as "Mystical".

Fig 1.1

Title: DEMONETIZATION EFFECT ON ONLINE TRANSACTIONS

Demonetization is the new topic in country. Everyone is talking about the long term impact will be on many businesses. With the retail businesses taking all new dimensions thanks to the internet the business models and the payment methods have changed. Though it is true that this can lead to a more positive effect in long term, but in short term it has created confusion among people and business too. Now a day's online money transactions and digital payments are not as difficult as they were before. This makes it easy for people to smartly tackle the sudden ban on old notes. And online transaction has lots of benefits. This is the right time to make people understand the benefits of online banking and releases the potential of debit cards. People can make online payments, apply for easy loans pay all bills and do a lot more with just a debit card.

Top 10 Mobile wallets:

- Paytm (Launched in 2010, No. of installs: 1,000,000+).
- Memoe (Bengaluru based mobile payment startup, No. of installs: 100,000 and more).
- Pay U money (Gurgaon based company, No. of installs: 100,000+).
- State Bank buddy(Launched by State Bank of India, No. of installs : 100,000 and more).
- Citi Master pass (Citi Bank of India and Master Card launched 'Citi Masterpaas').
- ICICI pockets (Created by ICICI, No. of installs: 1,000,000+).
- HDFC chillr (Created by HDFC, No. of installs:100,000+)
- LIME (Launched by Axis Bank, No. of inatalls: 10,000+).
- Mobiwik (No. of installs: 10,000,000+).

- Citrus (No. of installs: 100,000+).

Data on digital payments in India

Finding on digital payment adoption from the recent ACI Survey:

While these numbers indicate the growing need for secure, faster and efficient payment methods for online marketplace, efforts to make payments to individual or brick & mortar stores is also increasing. Start-ups and huge corporate are constantly on the lookout for customer-friendly technology, thereby giving more power to the customer.

E- Banking (or) online banking (or) Internet banking (or) Virtual banking is an electronic payment use with personal computer and a browser can get connected to his bank accounts web site to make payment directly from their bank accounts. The online banking covers both computer and mobile. Customers have to register with particular instructions and set password and some customer verifications.

To access the financial institutions online banking facilities, a customer must register with the institution for the service and internet access helps as a mediator between customer and the financial institution, and set up a password and other credentials for further customer verification. The credentials for online banking system are normally not same as for mobile banking. The financial institutions allocate customers numbers, and know whether customers have intention to access their Net banking facility. Customer numbers normally will not be the same as account number, because the number of customer account can be linked to the one customer number. Technically, the number of customer can be linked to any other accounts with financial institution the customer controls the financial institution through limited the range of accounts that can be accessed for savings, cheque, credit card, loan and similar accounts.

The customer visits the financial institution's to secure website, and the online banking facility using the customer id number and credentials for previously setup one. There are types of financial transactions for a customer where he can transact through different online banking which is determined by the financial institution, but usually includes obtaining balance in the accounts, a list of the recent transactions that include funds transfers between one customer's accounts to another customer accounts. Most of the banks enable a customer to download the banking statement copies; banks also charge a fee for mailing hard copies of bank statements on certain transactions. Some banks enable customers to download transactions directly without going to the bank by technical software. The facility to order a cheque book, statements, stop payment on a cheque, report loss of credit cards, change of address and other actions.

Today, many of the banks are only internet related institutions. These "virtual banks" had lowered the overhead cost than their brick-and-mortar counterparts. In the United States, online banks are insured under the Federal Deposit Insurance Corporation (FDIC) and offer the same protection for the customer’s funds as traditional banks. These transactions has been done with RTGS, POS, IMPS, NEFT

Scenario of online banking after Demonetization in India:

After Demonetization the Online banking a major role in E-banking becomes a essential component to improve economic growth. Now Banks of India recently implemented cashless withdrawal services all over India. This concept helps customer to send money through ATM. The government of India has implemented 24*7 service basis in India and they provides integrated delivery channels like internet. Due to demonetization this will replace the traditional clearing system. There are three different kinds of wallets available to make payment: a) Generic online b) E -wallet oxygen c) Paytm. According to the present scenario Government

There are many options for cashless transaction available in India:,

1. Plastic money (It includes debit and credit cards that are used at ATM for cash withdrawal and POS machines.)
2. Aadhar card (It leads to make payment through use adhaar number. It allows a person to make payment through bank account if his addhar card is linked with his bank account)
3. E-wallet (E-Wallet allows users to make payment through use of mobile number (or) QR code)
4. UPI (unified payment interface it enables all bank accounts holders to send and receive money from their smart phones with the need to enter bank account information

Benefits to banks:

- It improves relationship between customers and banks.
- It helps to increase profitability.
- It helps in reduction of burden to branch banking.

Features of e banking

- Easy electronic fund transfer facility is provided.
- E-Banking is bringing door step service.
- We can view balance of account and statements.

Challenges:

- Security and privacy risk:- due to securities privacy risk a large number of users refuse to adopt e banking facility.
- Consumer awareness:- in India many people does not have on e banking awareness.
- Less Internet connections:-no availability of internet connections in some areas.

Benefits of using e banking:

- The operating cost per unit services is lower.
- It offers convenience to the customers as they are not required to go the banks premises.
- It provides Lower handling cost.
- Benefits to customer
- E banking helps people in a less waiting time.
- It convenient and easy to use.
- It provides 24×7 service for the people.
- E-Banking also saves time.
- It unable to help make transaction at any time in a day ,as many times as you want and from anywhere.

NEED OF THE STUDY

1. To examine status of electronic payment service.
2. To study role of demonetization in India.
3. This study helps us to know the inflow and outflow of cash during demonetization period in banking sector.
4. This study examine the cashless system is not only requirement but also a need of society today.
5. To study and aim for less cash and not cash less.

OBJECTIVES OF THE STUDY

On 2016 November 8th, the Government of India has announced the demonetization of 500rs and 1000rs bank notes. The Government has claimed that the action would restrict the black shadow economy and crack down the use of unlawful and counter feit cash for funding illegal activities and also terrorism. The sudden announcement and the drawn out cash shortages with in the weeks have created a significant discontinuity throughout the economy and frighten economic output.

Due to shortage of cash people have to face problem and some people make use of online banking transactions. For this study these objective have been taken:

1. To measure the relationship between money in circulation with selected online banking transactions.
2. To know the influence of money in circulations on various online transactions.
3. To study the short and long run association of money in circulation with selected online transactions.

RESEARCH AND METHODOLOGY

The present study has been emphasized on secondary data by using descriptive stastical tool. The following variables have been considered for the study and applied various stastical tools according to the objectives.

Software packages used:

- Eviews6-Econometric views
- SPSS- Statistical package for the social science

Stationary test-Eviews software

Augment dickey fuller test (ADF): Augment dickey fuller test was developed by two American statisticians David Dickey & Wayne Fuller in 1979, the dickey fuller test is used to determine a unit root, that caused issues in statistical inference, to understand the basic underlying concept of the Dickey-Fuller test at certain conclusions then jump to augmented Dickey-Fuller test (ADF) it is just an augmented version of original Dickey-Fuller test.

Phillips–Perron test: It was named after two persons Peter C. B. Phillips and Pierre Perron unit root test as one Phillips Perron unit test and used to test the null hypothesis of time series analysis it builds on the base of the Dickey–Fuller test of the null hypothesis.

Correlation –Eviews software: Correlation is a statistical too; that show how strongly variables are related. it is one of the most commonly used statistical tool. A correlation describes the degree of relationship between two variables.

Johansen Cointegration- Eviews software: If two or more The series which are individually integrated between two or more time series but some linear combination of integration that has a lower order , then the time series is cointegrated.

Granger Causality Tests- Eviews software: The Granger causality test determines whether one time series is helpful in forecasting another. Granger causality in economics could be tested for measuring the ability that predicts the future value of a time series using prior values of another time series.

Linear regression – spss: Linear regression is the relationship between two variables (scalar dependent variable and explanatory independent variable).

ARDL (Auto regressive distrusted lag) - Eviews software: It is also called as bound test. Giving lags to the data we have to check the ARDL using AIC (Akaike info criterion) and SIC (Schwarz criterion) criterion.

SCOPE OF THE STUDY

The study is from September 20 2016 to February 10 2017 the present study will consider on money in circulation with online banking transactions. The study is divided into three segments they are before demonetization, during demonetization and after demonetization. The online banking transactions which have been taken for this study are considered form RBI:

- Money in circulation
- Equity capital
- NIFTY
- Real time gross settlement (RTGS)
- National electronic fund transfer (NEFT)
- Immediate payment service (IMPS)
- Point of sale

LIMITATIONS OF THE STUDY

- For this study four months data has to be collected for month-wise (hole month) date- wise of various online banking transactions, some data was not available.
- Some online transactions only have half month data and total month data.
- Historical data has to be collected for Equity market capital and NIFTY

REVIEW OF LITERATURE

Pawan Kalyani-An Empirical Study of the Effects of Demonetization in India: Demonetization is the process where government declares the currently running currency notes illegal to be tender after the declaration is made. This kind of declaration is made in the year 2016, by Prime Minister Sh. Narendra Modi. After demonetization of Indian currency notes of Rs. 500/- and 1000/- and with the limit of withdrawal of rupees from bank account and rupees 2000/- from ATMs. There was acute shortage of money in market and daily transaction was severely affected. The last demonetization was done in the year 1978 where currency notes of 5000/- and 10,000/- were abolished and in year 2016 after a long gap, but this time people have many alternatives to make transactions and make transactions like with online banking, mobile banking, online shopping, e-wallets, credit cards, debit cards, UPI [Unified Payment Interface].

D.Mounika and R.Kadhrivel- Impact of Demonetization in E-Banking Demonetization is the act of stripping a currency unit of its status as legal tender. The opposite of remonetisation which a form of payment is restored as legal tender. Due to demonetization it affects the people to buy necessary products for daily necessities. Earlier only people who are having through knowledge about computers and electronic gadgets used to perform online mode. At the present the government is encouraging and sometimes making compulsion to perform online financial transactions. The elimination of corruption and eradication due to this demonetization the consumer attitudes towards the usefulness and willingness to use Internet e banking where identified and measured. For the consumer shifting from cash transform to cashless transactions such as Paytm, debit cards and Credit Cards. And online banking user is expected to perform transactions online such as checking account balance and transforming funds between.

K.Veerakumar- Study on people impact on demonetization:

The demonetization had a great significant and immediate impact on the state of the Indian economy. In this paper, an attempt has been made to find impact of demonetization on the public. Samples of 100 respondents were randomly selected from Coimbatore District. It is found that four variables namely gender, age, annual income, occupation have significant association with the impact of demonetization. It also results that demonetization helps to destroy black money is the first ranking given by the respondents and it is followed by corruption, terrorism etc.

Arvind Kumar:

Demonetization effected the Indian economy in the form of liquid. Demonetizing is positive move towards to a cashless economy with a focus on electronic transactions is being started. Increasing use of credit/debit cards, net banking and other online payment mechanisms will be positive effect of demonetization, as these would not only lower transaction costs but many other benefits as well.

Sacchidananda mukherjee, Sudhansh, Mr.Senguta, Sunjali tendon and Sri hari nayudu kavita Rao

The study was in favor of demonetization that cash which has been kept as black money should be collected and use for the growth of economy. Short run and long run impacts are also measured in the study. The impact may depend upon the government that decides for remonetise.

DATA ANALYSIS AND INTERPRETATION

Data of RTGS, NEFT, IMPS, POS, Money in circulation, Equity market capital and NIFTY Before During and After Demonetization taken as date wise and done average on weekly basis.

Stationary test (unit root test):

Money in circulation	Before DCIRB		During CIRRD		After DDCIRA	
	ADF		KPSS		ADF	
	t-statis	Prob*	LM-statis	Prob*	t-statis	Prob*
	-11.913	0.0003	0.4577	0.0004	-4.057	0.036
1%level	-5.604		0.739		-5.604	
5%level	-3.694		0.463		-3.694	
10%level	-2.982		0.347		-2.98	

* *Source: Compiled through E-Views version-6*

Table.1.1

RTGS	Before RTGSB		During RTGSD		After DDDDRTGSA	
	ADF		ADF		ADF	
	t-statis	Prob*	T-statis	Prob*	t-statis	Prob*
	-3.379	0.0515	-5.489	0.005	-14.59	0.0014
1%level	-4.803		-4.803		-8.033	
5%level	-3.4033		-3.403		-4.541	
10%level	-2.841		-2.841		-3.380	

* *Source: Compiled through E-Views version-6*

Table 1.2

IMPS	Before DDIMPSB		During IMPSD		After IMPSA	
	ADF		ADF		ADF	
	t-statis	Prob*	LM-statis	Prob*	t-statis	Prob*
	-3.670	0.0511	-0.385	0	-4.135	0.0262
1%level	-5.604		-0.739		-5.119	
5%level	-3.694		-0.463		-3.519	
10%level	-2.982		-0.347		-2.898	

* *Source: Compiled through E-Views version-6*

Table 1.3

NEFT	Before DNEFTB		During NEFTD		After NEFTA	
	ADF		ADF		ADF	
	t-statis	Prob*	t-statis	Prob*	t-statis	Prob*
	-4.742	0.0143	-3.381	0.0581	-3.603	0.0456
1%level	-5.119		-5.119		-5.119	
5%level	-3.519		-3.519		-3.519	
10%level	-2.898		-2.898		-2.898	

* *Source: Compiled through E-Views version-6*

Table 1.4

POS	Before POSB		During POSD		After DDPOSA	
	KPSS		ADF		ADF	
	LM-statis	Prob*	t-statis	Prob*	t-statis	Prob*
	-0.194	0.0184	-3.385	0.0578	-4.885	0.0177
1%level	-0.739		-5.119		-5.604	
5%level	-0.463		-3.519		-3.694	
10%level	-0.347		-2.898		-2.982	

* *Source: Compiled through E-Views version-6*

Table 1.5

EQUITY MARKET CAPITAL	Before DEQCAPB		During DDDEQCAPD		After EQCAPA	
	ADF		ADF		KPSS	
	t-statis	Prob*	t-statis	Prob*	LM-statis	Prob*
	-7.111	0.0036	-4.559	0.0331	-0.326	0.00.35
1%level	-5.604		-6.423		-0.739	
5%level	-3.694		-3.984		-0.463	
10%level	-2.982		-3.120		-0.347	

* *Source: Compiled through E-Views version-6*

Table 1.6

CORELATION:

BEFORE DEMONETIZATION

	DCIRB	RTGSB	DDIMPSB	DNEFTB	POSB
DCIRB	1	---	---	---	---
RTGSB	0.225	1	---	---	---
DDIMPSB	0.425	0.445	1	---	---
DNEFTB	0.4052	0.6133	0.559	1	---
POSB	0.470	0.389	0.6229	0.5643	1

* *Source: Compiled through E-Views version-6*

Table 1.7

The above table of correlation result indicates between the money in circulation and online banking transactions before demonetization period shows that all online transactions are positively correlated with money in circulation.

DURING DEMONETIZATION

	CIRD	RTGSD	IMPSD	NEFTD	POSD
CIRD	1	---	---	---	---
RTGSD	0.702	1	---	---	---
IMPSD	0.237	0.0201	1	---	---
NEFTD	0.202	0.0172	0.00	1	---
POSD	0.1758	0.0183	0.0001	0.000	1

** Source: Compiled through E-Views version-6*

Table 1.8

The above table of correlation result indicates between money in circulation abd online banking transactions during demonetization period it shows that the relation between money in circulation and online banking transactions have positive correlation.

AFTER DEMONETIZATION

	DDCIRA	DDDDRTGSA	IMPSA	NEFTA	DDPOSA
DDCIRA	1	---	---	---	---
DDDDRTGSA	0.0782	1	---	---	---
IMPSA	0.4305	0.3476	1	---	---
NEFTA	0.6172	0.9555	0.6027	1	---
DDPOSA	0.0064	0.0762	0.3435	0.6883	1

Source: Compiled through E-Views version-6

Table 1.9

The above table of correlation result indicates between money in circulation abd online banking transactions during demonetization period it shows that the relation between money in circulation and online banking transactions have positive correlation

BEFORE DEMONETIZATION

*Johansen co-integration test:

Hypothesises		Trace	0.05	
No. of CE(s)	Eigen value	Statistic	Critical Value	Probability. **
None *	0.920652	115.9125	69.81889	0.0000
At most 1 *	0.736155	57.63260	47.85613	0.0046
D(CIRB)	-1.180791	0.425522		
D(IMPSB)	0.052407	-0.393914		
D(NEFTB)	3.251858	4.648783		
D(POSB)	-0.011320	-0.062679		
D(RTGSB)	0.144130	0.322170		

Source: Compiled through E-Views version-6

Table 1.10

The above analysis of Johansen co-integration test has been applied between the money in circulation to online banking transactions for the period of demonetization. The probability value is observed to be significant hence it states that data between the variables is observed to be co-integrated.

*Granger Causality Test

RTGS

Null Hypothesis:	Observations	Statistic-f	Probability.
DDRTGSD does not Granger Cause DDCIRD	8	0.01208	0.988
DDCIRD does not Granger Cause DDRTGSD		1.49143	0.3551

Source: Compiled through E-Views version-6

Table 1.11

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.35 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on RTGS.

NEFT

Null Hypothesis:	Observation	Statistic-F	Probability.
DDNEFTD does not Granger Cause DDCIRD	8	2.16E-02	9.79E-01
DDCIRD does not Granger Cause DDNEFTD		0.00629	0.9937

Source: Compiled through E-Views version-6

Table 1.12

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.99 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on NEFT.

IMPS

Null Hypothesis:	Observations	Statistic-F	Probability.
DDIMPSD does not Granger Cause DDCIRD	8	0.03859	0.9626
DDCIRD does not Granger Cause DDIMPSD		0.00627	0.9938

Source: Compiled through E-Views version-6

Table 1.13

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.99 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on IMPS.

POS

Null Hypothesis:	Observations	Statistic-F	Probability.
DDPOSD does not Granger Cause DDCIRD	8	9.86E-03	9.90E-01
DDCIRD does not Granger Cause DDPOSD		0.89025	0.4971

Source: Compiled through E-Views version-6

Table 1.14

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.49 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on POS (CARDS).

DURING DEMONETIZATION

*Johansen co-integration test:

Hypothesises		Trace	0.05	
No. of CE(s)	Eigen value	Statistic	Critical Value	Probability**
None *	0.908010	133.8952	69.81889	0.0000
At most 1 *	0.727941	79.01557	47.85613	0.0000
At most 2 *	0.636473	49.07562	29.79707	0.0001
At most 3 *	0.469934	25.80189	15.49471	0.0010
At most 4 *	0.385574	11.20254	3.841466	0.0008
D(CIRD)	-0.685723	1.598312		
D(IMPSD)	0.029210	0.171230		
D(NEFTD)	-0.089754	-0.055693		
D(POSD)	0.666691	0.131568		
D(RTGSD)	0.001995	0.006517		

Source: Compiled through E-Views version-6

Table 1.15

The above analysis of Johansen co-integration test has been applied between the money in circulation to online banking transactions for the period of demonetization. The probability value is observed to be significant hence it states that data between the variables is observed to be co-integrated.

*Granger Causality Test

RTGS

Null Hypothesis:	Observations	Statistic-F	Probability.
DDRTGSD does not Granger Cause DDCIRD	8	0.01208	0.988
DDCIRD does not Granger Cause DDRTGSD		1.49143	0.3551

Source: Compiled through E-Views version-6

Table 1.16

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.35 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on RTGS.

NEFT

Null Hypothesis:	Observations	Statistic-F	Probability.
DDNEFTD does not Granger Cause DDCIRD	8	2.16E-02	9.79E-01
DDCIRD does not Granger Cause DDNEFTD		0.00629	0.9937

Source: Compiled through E-Views version-6

Table 1.17

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.99 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on NEFT.

IMPS

Null Hypothesis:	Observations	Statistic-F	Probability.
DDIMPSD does not Granger Cause DDCIRD	8	0.03859	0.9626
DDCIRD does not Granger Cause DDIMPSD		0.00627	0.9938

Source: Compiled through E-Views version-6

Table 1.18

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.99 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on IMPS.

POS

Null Hypothesis:	Observations	Statistic-f	Probability.
DDPOSD does not Granger Cause DDCIRD	8	9.86E-03	9.90E-01
DDCIRD does not Granger Cause DDPOSD		0.89025	0.4971

Source: Compiled through E-Views version-6

Table 1.19

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.49 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on POS (CARDS).

AFTER DEMONETIZATION

*Johansen co-integration test:

Hypothesises		Trace	0.05	
No. of CE(s)	Eigen value	Statistic	Critical Value	Probability.**
None *	0.837216	88.38307	69.81889	0.0008
At most 4 *	0.170003	4.285651	3.841466	0.0384
D(CIRB)	0.338467	0.213700		
D(IMPSB)	-1.248752	-1.063031		
D(NEFTB)	-63.63086	-6798.519		
D(POSB)	-0.042860	-0.018467		
D(RTGSB)	36.56339	-47.08459		

Source: Compiled through E-Views version-6

Table 1.20

The above analysis of Johansen co-integration test has been applied between the money in circulation to online banking transactions for the period of demonetization. The probability value is observed to be significant hence it states that data between the variables is observed to be co-integrated.

*Granger Causality Test

RTGS

Null Hypothesis:	Observation	Statistic-F	Probability
DDDRTGSA does not Granger Cause DDCIRA	7	0.22711	0.8149
DDCIRA does not Granger Cause DDDRTGSA		0.12501	0.8889

Source: Compiled through E-Views version-6

Table 1.21

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.88 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on RTGS.

NEFT

Null Hypothesis:	Observations	Statistic-F	Probability
DDNEFTA does not Granger Cause DDCIRA	8	0.18382	0.8408
DDCIRA does not Granger Cause DDNEFTA		0.01591	0.9843

Source: Compiled through E-Views version-6

Table 1.22

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.98 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on NEFT.

IMPS

Null Hypothesis:	Observations	Statistic-F	Probability
DDIMPSA does not Granger Cause DDCIRA	8	0.43979	0.68
DDCIRA does not Granger Cause DDIMPSA		1.64497	0.3294

Source: Compiled through E-Views version-6

Table 1.23

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.32 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on IMPS.

POS

Null Hypothesis:	Observations	Statistic-F	Probability
DDPOSA does not Granger Cause DDCIRA	8	0.03982	0.9615
DDCIRA does not Granger Cause DDPOSA		0.00016	0.9998

Source: Compiled through E-Views version-6

Table 1.24

The above analysis of Granger causality of null hypothesis indicates that the probability is observed 0.99 greater than 0.05 hence the null hypothesis has been rejected and alternative is accepted. It indicates that the money in circulation is having the influence on POS (CARDS).

LINEAR REGRESSION

BEFORE DEMONETIZATION

Model	Standardized Coefficients Beta	R	Sig.
(Constant)	16628.02	1.00	0.00
RTGS	1.408	1.00	0.00
NEFT	0.497	1.00	0.00
IMPS	0.708	1.00	0.00
POS	-2.221	1.00	0.00

a. Dependent Variable: currency in circulation

Source: Compiled through SPSS version-20

Table 1.25

The above analysis of linear regression model has been applied on fund flow s through electronic mode that is online banking and money in circulation with public the beta coefficient value reflects that RTGS has got influenced very high in positive way by the money in circulation comparing with other online transactions the POS is negatively influenced by the money in circulation before demonetization.

DURING DEMONETIZATION

Model	Standardized Coefficients Beta	R	Sig.
(Constant)	-60790.2	1	0
RTGS	3.986	1	0
NEFT	1.911	1	0
IMPS	4.812	1	0
POS	-0.991	1	0

a)Dependent Variable: currency in circulation

Source: Compiled through SPSS version-20

Table 1.26

The above table indicates the linear regression result of money in circulation influence on electronic transaction by the banks during the demonetization period the beta coefficient value result reveals that IMPS and RTGS ate positively influenced by the money in circulation but during the demonetization period the NACH and POS are slightly negatively influenced by the money in circulation.

AFTER DEMONETIZATION

Model	Standardized Coefficients Beta	R	Sig.
(Constant)	-49375.2	1	0
RTGS	4.768	1	0
NEFT	1.678	1	0
IMPS	-3.707	1	0
POS	-3.456	1	0

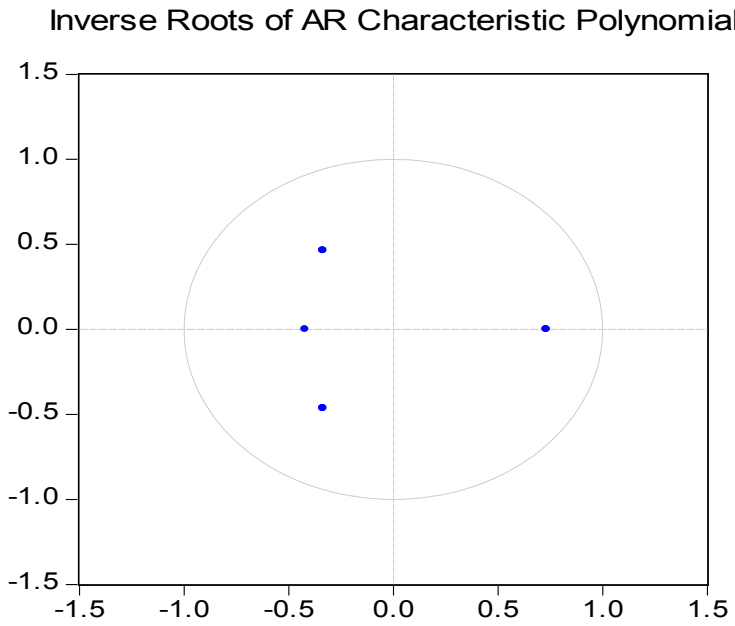
a. Dependent Variable: currency in circulation

Source: Compiled through SPSS version-20

Table 1.27

The above analysis of linear regression indicates the result after demonetarization period the beta coefficient value result indicated i.e., IMPS and POS are negatively influenced by the money in circulation the other online banking transactions after demonetization period is observed to be positively influenced by the money in circulation.

VAR-VECTOR AUTO REGRESSION



Graph 1.1

From above graph the polynomial indicates the distribution of data for selected variables of online banking transactions with money in circulation the AR roots were following inside the circle which indicates the data is normally distributed between the money in circulation and selected banking online transactions. Hence the vector auto regression can be applied.

ARDL (Auto Regressive Distributed Lag)

Variable	**Co efficient**	**Standard Error**	**Statistic-t**	**Probability**
Constant	-0.084758	0.455729	-0.185984	0.8643
D(CIRB(-1))	0.462720	1.275845	0.362677	0.7409
D(CIRB(-2))	-0.319523	0.847493	-0.377021	0.7312
D(CIRB(-3))	-0.322649	1.650908	-0.195437	0.8575
D(IMPSB(-1))	1.285137	5.221828	0.246109	0.8215
D(IMPSB(-2))	3.287868	7.335234	0.448229	0.6844
D(IMPSB(-3))	-1.910398	9.725042	-0.196441	0.8568
D(NEFTB(-1))	0.036773	0.121163	0.303498	0.7813
D(NEFTB(-2))	0.019107	0.078859	0.242291	0.8242
D(NEFTB(-3))	0.032541	0.090599	0.359173	0.7433
D(POSB(-1))	0.347643	0.684279	0.508042	0.6464
D(POSB(-2))	-0.028939	0.426461	-0.067857	0.9502

D(POSB(-3))	-0.136451	0.345809	-0.394585	0.7195
D(RTGSB(-1))	1.549210	6.117598	0.253238	0.8164
D(RTGSB(-2))	-0.674056	3.799865	-0.177390	0.8705
D(RTGSB(-3))	-2.213373	4.810891	-0.460076	0.6768
RESID(-1)	-0.443914	1.436274	-0.309074	0.7775
RESID(-2)	0.882439	1.448011	0.609414	0.5853

**Dependent Variable: D(MONEYB)*

**Method: Least Squares*

Table 1.28

For this lag model we have to check the serial correlation and stability. We have to do LM test and CUSUM test to study long run and short run association of money in circulation with selected online banking transactions.

Breusch-Godfrey Serial Correlation LM test:

Variable	**Co efficient**	**Standard Error**	**Statistic-t**	**Probability**
Constant	-0.084758	0.455729	-0.185984	0.8643
D(CIR)B(-1))	0.462720	1.275845	0.362677	0.7409
D(CIRB(-2))	-0.319523	0.847493	-0.377021	0.7312
D(CIRB(-3))	-0.322649	1.650908	-0.195437	0.8575
D(IMPSB(-1))	1.285137	5.221828	0.246109	0.8215
D(IMPSB(-2))	3.287868	7.335234	0.448229	0.6844
D(IMPSB(-3))	-1.910398	9.725042	-0.196441	0.8568
D(NEFTB(-1))	0.036773	0.121163	0.303498	0.7813
D(NEFTB(-2))	0.019107	0.078859	0.242291	0.8242
D(NEFTB(-3))	0.032541	0.090599	0.359173	0.7433
D(POSB(-1))	0.347643	0.684279	0.508042	0.6464
D(POSB(-2))	-0.028939	0.426461	-0.067857	0.9502
D(POSB(-3))	-0.136451	0.345809	-0.394585	0.7195
D(RTGSB(-1))	1.549210	6.117598	0.253238	0.8164
D(RTGSB(-2))	-0.674056	3.799865	-0.177390	0.8705
D(RTGSB(-3))	-2.213373	4.810891	-0.460076	0.6768
RESID(-1)	-0.443914	1.436274	-0.309074	0.7775
RESID(-2)	0.882439	1.448011	0.609414	0.5853

**F-Satistic : 0.330778*

**Prob.Chi- Square(2) 0.1500*

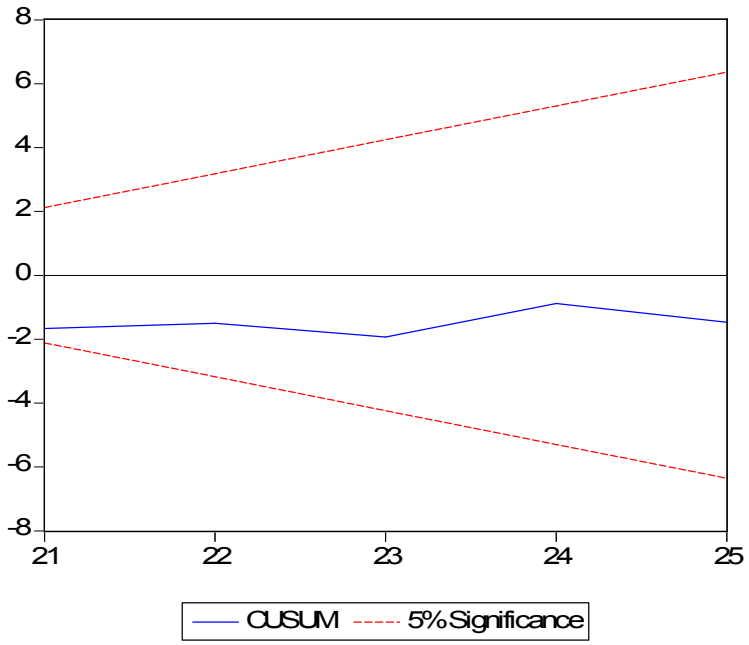
Table 1.29

The above analysis on vector auto regression model has been applied to predict the future movement of online banking transactions based on money in circulation.

- From the above table the probability is 0.150 we can reject null hypothesis rather we accept this model it has no serial correlation.

- The coefficient values of POS (cards) are expected to increase in near future after demonetization period because the coefficient value is observed in positive.

- The coefficient values of IMPS are expected to decrease in near future after demonetization period because the coefficient value is observed slightly change in negative.
- The coefficient values of NEFT are expected to increase in near future after demonetization period because it is positive.
- The coefficient values of RTGS are expected to decrease in near future after demonetization period because the coefficient value is observed in negative



Graph 1.2

From the above graph CUSUM is between the two doted lines which indicated that this model is stable. Above and below these doted lines indicates the in significant.

FINDINGS

- The correlation of Money in circulation with online banking transactions RTGS IMPS NEFT and POS are positive in all the three segments i.e before demonetization during demonetization and after demonetization.
- The Johansen co-integration test has been applied between the money in circulation to online banking transactions for the period of before demonetization, during demonetization, after demonetization.

The probability value is observed to be significant hence it states that data between the variables is observed to be co-integrated.

- The granger causality test indicates money in circulation had influenced on all the online banking transactions the probability value of null hypothesis is observed to be greater than significant value(0.05).
- The linear regression of fund flows between money in circulation and online banking transaction before demonetization it is observed that the coefficient value of RTGS influenced positively very high.
- The linear regression coefficient values reveal that IMPS & RTGS are positively influenced by money in circulation during demonetization period.
- The result of liner regression after demonetization shows negative influence on IMPS & POS by money in circulation.
- The result of CUSUM test indicates that the variables and money in circulation are stable.

CONCLUSION

The present study concludes the title of demonetization effect on online transactions the study has been bifurcated in three different periods i.e., before demonetization period, during demonetization period and after demonetization period. The implementation has been initiated by Government of India with the help of current banking system from 10.Nov.2016 to 31.Dec.2016. The present study has considered online transactions which are routed through RBI, The study result indicated due to the demonetization volume of online transaction of banking. Transactions of banking segment had increased enormously during and after demonetization period compared with before demonetization. The reduction of money in circulation obviously will have a positive influence on various modes of online transactions in the present study six different online transactions were considered and observed POS had influenced by money in circulation negatively in all three different periods . Hence there is a need to do research in future by considering the various economic parameters and technology influence on citizens and online transactions. This may give more accurate information so that the RBI can take proactive measures to implement the effective digitalization in banking sector.

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