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**STANDING COMMITTEE ON FINANCE
(2017-18)**

SIXTEENTH LOK SABHA

MINISTRY OF FINANCE (DEPARTMENT OF FINANCIAL SERVICES)

TRANSFORMATION TOWARDS A DIGITAL ECONOMY

FIFTY-SIXTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

January, 2018 / Pausha, 1939 (Saka)

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Presented to Lok Sabha on 3 January, 2018

Laid in Rajya Sabha on 3 January, 2018

LOK SABHA SECRETARIAT
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January, 2018 / Pausa, 1939 (Saka)

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COMPOSITION OF STANDING COMMITTEE ON FINANCE – 2017-18

Dr. M. Veerappa Moily - Chairperson

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3. Shri Bandaru Dattatreya
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| 3. | Shri Ramkumar Suryanarayanan | - | Additional Director |
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INTRODUCTION

I, the Chairperson of the Parliamentary Standing Committee on Finance, having been authorized by the Committee, present this Fifty-sixth Report on the subject 'Transformation towards a digital economy' pertaining to the Ministry of Finance (Department of Financial Services).

2. The Committee heard the views of the representatives of the Ministry of Finance (Department of Expenditure, Economic Affairs and Financial Services) on 25 May, 2017 and on 1 June, 2017 of Indian Banks Association (IBA), Punjab National Bank (PNB) and Oriental Bank of Commerce (OBC). At their sitting held on 8 June, 2017, the Committee heard the views of Ministry of Electronics and Information Technology (MeiTY) and Unique Identification Authority of India (UIDAI) and on 12 July and 13 July, 2017 of Reserve Bank of India (RBI) and Ministry of Home Affairs (MHA), respectively.

The Committee also heard the views of Data Security Council of India (DSCI) and National Institution for Transforming India (NITI) on 20 July, 2017 and of Ministry of Electronics and Information Technology (MeiTY) on 3 November, 2017. At their sitting held on 16 November, 2017, the Ministry of Communications (Department of Telecommunications), Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL) deliberated before the Committee. Cellular Operators Association of India (COAI) and Internet and Mobile Association of India (IAMAI) appeared on 30 November, 2017 and submitted their views before the Committee.

The Committee also heard the views of experts viz. Professor Manindra Agrawal and Professor Sandeep Shukla from Indian Institute of Technology (IIT), Kanpur at their sitting held on 27 July, 2017.

3. The Committee at their sitting held on 28 December, 2017 considered and adopted the draft report and authorised the Chairperson to finalise the same and present it to the Parliament.

4. The Committee wish to express their thanks to the officials, representatives and experts of the aforementioned Ministries, Organizations and Associations for appearing before the Committee and furnishing the requisite material and information which were desired in connection with the examination of the subject.

5. For facility of reference, the observations/recommendations of the Committee have been printed in bold in Part II of the Report.

NEW DELHI
02 January, 2018
12 Pausha, 1939 (Saka)

DR. M. VEERAPPA MOILY
Chairperson
Standing Committee on Finance

DRAFT REPORT

CHAPTER - I

Trends in Digitalisation

A. Introductory

1.1. The Digital India Programme envisions transforming India into a Digitally empowered society and knowledge economy by making available digital infrastructure, digital governance and digital services to every citizen. It is an Umbrella Programme that covers multiple Ministries and Departments. Several projects/schemes being implemented under nine pillars of Digital India programme are being implemented and funded by various central Ministries/Departments of Government of India and State/UT Governments. The Digital India programme covers nine pillars of growth areas namely Broadband Highways, Universal Access to Mobile Connectivity, Electronics Manufacturing, e-Governance: Reforming Government through Technology, Public Internet Access Programme – National Rural Internet Mission, e-Kranti - Electronic Delivery of Services, IT for Jobs, Information for All and Early Harvest Projects.

1.2. Promotion of a digital payments ecosystem is a natural extension of the Digital India programme and has the potential to transform India's economy by formalization of financial transactions. India's cash-in-circulation (CIC) at the end of March 2017 amounted to 8.8 percent of GDP, down from 12.2 percent in the previous year (RBI Annual Report 2017). India ranks very low in respect of digital transactions as well as number of digital payment points per million persons. Given this situation, a transition to a digitized economy is not only the natural trajectory of progression to a developed economy but also an expedient necessity.

1.3. Financial inclusion has been one of the foremost challenges for India. The RBI appointed Nachiket Mor Committee had in its Report (December 2013) observed that despite significant progress in bank-led payment systems, there remained a vast gap in the availability of basic payment services for small business and low-income households. Digital payments allow for services to be delivered at a lower cost, afford greater scalability and enable small and micro enterprises to access formal financial services and benefits of e-commerce. This in turn helps in fostering economic growth and financial inclusion. All this has been made possible by advancing technology as

well as innovation that has been able to deliver robust, secure and convenient payment solutions.

B. Background

1.4 Digitalization of transactions is an imperative for India; it will benefit the economically disadvantaged, the middle class, the businesses and the government. Digitalization will create a multiplier benefit in efficiency of capital use through greater transparency, traceability of transactions, enforceability of law and significantly buoyed tax revenues for social welfare. In addition to accelerating financial inclusion, opening up new business models and markets, digital payments will improve the State's ability to curb tax leakages and reduce cash related costs.

1.5 The Government in February 2016 constituted a high-level Committee under the Chairmanship of Principal Adviser in NITI Aayog, Shri Ratan P. Watal to review the payment system in the country and recommend measures and incentives for encouraging digital payments. The Committee submitted its Report in December 2016 and recommended inter-alia (a) making regulations of payments independent from the function of central banking, (b) updating the Payment and Settlement Systems Act, 2007, (c) promoting digital payments and receipts within Government, (d) creating a fund to expand digital payments, (e) upgrading present payment systems and (f) enabling inter-operability of payments.

1.6 The NITI Aayog constituted (November 30, 2016) a Committee of Chief Ministers with Chief Minister of Andhra Pradesh as Convenor for suggesting measures to enable all sections of the population to migrate to a digital mode of payment and recommend measures to enable India to leapfrog into advanced digital payment systems. The Report of the Committee of Chief Ministers was presented on January 24, 2017. The Committee in its Interim Report has observed that given the scale and pace for this change, it will require far-reaching, innovative and bold decisions to facilitate behavioural change amongst the people in moving to a digital platform. The Committee recommended that the Government needs to take the following actions:

- (i) Set targets with clear milestones and a monitoring system for follow-up;
- (ii) Expand and strengthen the physical infrastructure, including originating and acceptance infrastructure, network connectivity, etc.

- (iii) Formulate an incentive structure that makes digital payments more attractive option vis-à-vis cash and remove all disincentives currently associated with digital transactions;
- (iv) Formulate institutional, policy, regulatory changes that promote adoption of digital payment mode;
- (v) Formulate a strong cyber security policy for digital payments;
- (vi) Formulate a dispute settlement mechanism and insurance policy on digital payments;
- (vii) Patenting new technologies like AEPS/ Aadhaar Pay;
- (viii) Create awareness and spread financial literacy.

1.7 The Government vide Cabinet Secretariat Notification No.1/21/1/2017.Cab dated 15-2-2017 has amended the Allocation of Business Rules, 1961 and Ministry of Electronics and Information Technology (MeitY) has been assigned the responsibility of “Promotion of Digital Transactions including Digital Payments”.

C. Announcements on Digital Payments and Action Taken (Budget 2017-18)

1.8 The Government has in the Union Budget for 2017-18 taken several initiatives to promote a digital payment ecosystem. The Government has announced the setting up of a Mission with a target of 2,500 crore digital payment transactions during the Financial Year through Unified Payment Interface (UPI), Unstructured Supplementary Service Data (USSD), Aadhaar Pay, Immediate Payment Service (IMPS) and debit cards.

1.9 The volume of digital transactions during the year 2015-16 and 2016-17 in various modes is tabulated below:

Operated by/Modes	Digital Payments	
	2015-16 Volume(In Mn)	2016-17 Volume(In Mn)
AePS	95	343
IMPS	221	524
USSD	0	42
UPI+BHIM	0	18
Debit Card	1950	2399
Total Five Modes	2276	3280
RTGS	NA	108
NEFT	1253	1622
NACH (Inter-bank)	1393	2014
NETC (Toll)	0	24
mWallet	604	1963
Mobile banking	NA	977
Total All modes	5524	9988

1.10 In the Budget, it was targeted to introduce additional 10 lakh PoS terminals by March 2017. This target has been achieved and Banks have installed 12.33 lakh new PoS terminals by 31st March 2017. With regard to the target of deployment and activation of 20 lakh Aadhaar based PoS by September 2017, BHIM Aadhaar has been launched on 14th April, 2017 and around 1.16 lakh BHIM Aadhaar PoS have been installed. Further, targets have been assigned to the Banks and 27 Banks & 5 RRBs are live on BHIM Aadhaar.

1.11 Unified Payments Interface (UPI) was launched in August, 2016 for real time payments from Person to Person/Merchant/ Government Payments. This platform can be accessed through BHIM and bank specific UPI App on smart phones. As a prerequisite, user must have mobile banking registration with the Issuer Bank and make payments through their Virtual ID. Since, launch of UPI, approximately 3.3 crores of Digital Transactions of value of Rs.11,849 crore have taken place on UPI App of 44 Banks.

1.12 The BHIM App was launched on 30th December 2016 and within a span of 5 months, around 1.5 crore persons have downloaded the BHIM App. Around 2.34 million persons have so far completed 1.34 crore financial transactions amounting to Rs. 4,113 crores on the BHIM App. BHIM is a convenient and easy to use App that enables Person to Person and Person to Merchant digital payment transactions using UPI, at zero cost. The App requires a user to link his Bank Account and set a PIN number so as to enable a digital transaction.

1.13 The 'Referral Bonus Scheme for Individuals' to popularise BHIM was launched on 1^{4th} April, 2017. Under the scheme, the Referrer receives a bonus of Rs.10/- and the Referee (new user) person receives a bonus of Rs.25/- on completion of minimum three unique transactions on BHIM App with aggregate value of Rs.50/-. The bonus amount is directly credited to the individual's Bank Account once he meets the required threshold. 8715 individuals have referred the BHIM App and have become eligible to receive incentive under the Scheme.

1.14 Similarly, the 'Cash back Scheme for Merchants' was launched on 14th April, 2017. Under this scheme, merchants receive cash back on undertaking minimum 50 BHIM transactions (at least 20 transactions from unique customers) in a month with minimum transaction value of Rs.25/-. The cash back is directly credited to the merchant's bank account on a monthly basis. Around 500 merchants have received incentives under this scheme.

1.15 NPCI has upgraded the BHIM App to enable ease of transactions and based on user feedback, the revised version 1.4 is expected to be launched shortly. A nationwide media campaign to create requisite awareness and popularise the BHIM App on a mass scale is under finalization. The Common Service Centres (CSCs) are also being mobilised along with select Ministries to ensure wide adoption of the BHIM App.

1.16 On 14th April 2017, BHIM Aadhaar was also launched for Aadhaar enabled payments. It allows merchants to receive digital payments using only Aadhaar number and fingerprint of the customer. The interface uses Aadhaar to connect with merchant's as well as customer's account. In BHIM Aadhaar Pay, payment goes directly into the merchant's bank account in real time. Using BHIM Aadhaar, user need not to have a card or mobile and can pay at any shop only by using his/her thumb impression. A scheme has been launched to promote BHIM AADHAAR amongst merchants. An incentive of 0.50% of transaction value is payable to merchants for transaction upto Rs. 2000 with an upper cap on incentive to merchants of Rs. 10/-. The incentive of 0.5% can be utilized to defray operating costs to the extent of 0.25% and the balance 0.25% be passed on as an additional incentive to the merchant. The maximum incentive is restricted to Rs. 2000/- per merchant per month.

1.17 QR code system is an easy method of payment for users, which is presently used by different merchant outlets across the country. QR code can be static (bank generated) or Dynamic (transaction Specific-customer generated). Already, around 7 lakh QR code have been deployed by leading 19 Banks.

1.18 Further, Digital Payment Transactions Targets have been assigned to 17 Central Ministries having high citizen touch-points and significant potential to upscale digital financial transactions. The Ministries/Departments have identified and designated Nodal Officers for facilitating Digital transactions. MeitY has conducted four progress review meetings (March 6, 15, 29 and April 22) and one workshop with the designated Nodal Officers. The assigned target of each Ministry /Department includes digital transactions in the respective sector undertaken by State level bodies. Targets for undertaking digital financial transactions have also been allocated to 22 Public Sector and 16 Private Sector Banks on the basis of Bank Accounts. The targets allocated to the respective Ministry/Department are as follows.

Allocation of Targets for Union Ministries and Departments

S.No.	Ministry/Departments	Revised Digital Financial Transactions Targets
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		(No. in Crore)
1.	Ministry of Road Transport and Highways	584
2.	Ministry of Communications	563
3.	Ministry of Railways	282
4.	Ministry of Petroleum and Natural Gas	229
5.	Ministry of Human Resource Development	167
6.	Ministry of Power	101
7.	Ministry of Agriculture	120
8.	Dept. of Posts	114
9.	Ministry of Health and Family Welfare	110
10.	Ministry of Consumer Affairs, Food & Public Distribution	10
11.	Ministry of Rural Development	78
12.	Department of Animal Husbandry	70
13.	Department of Fertilizers	50
14.	Ministry of Culture	29
15.	Ministry of Urban Development	14
16.	Ministry of Home Affairs	3
17.	Ministry of Tourism	0.60
	Total	2525

1.19 A Mission titled 'DIGIDHAN Mission' to promote digital payments has been notified and is being activated.

D. Demonetisation and push towards digitalisation.

1.20 On 8th of November 2016, Government decided to demonetise the ₹ 500 and ₹ 1000 notes. These notes accounted for 86% of the country's cash supply. Measures taken by Reserve Bank of India (RBI) and Government of India.

- (i) The Government, RBI and the Banks took several measures to deal with the mammoth task.
- (ii) Aim was to remove any apprehension in the minds of the public and keep the public trust in the system as intact as before.
- (iii) Initial Concerns were inadequate cash, higher denomination ₹ 2000 created exchange problems and resistance among small vendors to accept non cash mode of payments.
- (iv) Old Currency exchange facilitated upto Rs. 4,500/- per person through banks, Post offices and selected organised retail outlets. Identity Proof required for exchanging the old notes. Hospitals, petrol pumps, railway ticketing allowed

- to accept old currencies for a limited period. Due to shortage of low value notes, toll collection was waived till 24/12/2017.
- (v) 1.2 lakh BCs and 1.3 lakh Post Offices were activated in rural areas to disburse cash and facilitate cash withdrawals from Bank Accounts.
 - (vi) Initially withdrawal limits were fixed at ₹ 20,000 per week and ₹ 10,000 per day from bank branches. However, no limits were prescribed for depositing old cash in own accounts. Extended dedicated windows in banks to deposit old notes. ATM withdrawal were limited to Rs. 2,500/- per day.
 - (vii) Gradual phase out of limits on cash withdrawal based on the availability of new currency.
 - (viii) Agriculture traders allowed to withdraw ₹ 50000. Farmers were allowed to draw upto ₹ 25000/- per week in cash from their loan or deposit accounts.
 - (ix) Through Repo/Reverse Repo window, 100% incremental CRR on NDTL for a limited period, increased limit on Market Stabilisation Schemes, RBI managed excess liquidity in the system.
 - (x) Banks Recalibrated ATMs to dispense new ₹ 2000/500 notes on a priority basis.
 - (xi) Introduced indelible ink to prevent repeat exchange by the same person across different banks .
 - (xii) 85% remonetisation completed. Incidentally pushed Digitalisation.
 - (xiii) More small vendors started accepting digital payment modes (Cards/Wallets) and volume increased and demand for POS machines went up.

E Push Towards Digitalisation

- (i) Unified Payment Interface (UPI) already operational. Gained traction. Use of Virtual Payment Address [no need for bank name, branch, a/c no. mobile no, IFSC code etc]
- (ii) Introduced BHIM (Bharat Interface for Money) app which is a unified UPI app – can choose any bank supporting UPI & also supports *99#, Paytm, Aadhar, etc
- (iii) Launched Bharat QR Code a common standard for QR Code payment application uniform across banks, networks/VISA, Master Card, Rupay for

cashless electronics payments. World's first inter-operable payment acceptance solution.

- (iv) Aadhaar Pay enables to make cashless money transactions using Aadhaar No.& fingerprint for biometric authentication.
- (v) IBA Actively discussed with Banks/RBI/Network Agencies/OMCs regarding payment of incentive and MDR for debit card transactions.
- (vi) IBA participated in Global Exhibition of Services(Greater Noida) to popularise use of various digital payment channels/products.

Digital Payment Volumes (Millions of Transactions)

	Growth	Previous year	Current year
Mobile banking[Vol]	Gone up to 2.5 times	386.5 mn	976.8 mn
Mobile banking [Value]	Trebled	₹ 4 trillion (\$ 650 billion)	₹ 13 trillion (\$ 2 trillion)
PoS [nos]	83%	1.38 mn	2.53 mn
Debit Card [value]	Doubled	₹ 1.59 trillion	₹ 3.3 trillion
Mobile wallet & PPI Card [Vol]	Gone up to over 2.5 times	0.75 bln	1.96 bln

1.21 In response to a question as to whether the Country is fully prepared to move towards digitalisation as was planned after demonetisation, the National Institution for Transforming India (NITI), in a written reply stated that the idea of converting the economy to a less cash economy has not completed even one full year, some major steps have been taken for development of infrastructure supporting digital transactions for a rapid stride in this direction. Large scale awareness campaigns for promoting digital transactions, IEC initiatives at district level, introduction of disruptive technology to reduce costs of digital transactions, etc. have contributed towards promotion of digital payments. However given the size and scale of the task at hand, this would take time to show results. The following facts indicate India's shift towards embracing digitization:

- (i) Biometric Accounts: India has the unique advantage of being the only country with a billion biometric accounts. AEPS transactions are dependent on this unique identification and hence would get a boost with a high proportion of population covered under this net.

(ii) Mobile Subscribers: India has 1 billion plus mobile subscribers. A high subscriber base would ease adoption of digital transactions

(iii) Bank Accounts: The Pradhan Mantri Jan Dhan Yojana (PMJDY) is a major initiative to bring large unbanked segments into the formal financial system by undertaking a drive to open at least one bank account for every household. Having a bank account is the basic minimum requirement for adopting digital payments. PMJDY is aimed at bridging this gap and approx. 29 crore new accounts have opened under this scheme.

(iv) Internet: 35% population uses the internet at present

(a) Bharat Net: Optical Fibre Network to connect villages of India has seen rapid growth. In June, 2014 only 358 kms of optical fibre was laid. In January, 2017 1.72 lakh kms of optical fiber has been laid across more than 76,000 Gram Panchayats.

(v) PoS Machines: A phenomenal growth of 83% in PoS machines was seen during the last one year

(vi) BHIM App: Introduction of apps like BHIM may completely replace the use of PoS machines, credit and debit cards

(vii) Cashless townships: 75 townships¹ were declared as cashless townships

India thus has the unique opportunity to leverage JAM trinity to rapidly scale up the digital economy.

CHAPTER-2

Transformation towards Digital Economy

A. Digitalisation framework and background.

2.1 Indian economy is characterised by large proportion of informal enterprises and disproportionate use of cash. Indian labour market is dominated by informal employment with ~92% of labour force employed informally in 2011-12. Even the organised sector has seen increase in informal employment to a level of ~51% by 2011-12. India's use of cash

as a proportion of GDP has traditionally been on a higher side crossing 12% mark in 2007-08 and averaging 11-12% during the last 5 years. Personal consumption is also highly dominated by cash payments, reaching upto 95% of total personal consumption expenditure. Various other developing economies, especially BRICS (excluding India) and Indonesia, have been successful in achieving an optimum cash-to-GDP ratio of 3-8% despite some of them having lower capacity under digital infrastructure. Clearly, the propensity to use cash or digital payment modes is a strong function of individual behaviour, cost and ease of making payment. Google-BCG Report delineates the perceptible barriers for consumers to undertake digital payment – habit to use cash, complexity of digital payment instruments, limited reach, hidden charges and trust issues. High use of cash coupled with high informal sector in both real and financial fields raises the issue of existence of parallel economy, reduced tax base and resultant incidence of corruption.

Table (i)

IAMAI data on comparative quality of digital connectivity: India ranks second last in APAC region on average speed and threshold speed parameters.

Q1, 2017									
Global Rank	Country / Region	Avg. mbps	QoQ Change	YoY Change	Global Ranking	Country / Region	% above 4 mbps	QoQ Change	YoY Change
1	South Korea	28.6	9.30%	-1.70%	2	South Korea	98%	0.30%	0.60%
4	Hong Kong	21.9	-0.20%	10%	4	Thailand	97%	1.00%	1.20%
7	Singapore	20.3	0.80%	23%	13	Taiwan	95%	1.60%	2.40%
8	Japan	20.2	3.10%	11%	17	Singapore	94%	-0.80%	3.20%
16	Taiwan	16.9	7.90%	14%	20	Hong Kong	94%	0.60%	0.00%
21	Thailand	16	20%	49%	28	Japan	93%	0.10%	0.80%
27	New Zealand	14.7	14%	40%	32	New Zealand	91%	1.50%	0.90%
50	Australia	11.1	9.60%	26%	49	Vietnam	86%	4.20%	57%
58	Vietnam	9.5	15%	89%	57	Sri Lanka	82%	-6.50%	16%
62	Malaysia	8.9	9.10%	40%	59	China	81%	11%	85%
68	Sri Lanka	8.5	17%	58%	61	Australia	81%	6.00%	3.80%
74	China	7.6	20%	78%	71	Indonesia	76%	7.00%	66%
77	Indonesia	7.2	6.70%	59%	80	Malaysia	72%	4.60%	5.60%
88	India	6.5	17%	57%	104	India	42%	11%	81%
100	Philippines	5.5	20%	57%	107	Philippines	39%	26%	111%

India's standing amongst APAC in quality of service
Source: State of the internet, Q1, 2017, Akamai

Quality of Connectivity: India ranks second last in APAC regions on avg speed and threshold speed parameter

Table (ii)

Telecom Sector faces one of the highest levies in the world.

Regulatory Charges	Pakistan	Sri Lanka	China	Malaysia	Bangladesh	India
Service Tax, GST	18.0%-19.5% (Sales Tax)	25.51% Telecom Levy (VAT+MSL+NBT +ECL)	11.0% (VAT)	6.0% (GST)	19.45% (Supplementary duty + VAT + Surcharge)	15.0%*
License Fee	0.5% LF + R&D	-	--	0.5% ⁸	5.5% Adjusted Gross Revenue + DBT 50 mn (per 2G & 3G license)	8%
SUC	Cost Recovery	-	-	-	-	2% to 6 %

USO Fund	1.5% of Gross Revenue	-	-	6.0% of Weighted Net Revenue	1.0% of Adjusted Gross Revenue	5% included in License Fees
Other taxes	Sales Tax of PKR 250 on new or replacement SIM	-	-	-	SIM Tax of BDT 100 on new or replacement SIM	-
Total levy	20.5% to 22.0% + Cost recovery + SIM Tax	27.55% + IDD Levy	11%	12.5%	25.95% + BDT 50 mn per license + SIM Tax	25% to 29%
Telecom specific levy	2.5% + Cost Recovery + SIM Tax	~12.04% ⁷ + IDD Levy	-	6.5%	6.5% + BDT 50 mn per license + SIM Tax	10.0% to 14.0%

**Includes 14% (Service Tax) + 0.5% (Swachh Bharat Cess) + 0.5% (Krishi Kalyan Cess)*

Source: Analysys Mason, TRAI, Country Regulator Websites ; Operators

2.2 Government has taken several steps to bring this disproportionate segment of workforce and population within formal fold starting with PM's Jan Dhan Yojana in 2014. The scheme, since then, has been extremely successful in financial inclusion of the unbanked by opening 28 crore bank accounts till now. Further, a series of targeted interventions such as MUDRA Yojana and Stand-up India for credit extension, simplifications in labour laws, demonetization and GST implementation are aimed to formalize the Indian economy and reduce the use of cash. The benefits of going digital in monetary transactions are immense. Although not clearly perceived, cost of cash goes up to ~1.7 % of GDP as per some studies . RBI and commercial banks spend Rs. ~21000 crore (US \$3.5 billion) annually on currency operation costs – around half of that just in ATM operations. A digital turnaround will not only help in reducing this cost but also curbing other adverse implications of high cash circulation, like fake currency, black economy and consequentially augment tax revenues.

2.3 Digital payments have seen exponential rise in India, both in choice of options to the consumers as well as their adoption by the consumers during the last year. This sector has seen exceptional private and government participation in delivering value to citizens with increased convenience and security. Government regulation and policy framework has allowed incremental as well as transformational innovation led by private as well as public service providers.

2.4 The Interim Report of Committee of Chief Ministers on Digital Payments analysed the state of digital payments in the country and suggested targeted recommendations. The Committee suggested the need of setting a target for digital payments⁵ to help coordinate and drive the multiple efforts of various stakeholders towards achieving that goal. Other major recommendations of the Committee are: Setting up of a real-time dashboard for monitoring of digital payments and identifying laggard pockets Increasing the supply of origination and acceptance infrastructure such as

- (i) biometric machines, smartphones, POS machines etc. Promotion of AEPS for providing last mile reach to hinterlands and unbanked
- (ii) areas through banking correspondent networks Reduction in transaction costs, especially MDR, on various digital platforms by
- (iii) rationalising them on work done principle Curbing the use of cash in case of large value transactions
- (iv) Targeting low hanging fruits for quick results such as educational institutions,
- (v) fertilizer shops, insurance sector, PDS and LPG distribution

2.5 NITI Aayog has been instrumental in raising pan-India awareness on digital payments through DigiDhan campaign, DigiDhan Melas organised in 100 cities over 100 days, Lucky Grahak Yojana and DigiDhan Vyapar Yojana as incentives schemes for digital payment users and IEC campaign for on the ground activities in districts. To facilitate simplified interbank transactions with uniform user interface, NITI Aayog, in collaboration with National Payments Corporation of India (NPCI), also enabled a common platform BHIM for peer-to-peer payment transfers for users of all banks on UPI. For merchant transactions, BHIM Aadhaar has also been developed as an asset light acceptance infrastructure using the Aadhaar based payment systems. This would streamline digital acceptance infrastructure in terms of cost as well as processes thus enabling widespread adoption of digital payments, especially in small merchant segments. Development of an eco-system of payment and acceptance solutions has led to steep rise in digital payments. Some of the indicators of digital payments such as RTGS, NEFT, IMPS, cards at POS, Prepaid instruments etc. have witnessed significant rise in the last year.

2.6 As it can be inferred, the consumer facing retail modes of digital payments have grown significantly. IMPS, which includes newly launched UPI, has grown by 129% in volumes and 153% by value. Usage of debit cards at POS and prepaid instruments such as e-wallets have almost doubled in one year. The decision of the Government to demonetize certain legal tenders has given a spurt to digital payments, especially user friendly methods like UPI and USSD as the following data reflects:

B. Evolution of Digital Economy Goals for India

2.7 The current focus of digital payments campaign has been more towards changing consumer behaviour through awareness, better services and incentives. This has successfully worked as the adoption of such payment modes has risen significantly. Although there are quite large rural segments which have remained untouched by

Digidhan movement, newer capabilities of digital modes have to be tapped in order to transform the economy. Digital solutions go beyond cashless money transfers and payments and they can radically transform many economic activities such as credit access, tax payments and compliance, delivery of public services etc. Such tools, if well communicated and adopted, can raise private consumption significantly with large impact on the economy. The spread of smartphones and resulting data should enable providers to develop new financial services for the currently under-served areas and communities where current models of financial services haven't found it viable to serve. Following are some core areas where digital financial services can transform the current landscape and reach more citizens:

- (i) Alternative credit access
- (ii) Financial services inclusion for industries (MSMEs) – Supply Chain
- (iii) Digitization Special Focus on Small Merchants – Digitization and Tax Compliance
- (iv) Enhanced Government-citizen experience
- (v) Alternative Credit Access

2.8 The preponderance of informal credit, especially in rural India and to MSMEs, can be obviated by developments such as Peer-to-Peer Lending (P2PL) and India Stack. P2P lending is a form of crowd-funding used to raise loans which are paid back with interest. It can be defined as the use of an online platform that matches lenders with borrowers in order to provide unsecured loans. The borrower can either be an individual or a legal person requiring a loan. The interest rate may be set by the platform or by mutual agreement between the borrower and the lender. Fees are paid to the platform by both the lender as well as the borrower. The platform provides the service of collecting loan repayments and doing preliminary assessment on the borrower's creditworthiness. The fees go towards the cost of these services as well as the general business costs. The platforms do the credit scoring and make a profit from arrangement fees and not from the spread between lending and deposit rates as is the case with normal financial intermediation. Presently, there are around 30 start-up P2P lending companies in India. Some of these are involved in the business targeted at micro finance activities with the stated primary goal being social impact and providing easier access of credit to small entrepreneurs. They provide web-based platform to bring the lenders and the borrowers together. One of the main advantages of P2P lending for borrowers has been lower rates than those offered by money lenders/unorganized sector and the advantages for lenders are higher returns than what conventional investment opportunities offer. RBI has issued a consultation paper on issues of regulating P2P lending. India Stack is a complete set of

API for developers and includes the Aadhaar for Authentication (Aadhaar already covers over 1 billion people and will quickly cover the population of the entire nation), e-KYC documents (safe deposit locker for issue, storage and use of documents), e-Sign (digital signature acceptable under the laws), unified payment interface (for financial transactions) and privacy-protected data sharing within the stack of API. Together, the India Stack enables apps that could open up many opportunities in financial services, healthcare and education sectors of the Indian economy. What this essentially means is that developers and tech startups can now build software and create businesses around the readily available infrastructure offered through India Stack, thus opening a huge potential to tap into the booming smart-phone market in the country. India Stack can also transform how lending is done – based on purchase history and secured authentication, quick e-KYC and e-Sign of official documents.

2.9 Questioned on steps the Government has taken so far to ensure cheaper digital transaction costs for all categories of users to facilitate a qualitative shift from cash transactions, the National Institution for Transforming India (NITI) stated that Government has taken several initiatives towards rationalization of cost of digital payments including development of cheaper technologies. Few of the initiatives taken since demonetization, are as mentioned below:

(i) Committee of Chief Ministers on Digital Payment:

(a) Interim Report of the Committee has recommended for rationalization of MDR charges on all modes of digital payments.

(ii) Committee on Digital Payment chaired by Sh. Ratan Watal:

(a) Recommended for establishing separate Payments Regulatory Board (PRB) as an independent body for retail payments which has been accepted by Government.

(iii) RBI's draft MDR policy for debit cards:

(a) RBI has issued a draft policy for MDR on debit cards which has proposed significant reduction in MDR charges.

(b) It also recognises the distinction between asset-light (QR codes, Aadhaar Pay, UPI, virtual PoS etc.) and asset-heavy (PoS) acceptance infrastructure and accordingly has proposed reduction in MDR charges for asset-light acceptance options.

(iv) Government initiatives:

- (a) The Government has decided to absorb the Merchant Discount Rate charges in respect of debit card transactions while making payments to Government.
- (b) Under the new rule MDR charges on debit cards payments of up to Rs 1 lakh will be absorbed by the government.
- (c) RBI reduced MDR charges on debit cards with cap at 0.25% for transactions up to Rs1,000 and 0.5% between Rs1,000-2,000 during Jan 1 to Mar 31,2017.
- (v) Introduction of BHIM UPI App, Bharat QR code would replace the need for installing PoS machines in the long run
AEPS transactions enable digital payments even without mobile phones

2.10 In a recent development, the RBI has capped MDR for debit card transactions on given under:

Sr. No	Merchant Category	Merchant Discount Rate (MDR) for debit card transactions (as a % of transaction value)	
		Physical POS infrastructure including online card transactions	QR code-based card acceptance infrastructure
1.	Small merchants (with turnover upto ₹ 20 lakh during the previous financial year)	Not exceeding 0.40% (MDR cap of ₹ 200 per transaction)	Not exceeding 0.30% (MDR cap of ₹ 200 per transaction)
2.	Other merchants (with turnover above ₹ 20 lakh during the previous financial year)	Not exceeding 0.90% (MDR cap of ₹ 1000 per transaction)	Not exceeding 0.80% (MDR cap of ₹ 1000 per transaction)

Moreover, coming as a relief for the takers of digital transactions, government has recently announced that MDR charges on transactions upto Rs. 2000 made through debit cards, BHIM UPI or Aadhaar enabled payment systems will be borne by the Government for two years with effect from January 1, 2018 by reimbursing the same to the banks.

C. Inclusion for MSMEs – Supply Chain Digitization

2.10 The current thrust of financial inclusion has been on individuals and households. Along with that focus, there is also a need to target MSMEs which are equally financially illiterate, dependent on informal credit and capital starved. MSME sector in India today is a network of 51 million enterprises providing employment to 117.1 million persons and contributing 37.5 per cent of India's GDP⁶. 6 MSME Ministry Annual Report Page 6 of 9 However, around 90% of MSMEs are dependent on informal sources for credit as per 4th All India Survey of MSMEs. As per data of March 2016, total formal credit extended to MSMEs stood at Rs. 11 trillion for 21 million loan accounts while the loan demands gap stands at Rs. 26 trillion.

2.11 New fintech products can address this demand gap and other elemental aspects of MSME credit very efficiently through following ways:

(i) Access

P2PL, online lending platforms and Trade Receivables Discounting System (TReDS) can reach out to a large customer segments in areas which are currently unbanked. These platforms do not have to incur physical branch establishment costs and are much quicker in loan disbursal as well.

(ii) Trade Receivables Discounting System (TReDS)

TReDS is the scheme for setting up and operating the institutional mechanism for facilitating the financing of trade receivables of MSMEs from corporate buyers through multiple financiers. It also facilitates the discounting of both invoices as well as bills of exchange. Success of TReDS initiative can be a game changer for the sector. It needs to be integrated with GST software solutions for MSMEs.

(iii)Literacy

Government services such as financial literacy programs should be reoriented to provide full-fledged awareness about not just bank accounts and loans but also about insurance, working capital management, equity and debt structure etc. Such services can be delivered online in regional languages with minimum cost.

(iv)Collateral/Documentation requirements

The current models of immovable collaterals requirement for credit extension can be replaced by daily/monthly receipts by the MSMEs which can be authentically captured when the MSME adopts digital payment modes for buying and selling. India Stack solutions can help in creation of such solutions with automated working capital credit extension based on purchase and revenue streams of the MSME.

(v) Supply Chain Digitization

The rollout of GST has provided a great opportunity to transform our economic supply chain in all sectors, especially retail trade. A consistent tax regime with emphasis on digital receipts and input tax credits will exhort each stakeholder of MSME supply chain to adopt digital modes of payment and invoicing. What is needed is to create a solution which is seamless, has simple user interface, asset light and is cost effective for MSMEs to adopt and go tax compliant in a digital manner. Special Focus on Small Merchants – Digitization and Tax Compliance

2.12 Micro and small merchants (MSMs) represent a forgotten path to financial inclusion, as well as a significant commercial opportunity. While individually these businesses are small, their influence within the global economy is significant. They transact over \$6.5 trillion per year and interact with more than 4.5 billion customers every day." Several studies have pointed out the hindrances for small merchants to adopt digital payment modes. Adopting any of digital payment acceptance modes is the first step for a small merchant towards digitization and getting incorporated in formal economy. The traditional models of POS mandate strict documentation and KYC requirements along with significant investment on POS hardware. However, new innovative modes of acceptance infrastructure have come up which do not require any investment on hardware, for example QR codes. However, merchant Page 8 of 9 onboarding guidelines haven't allowed large scale adoption of such asset light acceptance modes (QR codes, BHIM Aadhaar, BHIM, mPOS etc.). It is extremely important to relax such guidelines and onerous requirements for small merchants. This will significantly ease their transition to formal economy and tax compliance as and when they grow above minimum exemption limit. Three issues are very important for this transition:

(i) Interoperability

All the various payment modes need to be interoperable so that the merchant need not spend on acquiring different acceptance terminals. A single one-time investment on one terminal which accepts payments generating from all channels (cards, mobile, Aadhaar, e-wallets etc.).

(ii) Zero transaction costs for low value transactions

As newer models of asset light infrastructure develop, it is imperative that transaction costs be reduced. It is also important to keep low value transactions free of any transaction cost/MDR so that consumer-merchant payment stays on a cashless mode.

(iii) Business solution instead of just payment solution

If the digital payment solution provides the merchant with other business functionalities such as invoicing, inventory management, supplier billing, tax filing etc., it makes the return on investment on such a solution extremely lucrative for the merchant. The current GST implementation provides this opportunity for service providers and government to tap small merchants, even if they are below

minimum turnover limit, to serve them with such solutions which helps them in getting scale while contributing to formal economy.

(iv) Enhanced Government-citizen experience

Digital solutions can be a great tool to improve the way Government delivers services to her citizens. India has developed some quite unique digital infrastructure such as Aadhaar, Digilocker, UPI, India Stack etc. which can be integrated to deliver government services in almost a lossless manner. Any government service can be delivered online with supported layers of Aadhaar (to establish identity and authentication), Digilocker (to access authenticated eligibility documents for various schemes) and UPI (for payment of service charges). Such an integration of these digital backbones can significantly reduce processing time and leakages. As all these backbone modules are developed with scalable support, it is high time for all government departments, central and state, to integrate these utilities for service delivery. Such an integrated mode of service delivery will greatly enhance citizen satisfaction and welfare

CHAPTER-3

Policy initiatives of Government on Digitalisation

A Steps taken by the Government

3.1 In order to ensure cheaper digital transactions cost for all categories of user and to facilitate a quantitative shift from cash transactions Government (Ministries/Departments) have given many Incentives for cashless transactions. Below mentioned are some of the prime incentives offered:

- (i) For National Electronic Funds Transfer(NEFT) transactions, maximum charges (exclusive of service tax) levied on customers by banks are as hereunder,
 - (a) ₹2.50/- for amounts up to ₹10,000/-
 - (b) ₹5/- for amounts from ₹10,001/- to ₹1 lakh
 - (c) ₹15/ for amounts above ₹1 lakh up to ₹2 lakh
 - (d) ₹25/- for amounts above ₹2 lakh

No charges are levied on customers for inward NEFT transactions. Banks are free to charge lower fees to customers.

- (ii) In case of outward Real Time Gross Settlement (RTGS) system transactions, customer charges levied by banks are a maximum of ₹25 + applicable time varying charge, subject to a maximum of ₹30/- for transaction amount ₹2 lakh to ₹5 lakh, ₹50 + applicable time varying charge, subject to a maximum of ₹55/- for transaction amount above ₹5 lakh. Further, customers should not be charged for inward RTGS transactions. Banks are free to charge lower fees to customers.
- (iii) The participating banks and PPI issuers of Immediate Payment Service (IMPS), Unified Payment Interface (UPI) & Unstructured Supplementary Service Data (USSD) were advised not to levy charges on transactions upto ₹1000/- from January 01,2017 till March 31,2017. In respect of merchant charges, for debit card transactions done since January 1,2017, Merchant Discount Rate (MDR) has been capped at 0.25% for transactions up to ₹1000/- and 0.5% for transactions above ₹1000/- and up to ₹2000/-. Presently, the MDR for debit card transactions is under review. (Prior to Nov 8, 2016, MDR for debit card transactions was capped at 0.75% for transactions up to ₹2000/- and 1% of transaction value for amounts above Rs.2000/-.)

3.2 Discount on Fuel:

The Central Government Petroleum PSUs shall give incentive by offering a discount at the rate of 0.75% of the sale price to consumers on purchase of petrol/diesel if payment is made through digital means. Nearly 4.5 crore customers buy petrol or diesel at such petrol pumps per day who can take benefit of this incentive scheme. It is estimated that petrol/diesel worth Rs.1800 crore is sold per day to the customers out of which nearly 20% was being paid through digital means. In the month of November 2016 it has increased to 40% and the cash transaction of Rs.360 crore per day have got shifted to cashless transaction methods. The incentive scheme has the potential of shifting at least 30% more customer to digital means which will further reduce the cash requirement of nearly Rs. 2 lakh crore per year at the petrol pumps. This benefit was initially applicable till 31st March, 2017 and was later extended till 30th June, 2017

3.3 Railways Benefit

Railway through its sub urban railway network shall provide incentive by way of discount upto 0.5 per cent to customers for monthly or seasonal tickets from January 1,

2017, if payment is made through digital means. Nearly 80 lakh passengers use seasonal or monthly ticket on suburban railways, largely in cash, spending worth nearly Rs 2,000 crore per year. The incentive by Railways was initially applicable till 31st March, 2017 and was later extended till 30th June, 2017

3.4 Free accidental insurance

All railway passengers buying online ticket shall be given free accidental insurance cover of upto Rs 10 lakh. Nearly 14 lakh railway passengers are buying tickets everyday out of which 58% tickets are bought online through digital means.

3.5 Incentives for railway passengers

For paid services e.g. catering, accommodation, retiring rooms etc. being offered by railways through its affiliated entities/corporations to the passengers, it will provide a discount of 5 per cent for payment of these services through digital means. All the passengers travelling on railways availing these services may avail the benefit.

3.6 Discount on policies sold online

Public sector insurance companies will provide incentive, by way of discount or credit, upto 10 per cent of the premium in general insurance policies and 8 per cent in new life policies of Life Insurance Corporation sold through the customer portals, in case payment is made through digital means.

3.7 No transactions fee/MDR charges

Government departments and PSUs will ensure that transactions fee/MDR charges associated with payment through digital means shall not be passed on to the consumers and all such expenses shall be borne by them. State Governments are being advised that the State Governments and its organizations should also consider to absorb the transaction fee/MDR charges related to digital payment to them and consumer should not be asked to bear it.

3.8 Benefits to Merchants/Traders

Public sector banks are advised that merchant should not be required to pay more than Rs 100 per month as monthly rental for PoS terminals/Micro ATMs/mobile POS from the merchants to bring small merchant on board the digital payment eco

system. Nearly 6.5 lakh machines by Public Sector Banks have been issued to merchants who will be benefitted by the lower rentals and promote digital transactions.

3.9 No tax on cashless payment less than Rs. 2000

No service tax will be charged on digital transaction charges/MDR for transactions upto Rs.2000.

3.10 Toll Plaza

For the payment of toll at Toll Plazas on National Highways using RFID card/Fast Tags, a discount of 10% will be available to users in the year 2016-17. Later MoRTH extended this to be a four year incentive scheme wherein in each year the discount would be reduced to be 2.5% in its final year. Further, the acceptance infrastructure of the country has expanded significantly, which has allowed card transactions to report the biggest growth post demonetization. After note recall, under pressure from the government, banks deployed 1million additional PoS terminals within three months. Government has also been promoting smartphone-based transactions through the Unified Payments Interface (UPI) and the Bharat Interface for Money (BHIM). Both use the Immediate Payment Service (IMPS) network of the National Payments Corporation of India. IMPS has seen a 160% jump with 67 million transactions in March, 2017 against 26 million a year earlier. According to data released by NPCI, of the total IMPS transactions, BHIM and UPI clocked 6.4 million in March, 2017 of this year, up from 4.4 million in January, 2017 and a mere 100,000 in October 2016, just before demonetization. While installing terminals at shop counters, UPI and Bharat QR have been revolutionary initiatives driven by RBI and adopted by the Indian banking system and mobile wallets which first disrupted the payments space in the country, playing a crucial role.

3.11 Steps taken by Department of Revenue

Consequent to demonetisation of currency notes of Rs.500 and Rs.1000 with effect from mid-night of 8th-9th November, 2016, exemption from central excise CV duty and SAD to Point of Sale(PoS) devices had been granted [vide Notification No.35/2016-Central Excise dated 28.11.2016], so as to reduce the cost of such devices. Further, to encourage domestic manufacturers of such devices, all goods for manufacture of POS devices had also been exempted from excise duty, and consequently from CVC and

SAD. These exemptions were initially valid till 31.3.2017, which has since been extended upto 30.6.17 in Budget 2017.

3.12 Thereafter, based on the recommendations/ suggestions for extending similar exemption to various other devices used to promote digital payments in the country the following similar exemptions are provided in Budget 2017-18 [vide Notification No.6/2017-Customs dated 2.2.2017 and Notification No.6/2017-Central Excise dated 2.2.2017]:

- (a) BCD, excise/CV duty and consequently SAD on finger print reader/scanner, Iris Scanner, Micro ATMs as per standards version 1.5.1 and miniaturized POS card reader for m-POS device (other than Mobile phone and Tablet Computer) are exemption:
- (b) BCD, excise/CV duty and consequently SAD on parts/components for manufacture of finger print reader/scanner, Iris Scanner, Micro ATMs as per standards version 1.5.1 and miniaturized POS card reader for m-POS device (other than Mobile phone and Tablet Computer) are exempted.
- (c) Due to likely implementation of GST from July 2017 the exemptions from excise/CV duty and SAD granted for finger print reader/scanner, Iris Scanner, Micro ATMs as per standards version 1.5.1 and miniaturized POS card reader for m-POS device (other than Mobile phone and Tablet Computer), and parts and components for their manufacture are restricted till 30.6.2017.

Further it is stated that vide Notification No.52/2016-Service Tax dated the 8th of December, 2016, No.52/2016-ST, the following services have been exempted from service tax- "Services by an acquiring bank, to any person in relation to settlement of an amount upto two thousand rupees in a single transaction transacted through credit card, debit card, charge card or other payment card service for the purposes of the entry, 'acquiring bank' means any banking company, financial institution including non-banking financial company or any other person, who makes the payment to any person who accepts such card'. This exemption has been carried forward in GST vide Entry 54 in the list of Service Tax Exemptions to be continued in GST as decided by GST Council.

3.13 Questioned *inter-alia* about the steps initiated post demonetisation to generally smoothen the digital processes, the National Institution for Transforming India (NITI)

stated that it took following steps to promote digital processes including awareness campaigns to introducing incentive schemes, referral schemes, cash back schemes, promoting new disruptive technologies to bring down the cost of transactions, etc.

(i) Awareness Campaigns undertaken by NITI Aayog:

(a) Nationwide IEC Campaigns:

- Presentations to Parliament, Ministries/Departments, Trade & Industry Bodies, PSUs, hospitals on the alternative digital modes, their benefits and ease of use;
- 100 days Digidhan Mela covering 100 cities;
- District Level IEC campaigns;
- Pan India awareness campaign through TV, print, radio, news and social media;

(b) Spreading awareness through “Digishala” –preparing content for the dedicated channel for digital payments

(ii) Incentive Schemes:

(a) Two incentive schemes were designed by NITI Aayog to incentivize cash transactions:

- Lucky Grahak Yojana for Consumers
- Digi Dhan Vyapar Yojana for Merchants

(iii) Promotion of new technology:

(a) NITI Aayog, in collaboration with National Payments Corporation of India (NPCI), also enabled a common platform BHIM for peer-to-peer payment transfers for users of all banks on UPI.

For merchant transactions, BHIM Aadhaar has been developed as an asset light acceptance infrastructure using the Aadhaar based payment systems. This would streamline digital acceptance infrastructure in terms of cost as well as processes thus enabling widespread adoption of digital payments, especially in small merchant segments.

B. Steps taken post-demonetisation to smoothen the digital processes

3.14 Government of India have had taken some major initiatives to smoothen the digital process/ cashless transitions for the citizens. Major initiatives are as:

(i) POS machines in villages

To expand digital payment infrastructure in rural areas, the Central Government through NABARD will extend financial support to eligible banks for deployment of 2 POS devices each in 1 Lakh villages with population of less than 10,000. These POS machines are intended to be deployed at primary cooperative societies/milk societies/agricultural input dealers to facilitate agri-related transactions through digital means. This will benefit farmers of one lakh village covering a total population of nearly 75 crore who will have facility to transact cashless in their villages for their agricultural needs.

(ii) Rupay Kisan Cards

The Government through NABARD will also support Rural Regional Banks and Cooperative Banks to issue “Rupay Kisan Cards” to 4.32 crore Kisan Credit Card holders to enable them to make digital transactions at POS machines/Micro ATMs/ATMs.

(iii) No Excise Duty on POS machines

To promote the cashless transaction POS machines being the most used device has been offered with NIL Excise Duty on POS Devices and All goods for manufacture of POS Devices

(iv) Other Initiatives:

(a) Under scheme of presumptive income for small and medium tax payers whose turnover is upto Rs. 2 crores, the present, 8% of their turnover which is counted as presumptive income is reduced to 6% in respect of turnover which is by non-cash means.

(b) No transaction above Rs. 2 lakh would be permitted in cash subject to certain exceptions

(c) Cash expenditure allowable as deduction, both for revenue as well as capital expenditure, to be limited to Rs 10,000. Similarly, the limit of cash donation which can be received by a charitable trust is being reduced from Rs 10,000/- to Rs 2,000/-.

- (d) Miniaturized POS card reader for m-POS (other than mobile phones or tablet computers), micro ATM standards version 1.5.1, Finger Print Readers / Scanners and Iris Scanners and on their parts and components for manufacture of such devices to be exempt from BCD, Excise/CV duty and SAD.
- (e) Increased digital transactions to enable small and micro enterprises to access formal credit. Government will encourage SIDBI to refinance credit institutions which provide unsecured loans, at reasonable interest rates, to borrowers based on their transaction history.
- (f) The digital payment infrastructure and grievance handling mechanisms shall be strengthened. The focus would be on rural and semi urban areas through Post Offices, Fair Price Shops and Banking Correspondents.
- (g) Steps would be taken to promote petrol pumps, fertilizer depots, municipalities, Block offices, road transport offices, universities, colleges, hospitals and other institutions to have facilities for digital payments, including BHIM App.
- (h) Government will consider and work with various stakeholders for early implementation of the interim recommendations of the Committee of Chief Ministers on digital transactions
- (v) Post-demonetisation, the measures taken by the Reserve Bank are in three broad areas- changes made in existing systems to increase its coverage and/or efficiency, introduction of new systems and enhancing the safety and security of transactions. These measures are indicated below:
 - (a) Enhancement of the limit that can be held at any point of time in PPIs issued with minimum details of the customer from Rs.10000/- to Rs.20000/-.
 - (b) Special dispensation (on self-declaration) for small merchants using PPIs with relaxation in funds transfer limits as compared to other PPIs.
 - (c) Banks have now been permitted to issue PPIs to Corporates including unlisted corporates/ partnership firms/ sole proprietorship /public organizations like municipal corporations, urban local bodies, etc. for onward issuance to their staff/ employees / contract workers, etc.
 - (d) Enabling interoperability for QR code based card transactions in card payments which has subsequently been enhanced with features to include payments at point of sale using account and Aadhaar credentials in the form of Bharat QR.

(vi) Approval for new systems

(a) Approvals have been given to NPCI to introduce Bharat Interface for Money (BHIM) and USSD 2.0 both of which enhance the coverage and usage of Unified Payments Interface (UPI); BHIM Aadhaar Pay (riding over the existing Aadhaar Enabled Payment System) for enabling merchant payments using Aadhaar biometric based authentication for transactions.

(b) In-principle approval has been given to NPCI for launching the Pilot of National Electronic Toll Collection (NETC) system for facilitating electrification of toll payments.

3.15 Enhancing Safety and Security of transactions Introduction of tokenization in cards payments through Samsung Pay which works on existing POS terminals in contactless form irrespective of whether the underlying plastic card is a magnetic stripe card or a contactless EMV Chip and PIN card. This enhances customer experience through convenience while tokenization ensure security of transactions. The mandate for Additional Factor of Authentication (AFA) in card not present transactions for payments upto Rs 2000/-, was rationalized by enabling the use of payment authentication solutions provided by the authorized card networks.

3.16 On the issue of high cost of cashless transactions and adoption of best practices with respect to the transformation from cash to a less cash economy, Ministry of Electronics and Information Technology in a written reply stated that, In February 2016, the Union Cabinet chaired by the Prime Minister gave its approval for introduction of steps towards promoting payments through cards and digital means. The move was broadly aimed at:

- (i) Discouraging transactions in cash by providing access to financial payment services to the citizens to conduct transactions through card/digital means.
- (ii) Shifting payment ecosystem from cash dominated to non-cash/less cash payments.
- (iii) Helping reduce tax avoidance.
- (iv) Migration of Government payments and collections to cashless mode.

(v) Following the Cabinet's decision, several initiatives were fast tracked, including the establishment of a Task Force in April 2016. The Task Force chaired by the Secretary, DIPAM was tasked with recommending short term measures to promote payments through cards and digital means. The Task Force submitted its recommendations in July 2016.

3.17 The Hon'ble Prime Minister, in his May 2016 "Mann Ki Baat" address, also made a singular call to move to a cashless economy to enable greater transparency and reduction of black money. Subsequently, a massive impetus towards transitioning the economy towards cashless alternatives to payments, was provided by the Government's initiative to demonetize high denomination paper currency. While the move was primarily aimed at combating the adverse effects of counterfeit currency, and the storage of unaccounted wealth in cash, it necessitates the establishment of a robust digital payments infrastructure in the country, and measures to ensure greater adoption and usage of non-cash alternatives. Union Finance Ministry has notified the 11-member Committee on Digital Payments headed by Shri Ratan Watal in September 2016, to review existing payment systems in country and recommended appropriate measures for encouraging Digital Payments. The Committee had inter-alia examined the issue of government providing tax incentives for promoting Digital Payments. The Committee identified some of the global practices followed by countries such as South Korea, Mexico, Argentina etc. to promote digital payments. South Korea had provided relief on VAT as well as rebate on Income Tax on usage of credit card for transactions. Argentina provided a refund of 3 to 5 % on the VAT of 21% on purchase of goods using debit/credit cards. Similarly, Mexico, Columbia and Uruguay provided refund/reduction of 2% on applicable VAT on transactions using debit/credit cards. The Watal Committee has evaluated the current digital payments landscape in India, and recommended measures to fast track the attainment of its Vision of significantly reducing cash usage in the economy, and facilitating the provision of ubiquitous digital payment services and infrastructure in the country. Further, a Committee of Chief Minister's on Digital Payments led by the convener and Andhra Pradesh Chief Minister, Shri Chandra Babu Naidu was formulated for recommendations on wider adoption of Digital Payments. The above committees have made several recommendations & best practices to facilitate the adoption of digital payments in the country, which are being used as Guidance document to develop the strategy for promotion of Digital payments. In the Indian context, Incentivization to consumers and merchants may encourage the shift from cash to digital modes of transaction. RBI and Banks have a critical role in putting in place an

incentive structure that makes digital payments a more attractive option as well as in removing all disincentives associated with digital transactions.

C. Reserve Bank of India's (RBI) digital transaction data

3.18 The data on digital transactions published in the monthly Bulletin by RBI clearly indicates that there has been growth in digital transactions. This can be seen by the month-on-month data on volume and value of transactions given by Clearing Corporation of India (CCIL), National Electronic Funds Transfer (NEFT), Electronic Clearing Service (ECS below which includes data pertaining to transactions in Real Time Gross Settlement System (RTGS) and National Automated Clearing House (NACH), Immediate Payment Service (IMPS), credit and debit cards, and Prepaid Payment Instruments (PPIs). It can be seen that there is 100% growth in April 2017 in volume of digital transactions as compared to April 2016.

Months/year		Digital Transactions*	
		Volume (Million)	Value (Rupees Billion)
2017-18	April	1,168	1,83,901
2016-17	March	1,180	2,36,359
	Feb	1,004	1,62,362
	Jan	1,133	1,78,882
	Dec	1,230	1,93,717
	Nov	833	1,86,160
	Oct	712	1,70,010
	Sept	624	1,95,196
	Aug	627	1,82,240
	July	632	1,74,228
	June	598	1,81,184
	May	600	1,67,304
	April	586	1,50,047

* Includes transactions in RTGS, CCIL, NEFT, ECS, NACH, IMPS, Cards, PPIs

3.19 The data on cash withdrawals from ATMs using credit card and debit card indicate that by and large the volume and value of transactions at ATMs is still lower than pre-Nov 2016 levels.

3.20 Digital transactions and the digital mode incentivisation to attract people for greater use and wean away people from cash -

- (i) Historically, banks have been giving indirect incentives to their customers for use of debit as well as credit cards in the form of loyalty /reward points which can be used/ redeemed by the customers for purchase of other goods and services. Banks also provide incentives in the form of 'cash back' offers when

customers used their cards.

- (a) In recent times, banks have been encouraging customers to use all electronic forms of payments by introducing enterprise-wide reward schemes such that the customer benefits from every use of digital payments.
- (b) Recently, the Government has also introduced incentive schemes for use of BHIM - Customer Referral Scheme and Cash back Scheme for merchants.
- (c) Similarly, incentive scheme has also been introduced by the Government for use of BHIM Aadhaar Pay by merchants.

3.21 Apart from this, even the charges payable by merchants has been capped by RBI in the form of MDR cap on debit card transactions. Similarly, RBI has capped the customer charges on funds transfers using NEFT in the retail payments segment which generally acts as the benchmark for P2P payments in other systems as well.

D. Promotional Activities undertaken to promote Digital Payments

- 3.22 (i) DigiDhan Mela - Government of India, in collaboration with the State governments and District Collectors organized DigiDhan Melas in 100 cities starting from 25th December 2016. The Melas had a footfall of 15 lakh persons and concluded on Babasaheb Ambedkar Jayanti on 14th April, 2017 with a Mega Draw of Rs one crore.
- (ii) Under the "Lucky Grahak Yojana for consumers" and "Digi-Dhan Vyapar Yojana for merchants" there were 15,000 daily winners qualifying for total prize money of Rs. 1.5 crore. In addition, there were over 14,000 weekly winners qualifying for total prize money of over Rs. 8.3 crore every week.
- (iii) Digital Jagriti - CSC is conducting Digital Financial Inclusion Awareness and Access (Digital Jagriti) programme for citizens for usage of digital payments modes and supporting merchant on-boarding for acceptance of digital payments. Since November 2016, 2.03 crore citizens have been trained on usage of electronic modes of payments and 12.12 lakh merchants trained for acceptance of digital payments.
- (iv) Digital Channel – A new educational channel “DigiShala” for creating awareness regarding various forms of electronic payment to citizens was launched on 9th December 2016. DigiShala is now also available on Dish TV in addition to DD Free Dish and is also available on Dish TV.

- (v) With an aim to promote cashless transactions and converting India from less-cash society to cashless society, a new website www.cashlessindia.gov.in was launched on 9th December 2016 to serve as a knowledge repository providing information on different types of digital payment methods, schemes to create awareness among citizens and making available government notifications and guidelines regarding digital payments.
- (vi) **Cashless Townships - On 14th April 2017, 81 cashless / less-cash townships were launched across 12 States.** These included townships of central public sector companies like ONGC, Indian Oil, NTPC, SAIL, BHEL, NMDC, CRPF, BSF and Police Lines and private sector townships like Reliance, Essar, Adani, Birla Aditya, Welspun spread across 12 states of Delhi, Gujarat, Uttar Pradesh, Madhya Pradesh, Maharashtra, Bihar and Chhatisgarh.

E. Digital Finance for Rural India: Creating Awareness and Access

- 3.23 (i) A new component titled 'Digital Finance for Rural India: Creating Awareness and Access through Common Service Centres' (CSCs) under the Digital Saksharta Abhiyan (DISHA) Scheme was approved in November 2016 for conducting awareness sessions on digital finance options available for rural citizens as well as enabling various mechanisms of digital financial services such as Aadhaar Enabled Payment System (AEPS), Unstructured Supplementary Service Data (USSD), Unified Payments Interface (UPI), Immediate Payment Service (IMPS), e-wallets, Point of Sale (PoS), etc. Under this programme, 1 crore rural citizens across the country and 2.5 lakh merchants were to be enabled to transact through electronic payment systems. This was implemented by CSC e-Governance Services India Limited.
- (a) Under the programme, a total of 2 Crore rural citizens were registered and trained on Electronic Payment Systems
 - (b) Over 25 Lakh shopkeepers/hawkers/traders etc were trained and enabled on the Electronic Payment System mode
 - (c) Sensitization drives were organised in 650 Districts & 5735 Blocks.
 - (d) A separate portal was created at <http://www.digitaljagriti.in/>
 - (e) Training content in the form of handbook and presentation was prepared.
 - (f) An impact movie and 6 training video was also made available
- (ii) Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)

The Government has approved a scheme titled “Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)” to usher in digital literacy in rural India by covering 6 crore rural households (one person per household) by 31.03.2019. This is in line with the announcement made in the Union Budget 2016-17. To ensure equitable geographical reach, each of the 2,50,000 Gram Panchayats would be expected to register an average of 200-300 candidates. Special focus of the above Scheme would be on training the beneficiaries on use of Electronic Payment Systems. The outcome measurement criteria would include undertaking at least 5 electronic payments transactions by each beneficiary using UPI (including BHIM App), USSD, PoS, AEPS, Cards, Internet Banking. The total outlay of the above Scheme is Rs. 2,351 crore. It will be implemented as a Central Sector Scheme by the MeitY through an implementing agency namely CSC e-Governance Services India Limited, with active collaboration of all the State Governments and UT Administrations.

- (iii) The Scheme has been approved on 20.02.2017 and detailed guidelines issued on 27.02.2017. The guidelines include the Composition and Terms of reference of two State Level Committees to be chaired by Principal Secretary, IT and District Magistrate respectively. MeitY has written to all the Chief Secretaries of the States and all the District Magistrates/ Collectors on 28.02.2017 and forwarded the Scheme guidelines.
- (iv) The Implementing Agency i.e. CSC e-Governance Services India Ltd., has conducted 31 state level workshops and 81 district level workshops. They have started the empanelment of the Training Partners/Centres for the PMGDISHA Scheme and so far affiliated 23,682 Training Centres. More than 11 lakh candidates have been enrolled, out of which training has been imparted to more than 9 lakh candidates.

3.24 On-Boarding of Self-Organised Small & Medium Size Businesses/Traders on Digital Payment

- (i) This Project has been approved on 09-02-2017 for implementation by NIELIT. The objective of the project is to teach and encourage traders to adopt simplified digital payment mechanisms like UPI, USSD, Bharat Bill Payment System (BBPS), AEPS etc. and conveying the benefits of digital payments to traders through capacity building programmes. Under the project, 5 Regional

Workshops, 30 State Workshops and 100 Digidhan Camps are to be organized all over India, targeting about 13500 small and medium size unorganised / self organized businesses / traders. Already, 44 events have been held under the project and more than 4,000 traders have been trained on digital payment mechanisms. The support of Confederation of All India Traders (CAIT) has been solicited for mobilization of the traders for participation. UIDAI and State Level Bankers Committees (SLBCs) have also been involved for training.

3.25 Questioned on the scheme of things, as to make digitalisation universal across the country particularly in rural and semi urban areas, the Ministry of Electronics and Information Technology, in a written reply specified that the Government has undertaken adequate incentivization and promotional measures to incentivize digital payments Infrastructure and digital transactions:

- (i) On 8th December, 2016, Government announced an attractive package to promote the use of cashless payments through a discount at the rate of 0.75 per cent of the sale price to consumers on purchase of petrol or diesel, if payment is made through digital means.
- (ii) Railway through its sub urban railway network shall provide incentive by way of discount upto 0.5% to customers for monthly or seasonal tickets from January 1, 2017, if payment is made through digital means.
- (iii) All railway passengers buying online ticket shall be given free accidental insurance cover of upto Rs. 10 lakh.
- (iv) For paid services e.g. catering, accommodation, retiring rooms etc. being offered by railways through its affiliated entities/corporations to the passengers, it will provide a discount of 5% for payment of these services through digital means.
- (v) Public sector insurance companies will provide incentive, by way of discount or credit, upto 10% of the premium in general insurance policies and 8% in new life policies of Life Insurance Corporation sold through the customer portals, in case payment is made through digital means.
- (vi) For the payment of toll at Toll Plazas on National Highways using RFID card/Fast Tags, a discount of 10% will be available to users in the year 2016-17.

- (vii) Government has waived service tax charged while making payments through credit card, debit card, charge card or any other payment card; limiting the waiver to payments up to Rs. 2,000 in a single transaction.
- (viii) NABARD PoS incentive Scheme : With Reference to NABARD circular number 283 / DFIBT-39 / 2016 dated 6th December, incentive was announced to be given to banks in terms of support from Financial Inclusion Fund (FIF), for deployment of PoS terminals in one lakh villages in Tier 5 and Tier 6 centres, subject to a cap of two PoS devices per village. The maximum support as per scheme was 60% of cost of the device, with a cap of Rs. 6,000/- per device.
- (ix) Government has launched the BHIM Referral Bonus Scheme for Individuals using UPI/BHIM app. The bonus will be paid to both the referrer and the new user of BHIM/UPI (referee) and the referral will be considered successful only after 3 successful financial transactions performed by the referee. The total amount earmarked for this scheme is Rs 175 Cr. The present scheme duration is six months from 14th April 2017.
- (x) Government has launched the BHIM Cashback Scheme for Merchants for using BHIM/UPI. The total amount earmarked for this scheme is Rs 270 Cr. The present scheme duration is six months from 14th April 2017.
- (xi) Government has launched the BHIM Aadhaar Merchants incentive scheme for the merchants using Aadhaar enabled authentication devices. The total amount earmarked for this scheme is Rs 345 Cr. The present scheme duration is six months from 14th April 2017.

3.26 From the above schemes, it seems that government is continuously using various incentive schemes to attract the people for using Digital modes of transactions.

3.27 Government has also undertaken promotional schemes to encourage citizens and merchants to use digital payment modes:

On, the Government on 15th December, 2016 announced two schemes Lucky GrahakYojana and Digi-DhanVyaparYojana to give cash awards to consumers and merchants who utilize digital payment instruments for personal consumption expenditures. The prizes range from Rs 1000 to Rs 1 crore and the transactions permitted are from Rs 50 to Rs 3000 to keep the focus on the common man. The

schemes will not only give a boost to cashless transactions, but will particularly bring the poor, lower middle class and small businesses into the digital payment fold, and new way of life. The schemes ended on 14th April 2017.

3.28 Details of prize money distributed till April 14, 2017 are as follows:

Scheme	No of Winners	Prize Money
Lucky Grahak Yojana for Customers	15,78,980	150.25 crore
Digi-Dhan Vyapar Yojana for merchants	91,003	108.95 crore
Total	16,69,983	259.2 Crore

F. Cyber security initiatives of Ministry of Electronics and Information Technology (MeitY)

- 3.29 (i) MeitY has set up a Digital Payments Division to focus on security of digital payments. Computer Emergency Response Team (CERT-In) regularly sends advisory to Reserve Bank of India, National Payment Corporation of India (NPCI) and Payment Card Industry organisations regarding the threats targeting banking and ATM Systems. In addition, CERT-In has issued 23 advisories including merchants of Payment Channels, Cards, Data, Device, Browser and Operating System & Network Security for security safeguards of users covering POS, Micro ATMs, Electronic Wallets, online banking, smart phones, Unified Payment Interface, wireless access points / routers, mobile banking, cards and cloud. All organizations providing digital payment services have been mandated to report cyber security incidents to CERT-In expeditiously.
- (ii) RBI vide circular dated 9.12.2016 on “Security and Risk Mitigation measure - Technical Audit of Prepaid Payment Instrument issuers” has instructed all authorised entities / banks issuing PPIs in the country to carry out a special audit by the empanelled auditors of CERT-In on a priority basis and take immediate steps thereafter to comply with the findings of the audit report. RBI also issued a circular earlier in June 2016 covering comprehensive guidelines on Cyber Security Framework in Banks.
- (iii) Two workshops have been conducted regarding security of digital payments for participants from banks, Internet Service Providers and entities offering Prepaid Payment Instruments. CERT-In has also recorded cyber security awareness sessions under the DigiShala Awareness Campaign, a free Doordarshan DTH

channel, for educating citizens and creating awareness amongst internet users so that they do not fall prey to online frauds. Regular workshops with Institute for Development and Research in Banking Technology (IDRBT) for banks, RBI, Securities and Exchange Board of India (SEBI) are conducted on cyber security. CERT-In officials are deputed as trainer at IDRBT. Workshops have been held inviting PPIs, Banks, ISPs, RBI, NPCI and IDRBT along with banking technology providers and consultants to address security issues and their mitigation mechanisms.

- (iv) Botnet Cleaning and Malware Analysis Centre has been established by CERT-In for detection of compromised systems in India and to notify, enable cleaning and securing systems of end users to prevent further malware infections. The centre is also working with 37 Banks to detect malware infections in their networks and enable remedial actions.
- (v) MeitY has formulated draft rules on Security of Prepaid Payment Instruments under Information Technology Act, 2000. The draft Rules have provision for grievance redressal mechanism for electronic Prepaid Payment Instruments. The draft Rules have been published on MeitY website inviting comments from public at large and all stakeholders.
- (vi) Regular consultations are held with key organizations & banks for setting up of Financial CERT. Meetings have already been held with key organizations & banks from finance sector to discuss the roles and responsibilities of finance sector organizations in monitoring, prevention and recovery from cyber security threats.
- (vii) Communication has been sent to all Central Government Ministries/Departments, States/UTs and critical sectors organizations to implement Cyber Crisis Management Plan (CCMP) prepared by MeitY for countering cyber attacks and cyber terrorism.
- (viii) Cyber security exercises are being conducted by CERT-In for assessment of cyber security posture and preparedness of organizations in Government and critical sectors including financial sectors.

3.30 In response to a written query as to how to tackle the issue of internal threats in banks and organisations from agencies which are responsible for cyber crimes, Data

Security Council of India (DSCI) submitted that the Banking sector is heavily regulated by RBI, and comprehensive guidelines are issued for building cyber security capabilities of the banking sector. However implementation and stronger governance of the RBI guidelines and cyber security framework needs to be practiced. With increasing risk exposure and threat landscape, capacities in cyber security needs proportional augmentation to protect against cyber attacks, including insider threat. Bank employees and third party organizations need to be better made aware of perceived risks, and their onus and responsibility to protect such information. Education on ethics and legal punishments also needs to be included in the employee induction program. Technology and solutions should be deployed, and processes be optimised to check insider threat in an organization. From an organizational perspective, it is important that in eventuality of an insider threat, they pursue the matter legally by filing a case with Law Enforcement Agencies (LEAs) so that it acts as a deterrent against insider attack.

G. Key Announcements on Digital Payments in Union Budget 2017-18

3.31 (i) There is evidence of increased digital transactions. The BHIM app has been launched. It will unleash the power of mobile phones for digital payments and financial inclusion. 125 lakh people have adopted the BHIM app so far. The Government will launch two new schemes to promote the usage of BHIM; these are, Referral Bonus Scheme for individuals and a Cashback Scheme for merchants.

(ii) Aadhar Pay, a merchant version of Aadhar Enabled Payment System, will be launched shortly. This will be specifically beneficial for those who do not have debit cards, mobile wallets and mobile phones.

(iii) A Mission will be set up with a target of 2,500 crore digital transactions for 2017-18 through UPI, USSD, Aadhar Pay, IMPS and debit cards.

(iv) Banks have targeted to introduce additional 10 lakh new PoS terminals by March 2017. They will be encouraged to introduce 20 lakh Aadhar based PoS by September 2017.

(v) The digital payment infrastructure and grievance handling mechanisms shall be strengthened. The focus would be on rural and semi urban areas through Post Offices, Fair Price Shops and Banking Correspondents. Steps would be taken to promote and possibly mandate petrol pumps, fertilizer depots, municipalities, Block offices, road transport offices, universities, colleges, hospitals and other institutions to have facilities for digital payments, including BHIM App. A proposal to mandate all Government receipts through digital means, beyond a prescribed limit, is under consideration.

(vi) Increased digital transactions will enable small and micro enterprises to access formal credit. Government will encourage SIDBI to refinance credit institutions which provide unsecured loans, at reasonable interest rates, to borrowers based on their transaction history.

(vii) Government will consider and work with various stakeholders for early implementation of the interim recommendations of the Committee of Chief Ministers on digital transactions.

H. Major Recommendations by various committees for Digital Payments

3.32 (i) Ratan Watal Committee

Under the Chairmanship of Shri Ratan Watal, the Ratan Watal committee submitted its final report on 9th Dec 2016 for digital payments. Some of the major recommendations relating to Aadhaar have been summarised below:

(a) Promote e-KYC and paperless authentication

Aadhaar e-KYC and e-Sign should be consent based and replace costly, physical form, wet signature and physical photo for all financial service providers with e-KYC and e-Sign. Aadhaar should be used as Primary ID for all KYC requirements

(b) Use of Aadhaar for CBDT

Aadhaar number should be allowed to Replace Form 60 with Aadhaar based authentication, if PAN has not been obtained. Aadhaar may be used as Primary KYC for PAN and quoting Aadhaar should be a requirement while filing IT Returns

(c) Making Bank and Non-Banks (e-wallets) Interoperable

Aadhaar should be used as Identifier for making e-wallets inter-operable. Aadhaar number should also be allowed to seed in Non-banks (e-wallets)

(d) Accelerate deployment of Aadhaar enabled acceptance network to attain addressability and interoperability

(e) Enable presence-less Aadhaar-based transactions (OTP) – OTP based e-KYC

(f) AEPS to support all modes of Aadhaar authentication - Bio-metric (Finger and IRIS), OTP

(g) Payment Development Software Kit – use of India Stack model based on Aadhaar

(h) A digital payments incentive fund should be created with a ranking framework and digital payments awards with special focus on Aadhaar based payments

(ii) Chief Minister's Committee

Subsequently, the Chief Minister's committee created under the chairmanship of Shri Chandra Babu Naidu, Hon'ble Chief Minister of Andhra Pradesh also made recommendations on improving the use of digital payments in the country. Their final Draft report was submitted to Hon'ble Prime Minister on 24th January 2017. Some of the major recommendations relating to Aadhaar have been summarised below:

- (a) Encourage Digital Payment Modes – one of the modes is AEPS, includes micro ATM and AadhaarPay
- (b) Formulate Incentive structure
 - Tax incentive to be extended to MicroATMs, Bio-metric sensors, etc.
 - For AadhaarPay, Bio-metric (FP & IRIS) sensors to be provided 50% subsidy to all merchant points
 - AEPS to be promoted by incentivising and not charging MDR
- (c) Expand and Strengthen Origination, Acceptance, Connectivity and hardware Infrastructure. This can be achieved by making all payment Banks and BCs interoperable through AePS. 1,54,000 post offices can be enabled to become interoperable Aadhaar enabled microATMs
- (d) Aadhaar to be made Primary KYC using section 57 / 7 of Aadhaar Act and changing PMLA rules
- (e) E-KYC to be mandated for opening new accounts
- (f) Payment to Aadhaar to be enabled on UPI/ BHIM App
- (g) Payment to Aadhaar number to be enabled on USSD
- (h) Government should patent new technologies of AadhaarPay/ AEPS
- (i) Volume and Value targets to be fixed for digital payments including AEPS
- (j) The technical infrastructure for digital payments can be expanded by wide scale adoption of AEPS and AadhaarPay. The committee felt that banks need to mandate complete Aadhaar Seeding in time bound manner with all channels being made available and AEPS gateway should be up and running all the time with proper reconciliation
- (k) Increasing supply of acceptance infrastructure
 - Allocate targets to banks for setting up 1 million PoS terminals by March 2017.

- Create fund for incentivizing acquiring banks to create last mile connectivity for e-KYC, AEPS, AadhaarPay and Rupay cards.
- (l) Integration of billing and tax functionality in Common UPI App and AadhaarPay app to make life easier for merchants.
- (m) Insurance sector should deploy payment of premium using Aadhaar for marginalized section
- (n) Adoption for Aadhaar for fertilizer sector, Petroleum sector, Universities, Schools, and PDS for cashless payments

I. Indian Banks' Association (IBA) role on Push towards digital

3.33 Shri Ratan P. Watal committee was formed to review the framework related to Digital Payments and to formulate and monitor the medium term measures for strengthening the ecosystem and to recommend appropriate methods for encouraging digital payments and to submit its recommendations in three months. IBA participated in several meetings and submitted the views as under:

- (i) Indian banks support the digital initiatives of the GOI and RBI. They already have adopted latest technologies and launched a number of digital products including mobile wallets.
- (ii) For increasing the card acceptance infra-structure the banks expect the GOI and RBI to set up the ADF(Automated Development Fund) with sizable contributions and Banks also will put in their share, for expansion of the POS terminals across the country.
- (iii) Indian Banks request the GOI to give incentives by way of concessions – reduction in customs duty , service tax , VAT / GST , incentives to merchants and customers for on-line transactions , dis-incentive for cash transactions , removal of surcharge for Govt. transactions paid through Digital means etc. as elaborated above .
- (iv) Indian banks request RBI and GOI for a level playing field with non-bank operators of Digital payments in terms of KYC , second-factor authentication , refund of fraudulent transactions ,addressing customer grievances , de-duplication of wallet accounts to prevent mis-use of account limits prescribed , predatory pricing using the customers funds, non-cash out of funds sourced from credit cards / banking channels etc.

- (v) In the name of customer convenience prudent practices like KYC, 2FA should continue.
- (vi) Banks have adequate regulations to safe guard the interests of the customers, like capital adequacy ratio, SLR, cash balances with RBI etc .Similarly operators of PPIs, Mobile Wallets, other Digital payments to be regulated adequately, to ensure controlled usage of funds collected by them and prevent misuse of float funds. Bank deposits are protected by DICGC up to Rs 1 lac, with premium collected from banks. Similarly, a safety net should be there for the customers whose total money with Mobile wallets / digital payments run into billions of Rupees. GOI and RBI should put necessary framework to take care of the interests of millions of customers in view of deep discount offered to operators causing concern.
- (vii) Indian Banks will support innovations and adopt new technologies which will benefit the customers. They will extend all their support to the GOI and RBI in improving Digital Payments in India.

CHAPTER-4

MOVE TOWARDS DIGITAL INDIA

A. Initiatives

4.1 The Government has over the last 2 years taken a number of steps towards digitisation in all sectors. The launch of Digital India is a major thrust programme of the Government. A thrust has been made for increasing the digital payments in the economy through credit and debit cards, internet banking, Mobile Apps, E-Wallets etc. The steps taken towards promotion of digital payments are as under:-

- i. All ministries have been asked to encourage employees to use debit/credit card for payments.
- ii. The Government on 19 December 2016 has announced benefit of lower rate of Income Tax on digital turnover for small businesses up to a turnover of Rs. 2 crore.
- iii. DigiDhan Abhiyaan has been undertaken to get people and merchant onboard digital platform through CSC SPV of the Ministry of Electronics and Information Technology. CSC SPV has around 1.75 lakh Common Service Centres run by Village level entrepreneurs throughout the country. 1 crore people and 25 lakh merchants across 476 district and 2120 blocks have been targeted under this campaign. Started on 4 December 2016, 58.6 lakh people and 1.60 lakh merchants have been enabled till 22 December.
- iv. DigiShaala – a education channel has been initiated from December 9 to educate people regarding various facets of digital payments. Channel is available on DD Free Dish which caters to nearly 2-2.5 crore rural households.
- v. DigiDhan Mela was organized in National Stadium Delhi on Dec 17 – more than 10000 people attended and got onboard digital payments.
- vi. CashlessIndia.gov.in has been launched on Dec 9 to provide official authentic information regarding various digital payment systems.
- vii. National Institute of Electronics and IT (NIELIT) has been conducting workshops and reaching out to its student community – approx. 3 lakh students/merchants have been promoting digital payments.
- viii. STPI has been conducting workshops and has reached out to 37 lakh employees of IT sector promoting digital payments.

- ix. Digital Payments Division for Cyber Security has been set up in MeitY/Cert-In on Dec 13, 2016.
- x. Lucky Grahak Yojana and DigiDhan Vyapar Yojana have been launched to incentivize digital payments.
- xi. Under Lucky Grahak Yojana, daily reward of Rs. 1000 will be given to 15000 lucky consumers for a period of 100 days along with weekly prizes worth Rs. 1 lakh, Rs. 10000 and Rs. 5000 for consumers who use alternate modes of digital payments except transaction through private credit cards and digital wallets.
- xii. Under DigiDhan Vyapar Yojana, merchants who carry out digital transactions will receive weekly prizes worth Rs. 50,000, Rs. 5,000 and Rs. 2,500.
- xiii. 3 Mega Prizes worth Rs. 1 crore, Rs. 50 lakh and Rs. 25 lakh will be announced for consumers on Ambedkar Jayanti (14 April 2017) for adopting digital payments during the period of 8 November 2016 – 13 April 2017.
- xiv. 3 Mega Prizes worth Rs. 50 lakh, Rs. 25 lakh and Rs. 12 lakh will be announced for merchants on Ambedkar Jayanti (14 April 2017) for adopting digital payments during the period of 8 November 2016 – 13 April 2017.
- xv. 1,30,000 fair selling price shops have the facilities of either micro ATM or POS machine;
- xvi. Ministry of Road Transport and Highways has brought out e-tag cards for electronic toll collection;
- xvii. Department of Posts have installed 960 ATMs ;
- xviii. Ministry of Urban Development is working on seamless travel card;
- xix. National Payments Corporation of India has introduced a mobile-based payment system, viz., UPI, where 25 banks have joined the framework;
- xx. MDR has been rationalized.

B Package for Promotion of Digital and Cashless Economy

4.2 (i) Steps taken so far

(a) Central Government Petroleum PSUs shall give incentive by offering a discount at the rate of 0.75% of the sale price to consumers on purchase of petrol/diesel if payment is made through digital means.

(b) The Central Government Departments and Central Public Sector Undertakings will ensure that in transactions fee/MDR charges associated with payment through digital means shall not be passed on to the consumers and all such expenses shall be borne by them.

(c) The telecom companies will be persuaded to provide incentive by way of discount at the rate of 0.5% if the payment of their bills is made through digital means.

(ii) Railways

(a) Railway through its sub urban railway network shall provide incentive by way of discount upto 0.5% to customers for monthly or seasonal tickets from January 1, 2017, if payment is made through digital means.

(b) All railway passengers buying online ticket shall be given free accidental insurance cover of upto Rs. 10 lakh.

(c) For paid services e.g. catering, bed roll etc. being offered by railways through its affiliated entities/corporations to the passengers, it will provide a discount of 5% for payment of these services through digital means.

(iii) Air India/Airlines

(a) National Carrier and all airlines are advised to provide free accidental insurance cover to the passengers who have purchased tickets through digital means.

(iv) Banks/Insurance Companies:

(a) Transaction and switching charges on Rupay debit cards, will be waived till 30th June, 2017.

(b) Public sector banks shall not charge more than Rs. 100 per month as monthly rental for Pos terminals/Micro ATMs from the merchants.

(c) Central Government insurance companies will provide incentive for payment of insurance premium through digital means.

(v) Tax Incentives:

4.3 No services tax will be charged on digital transaction charges/MDR for making or receiving payment upto Rs.2000 per transaction through digital transaction means.

C. Other benefits of the exercise

4.4 Expansion of credit to micro, small and medium enterprises (MSMEs)

- (i) The capacity of the banks to extend credit depends upon the deposit available with them. The increase in deposits with banks due to cancellation of Legal Tender Character of the existing Bank Notes in the denominations of ₹ 500/- and ₹ 1000/- would provide more headroom to banks to expand the credit base. Banks will be in a much better condition to lend. This will increase credit flow to micro, small and medium enterprises (MSME) which will spur economic activity and generate employment opportunities.

4.5 Boost to affordable housing

The increase in deposit with banks due to cancellation of Legal Tender Character of the existing Bank Notes in the denominations of ₹500/- and ₹1000/- would provide more cash availability and facilitate reduction in interest rates, thereby increasing the demand for loans in general and housing loans in particular. Further, the disincentive to hoard money in high denomination and the adverse effect on the black money will result in cleaning up the real estate sector by substantially reducing the role of unaccounted cash in this Sector. Consequently, it is expected that there would be decline in real estate prices, spurring the demand for housing. This process will be further aided by the expected low interest regime and availability of credit. This will increase the affordability of land, a major impediment to providing housing to the poor. Moderation of land prices due to reduction in cash transactions will increase availability of affordable housing and supplement government measures towards providing affordable housing.

4.6 Job creation and reduction in unemployment

The cancellation of legal tender character of the existing Bank Notes in the denominations of ₹ 500/- and ₹ 1000/- is expected to act as disincentive for hoarding of cash and resultant black money. It is expected that the inflation level

would decline due to curtailment and role of unaccounted cash in the economy. In this background, the banks with excess deposit would be in a position to decrease the interest rate thereby increasing the credit demand. The spill over effect of increased economic activity would lead to job creation and reduction in unemployment.

4.7 Effects of Financial Sector

- (i) Life insurance business has gone up by 213% in the month of November, 2016 vis-a-vis November 2015 and by 44% against October 2016 as interest rates offered on bank fixed deposits have gone down.
- (ii) Banking sector benefits from the new low cost Current and Savings Accounts (CASA) and from treasury gains due to increase in bond prices.
- (iii) There has been no cancellation or postponement requests for merger/acquisitions filed with BSE since 8-11-2016 till 19-12-2016.
- (iv) The mutual funds would benefit from PAN based transactions in gold and real estate and due to potentially lower interest rates in future for fixed/term deposits. Net inflow into mutual funds during the month of November increased by over 11%.
- (v) All the banks, led by the State Bank of India have reduced the Marginal Cost of Funds based Landing Rate (MCLR) by upto 90 basis points. This will reduce the interest rates that are charged by the banks on their loans.

4.8 Effects on Agriculture Sector

(i) Impact on crop acreage in Rabi 2016:

The crop sowing during the rabi season have show an increase over the previous year. Average estimates in Rabi 2016 for major Rabi Crops (Wheat, Pulses and Oilseeds) have exceeded acreage during Rabi 2015, as seen below:

Average (area sown) (in lakh ha)		
Crop	Rabi 2015	Rabi 2016
Wheat	266.64	287.10 (+7.67%)
Pulses	129.62	145.84 (+12.51%)
Oilseeds	71.92	79.02 (+9.87%)

(ii) Impact on Agriculture Credit:

Against an annual target of Rs. 6.15 lakh crore, as on 30th November, 2016, Rs. 6.24 lakh crore had been disbursed by various agencies which show an achievement of 101.46%.

4.9 Post Demonetisation increase in usage of payment options (Internet Banking/ Cards/ E-wallets)

- i. More than 7.5 crore e-wallets have been downloaded by Dec 21, 2016 and number of digital transactions through e-wallets has increased from 22 lakh/day on Nov 8 to 73 lakh/day on Dec 21.
- ii. On an average, 4.54 lakh people are downloading e-wallet apps every day.

Mode of transaction	8th Nov. 2016 (No. of transactions)	11th Dec 2016 (No. of transactions)	% Increase
Rupay Cards	3.85 lacs	19.98 lacs	417%
UPI	3721	38890	945%
E-wallets	19 lacs	62 lacs	234%
Mobile banking	50.2 lacs	98.1 lacs	95.5%
AEPS	0.32 lacs	0.42 lacs	30%

D. Ordinance

4.10 Subsequent to the issuance of Notification cancelling the legal tender character of the old Rs. 500 and Rs. 1000 bank notes, it was felt necessary to issue an Ordinance for the following reasons

- (i) Section 34 (1) of the Reserve Bank of India, 1934 defines that the liabilities of the RBI shall be an amount equal to the total amount of the currency notes of the Government of India and bank notes for the time being in circulation. Thus, unless the bank notes are extinguished by the Government of India, the RBI on its own cannot deny their liabilities for such notes.
- (ii) Further, under Section 26(1) of the Reserve Bank of India Act, 1934 it is mentioned that every bank note shall be guaranteed by the Central Government. Thus, though by Government of India Notification No. S.O. 3407 (E), dated 8th November, 2016, the legal tender character of the Specified Bank Notes has ceased, it is necessary by law to withdraw this guarantee of the Central Government.
- (iii) There is possibility of running a parallel economy by unscrupulous elements with SBN's unless the possession of such note is declared illegal. Such

parallel economy would give an opportunity to FICN sponsors to activate their networks.

In view of the urgency of the matter, the Specified Bank Notes (Cessation of Liabilities) Ordinance, 2016 has been promulgated.

4.11 Developments in Select Payment Systems: Pre- and Post- Nov 2016

- (i) Greater use of electronic payments by all sections of society so as to achieve a “less-cash” society has been articulated in RBI’s vision document: ‘Payment Systems in India: Vision 2012-15’ and reiterated in the vision document for 2015-18. The objective has been to facilitate provision of a payment system that combines the much-valued attributes of safety, security, enhanced convenience and accessibility leveraging technological solutions that enable faster processing and also continued availability of systems. Ensuring affordability, interoperability and customer awareness and protection have been other focus areas.
- (ii) In the immediate aftermath of the announcement of demonetization, the Government of India and the Reserve Bank initiated a series of measures to promote movement from cash to non-cash modes of transactions. They included, inter alia, (i) reduction in the merchant discount rate (MDR) and point of sale (POS) fees; (ii) monetary incentives in the form of discounts and prizes; (iii) service tax relief on MDR for small transactions; (iv) waiver of charges for small value transactions under Immediate Payment Service (IMPS), Unified Payment Interface (UPI) and Unstructured Supplementary Service Data (USSD) based *99# platform; (v) broadening Prepaid Payment Instrument (PPI) reach by enhancement of limits; (vi) introduction of a new category of PPIs; (vii) permitting banks to issue PPIs to a larger set of entities; (viii) permitting National Payments Corporation of India (NPCI) to launch (a) BHIM, the common app for UPI; and (b) National Electronic Toll Collection (NETC) system; and (ix) launching of new applications such as BHIM-Aadhar Pay.
- (iii) An analysis of the transactions in different payment systems shows that in most systems, there has been a pickup in the use of most of the non-cash modes of payments, both in volume and value terms, since November 2016. Newer payment systems, leveraging on the high visibility campaigns and incentive schemes of the government, have fared better and continue to process increasing volumes and values. Some highlights on the trends observed in transactions pre- and post- November 2016 are given below:

(a) In the remittances segment, volume as well as value of transactions in NEFT and IMPS increased considerably after Nov 2016, and continue to remain so. RTGS customer transactions have also witnessed a gradual increase over the last few months.

Month	RTGS - Customer Transactions		NEFT		Immediate Payment Service (IMPS)	
	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)
May-17	10.08	80,716.62	155.82	12,410.81	66.72	585.59
Apr-17	9.23	73,603.70	143.17	12,156.17	65.08	562.06
Mar-17	12.14	1,11,825.01	186.70	16,294.50	67.41	564.68
Feb-17	8.80	66,382.31	148.21	10,877.91	59.75	482.21
Jan-17	8.98	68,863.65	164.19	11,355.08	62.42	491.25
Dec-16	8.47	72,702.57	166.31	11,537.63	52.78	431.92
Nov-16	7.56	66,880.17	123.05	8,807.88	36.17	324.81
Oct-16	8.67	65,533.86	133.21	9,504.50	42.09	343.57
Sep-16	8.13	74,069.13	120.15	9,880.29	35.93	289.12
Aug-16	8.21	66,495.95	118.55	8,764.13	33.89	268.49
Jul-16	7.92	64,718.26	113.48	8,145.39	32.18	251.22
Jun-16	8.46	72,024.19	118.91	8,815.31	29.68	237.17
May-16	8.34	64,939.73	117.50	7,732.54	27.66	216.18
Apr-16	7.97	55,515.68	111.84	8,324.52	26.78	210.44
Total	122.96	10,04,270.83	1,921.09	1,44,606.66	638.54	5258.71

(b) In terms of use of cards, while the initial spurt witnessed after demonetization in usage of debit and credit cards at POS terminals has moderated (including both physical merchant locations and online e-commerce payments), the volumes have settled around levels much higher than pre-demonetisation. The number of POS machines installed have increased significantly over the last few months to 2,614,584 at the end of April 2017 as compared to 1,512,064 at the end of October 2016.

(c) The use of debit and credit cards at ATMs, which had seen a decline after November, 2016, is gradually increasing towards pre-November' 16 levels.

Month	Credit Cards Usage				Debit Cards Usage			
	Usage at ATMs		Usage at POS		Usage at ATMs		Usage at POS	
	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)
May-17	0.55	2.61	115.33	361.41	655.47	2,163.92	267.51	375.08
Apr-17	0.48	2.33	106.58	331.43	660.32	2,168.60	268.00	374.82
Mar-17	0.49	2.29	107.61	333.90	710.11	2,259.46	271.17	356.99
Feb-17	0.42	1.91	94.93	287.04	692.57	1,928.38	251.75	358.43
Jan-17	0.44	1.54	112.80	327.08	712.35	1,516.44	328.62	490.04
Dec-16	0.38	0.88	116.08	311.49	630.47	849.34	415.46	580.31
Nov-16	0.40	1.39	97.91	265.59	561.36	1,234.52	236.47	321.74
Oct-16	0.62	3.00	88.86	299.42	802.06	2,547.81	140.59	219.41

Month	Credit Cards Usage				Debit Cards Usage			
	Usage at ATMs		Usage at POS		Usage at ATMs		Usage at POS	
	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)	Volume (Million)	Value (Rupees Billion)
Sep-16	0.60	2.85	77.93	241.98	742.13	2,219.76	125.19	159.32
Aug-16	0.65	3.04	83.95	257.49	756.74	2,196.58	130.53	183.70
Jul-16	0.61	2.92	79.44	243.41	752.13	2,191.65	129.07	170.92
Jun-16	0.59	2.86	76.31	239.56	732.17	2,204.48	118.20	155.01
May-16	0.58	2.84	78.48	249.60	737.57	2,202.22	133.97	155.15
Apr-16	0.59	2.86	72.83	227.25	733.40	2,252.10	118.28	148.03
Total	7.40	33.32	1,309.04	3,976.65	9,878.85	27,935.26	2,934.81	4,048.95

(d) The volume and value of transactions in Prepaid Payment Instruments (PPIs), including wallets, witnessed the sharpest increase after demonetisation and the increase has sustained through the subsequent months

Month	Prepaid Payment Instruments (PPIs)	
	Volume (Million)	Value (Rupees Billion)
Apr-17	352.23	103.71
Mar-17	342.09	106.77
Feb-17	280.02	96.28
Jan-17	295.80	110.01
Dec-16	261.09	97.70
Nov-16	169.32	50.74
Oct-16	126.90	60.22
Sep-16	97.07	56.28
Aug-16	96.28	56.46
Jul-16	77.85	53.40
Jun-16	76.98	53.47
May-16	70.95	49.95
Apr-16	69.30	46.72
Total	2,315.88	941.71

(e) National Unified USSD Platform (NUUP) is one segment which has witnessed impressive growth in transactions. This service providing a common platform offering USSD-based mobile payments services was launched by NPCI in 2013. At present, all the 10 telecom providers in the country and 51 banks are participating in the system with services being offered in 11 regional languages, besides English. As this system can be used by any mobile banking customers from any handset (no prerequisite of smartphone), it appears to have been immediately used by many customers for carrying out both financial and non-financial transactions (such as balance inquiry, PMJDY, overdraft status and query on status of linking account number with Aadhaar number). Its usage for funds transfer, which had grown

significantly in the months immediately after November 2016, has started to decline slightly, though it is still very high as compared to pre-November 2016 levels.

Month	Total Transactions Initiated	Successful Transactions		
		Financial	Non-financial	Total Successful Transactions
May-17	25,21,721	1,92,512	18,93,381	20,85,893
Apr-17	31,76,533	1,90,375	22,39,103	24,29,478
Mar-17	34,02,072	2,11,521	25,27,198	27,38,719
Feb-17	39,68,063	2,20,663	27,64,020	29,84,683
Jan-17	39,87,457	3,14,623	15,56,703	18,71,326
Dec-16	4,27,38,497	1,01,893	1,51,94,371	1,52,96,264
Nov-16	1,41,70,804	7,042	59,15,866	59,22,908
Oct-16	56,57,044	2,978	35,15,927	35,18,905
Sep-16	43,34,039	3,172	30,69,271	30,72,443
Aug-16	30,83,565	3,081	23,32,072	23,35,153
Jul-16	25,75,644	2,742	21,97,209	21,99,951
Jun-16	24,00,799	2,791	20,12,969	20,15,760
May-16	24,01,050	3,018	20,76,763	20,79,781
Apr-16	15,22,239	2,220	12,58,343	12,60,563
Total	8,17,68,723	12,58,631	4,85,53,196	4,63,51,313

- (f) Unified Payments Interface: The transactions through UPI have picked up significantly, particularly after the introduction of the BHIM, the common app for UPI developed by NPCI. This can also be attributed to the high visibility given to it by way of incentive schemes of the Government. The BHIM customer referral bonus scheme and BHIM merchant incentive scheme have also been introduced by the Government effective April 14, 2017. This is reflected in the increased growth in transaction volumes as well as value in BHIM, besides the increase in customer registrations.

	BHIM	Excluding BHIM
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Month	Transaction Volume (in million)	Transacytion Value (in ₹ billion)	No. of customers registered	Transaction Volume (in million)	Transaction value (in ₹ billion)
May-17	3.98	13.07	9,42,620	5.19	14.59
Apr-17	3.19	10.02	11,59,570	3.82	12.38
Mar-17	2.46	8.23	9,09,877	3.70	15.68
Feb-17	1.97	6.23	8,04,979	2.19	12.79
Jan-17	1.72	3.57	8,34,855	2.44	13.02
Dec-16	0.04	0.02	51,414	1.92	7.04
Total	13.36	41.14	47,03,315	19.26	75.5

- (g) **National Automated Clearing House:** The volume and value of transactions in NACH, which deals with processing of bulk and repetitive payments and receipts, has not shown much change since November 2016 levels. Though there has been an increase, the same has not been consistent. This is to be expected since NACH is not a payment system where individual customers initiate transactions directly.

Month	National Automated Clearing House (NACH)	
	Volume (Million)	Value (Rupees Billion)
Apr-17	222.17	971.50
Mar-17	191.01	899.47
Feb-17	158.71	653.59
Jan-17	166.82	601.14
Dec-16	208.05	699.24
Nov-16	161.11	675.44
Oct-16	169.39	768.44
Sep-16	157.29	590.36
Aug-16	153.33	681.78
Jul-16	189.60	634.06
Jun-16	166.50	556.96
May-16	160.59	570.30
Apr-16	174.85	585.39

E. Aadhaar in Digital Payments

4.12 Greater use of electronic payments by all sections of society has been a policy objective of the Government. The objective has been to facilitate provision of a payment system that combines the attributes of safety, security, enhanced convenience and accessibility leveraging technological solutions that enable faster processing and also continued availability of systems. Ensuring affordability, interoperability and customer awareness and protection have also been other focus areas. Five major instruments identified towards achieving digital transactions were Unstructured Supplementary Service Data (USSD), Unified Payment Interface (UPI), Cards, Wallets and Aadhaar

based payments systems. There are over 115 crore Unique Aadhaar holders. Aadhaar, being a digital, online verifiable identity, has provided unique solution to help move towards digital economy. An Aadhaar holder just has to link his/her Aadhaar to his/her bank account and start doing transactions without any need of any token by just presenting themselves for bio-metric authentication. Aadhaar, has facilitated following solutions for Aadhaar based payments.

4.13 Aadhaar Payment Bridge (APB)

A payment can be made to a person's bank account via his/her Aadhaar number, provided it is linked to his/her Aadhaar number. Currently, some of the schemes with largest number of beneficiary count viz. DBTL, MGNREGS, NSAP, Scholarship Schemes and F&PDS are transferring the cash benefits and subsidies directly to the beneficiaries' bank account through APB.

As on 31st May 2017, overall status of Digital Payments made on APB and some of the schemes is given below:

Aadhaar Payment Bridge

Volume of transactions : 211.02 Crore

Value of transactions (Rs): 65,136 Crore

DBTL (Subsidy on LPG)

Volume of transactions : 184.22 Crore

Value of transactions (Rs): 37,246 Crore

MGNREGS

Volume of transactions : 15.84 Crore

Value of transactions (Rs): 13,149 Crore

NSAP

Volume of transactions : 2.10 Crore

Month	Vol.of Txn	Cumulative Value. of Txn (Rs.)
Sept'16	7.54	1,395.55
Oct'16	8.11	1,326.91
Nov'16	7.80	1,670.51
Dec'16	9.03	2,278.60
Jan'17	8.54	2,418.48
Feb'17	8.05	2,745.07

Mar'17	9.17	5,033.74
Apr'17	10.93	6,097.99
May'17	10.74	4,985.08

4.14 Aadhaar Enabled Payment System (AEPS)

AEPS is the platform using which an Aadhaar holder who has linked his Aadhaar in the Bank account can do basic banking transactions including cash withdrawal, cash deposit, balance enquiry, fund transfer etc. in an inter-operable fashion from any Bank's MicroATMs (Point of Sale devices carried by Bank Mitras) using biometric authentication.

As on 31st May 2017, the overall of AEPS platform is,

Total Banks Live on AEPS : 128
Total Active Micro-ATMs : 2.85 Lakh
Cumulative Approved Transactions : 57.71 Crore
Monthly Transactions : 6.81 Crore
(in May, 2017)

Trend of AEPS transactions over 9 months (in Crores)

Month	Vol.of Txn	Cumulative Vol. of Txn
Sept'16	2.36	22.67
Oct'16	2.57	25.24
Nov'16	2.69	27.93
Dec'16	3.73	31.66
Jan'17	4.32	35.98
Feb'17	4.10	40.08
Mar'17	5.17	45.25
Apr'17	5.65	50.90
May'17	6.81	57.71

AEPS, has transformed the way the marginalized customers were dealt with by the banks. It has empowered the customer to do an interoperable transaction on their account from any microATM in the neighbourhood, hence making the market customer driven and resulting in competition among all banks. With the advent of JAM (Jan Dhan, Aadhaar and Mobile) and resultant surge in deposit base, Banks now see business in servicing the customer rather than just acquiring them.

4.15 Aadhaar Pay

Aadhaar Pay is the merchant version of AEPS. The application can work on any low cost android phone with single finger bio-metric device connected using a USB cable. It enables the merchant to collect payment digitally and instantly from his/her customers. The advantage of using Aadhaar Pay is that it is completely token-less for the customers seeking a service or purchase. Customers just have to present their biometrics for authentication besides their Aadhaar number, select the name of the bank and the amount to be paid. For the merchant the cost of additional hardware is just about Rs 2,000 if they already have an android based smart phone.

As on 31st May 2017, the current status of Aadhaar Pay platform is,

Number of Banks live	: 37
Total Transactions	: 0.50 Lac
Merchants Active	: 2,636
Transactions /month	: 10,154

(* May, 2017 figures)

4.16 Pay to Aadhaar

Pay to Aadhaar is a facility available on Unified Payment Interface (UPI) platform integrated in BHIM app and Bank UPI apps. This enables a resident to make a payment to the Aadhaar number of any other resident. The receiving Aadhaar number should be linked with his/her bank Account. The BHIM app ensures that even before accepting to move forward with Aadhaar as payment address, like its other addresses, it confirms in real time if the Aadhaar number being quoted is actually linked to a bank account from NPCI's Aadhaar Mapper.

As on 31st May 2017, the current status of Pay to Aadhaar platform is,

Number of Banks live	: 38
Total Transaction	: 1.41 lakh
Transaction per month	: 58,000 *
Daily Average Transaction	: 2,000(* May, 2017 figure)

4.17 Present Security Features

For UIDAI, privacy, data protection and security of the transactions using its authentication system has always been a priority. To achieve this, UIDAI's authentication system is designed in such a way that it provides multiple safeguards to

ensure security of the overall authentication system. Following are some of the key security safeguards of Aadhaar biometric authentication system:

- (i) Secure channel: Access to UIDAI's Central Identity Repository is available only to authorized Authentication User Agencies (AUAs) and e-KYC User agencies (KUAs) through authorized Authentication Service agencies (ASAs) which have established secured network connectivity for the purpose of authentication with the Central Identities Data Repository (CIDR), in compliance with the Regulations, specifications, standards and technology architecture as prescribed by UIDAI, from time to time. Further, CIDR is accessible only through (Application Programming Interface) APIs defined by UIDAI and authentication request have to be in the format as prescribed by UIDAI.
- (ii) Identity data is always encrypted: UIDAI mandates that the authentication application shall immediately package and encrypt the input parameters into personal identity (PID), block before any transmission, as per the specifications laid down by the Authority. Therefore, resident's identity data traverse from authentication device to CIDR only in encrypted form.
- (iii) Traceability of transactions: UIDAI accepts only those authentication requests which are digitally signed by Authentication / e-KYC User Agency or Authentication Service Agency. Authentication / e-KYC User Agency also maintains information of all their authentication devices and sends this information as part of authentication request to UIDAI. It is mandatory for Authentication / e-KYC User Agency, Authentication Service Agency and UIDAI to maintain transaction logs as prescribed by Aadhaar Authentication Regulations. Therefore, for all authentication requests there is a complete audit trail available with device information, Authentication / e-KYC User Agency, Authentication Service Agency, time stamp etc.
- (iv) Biometric locking: Biometric lock facility for Aadhaar number holder – UIDAI provides biometric lock facility to all the Aadhaar number holders using which Aadhaar number holders may lock their biometrics and may unlock when required.
- (v) Multi-factor authentication: UIDAI provides multiple ways of authentication such as demographic, biometric (Fingerprint/Iris), OTP or a combination of these factors. Further, the Authentication User Agency may decide to use additional authentication factors on their own depending on their security and business requirements.

- (vi) Registered Devices: UIDAI along with biometric device vendors and Standardisation, Testing & Quality Certification (STQC) is introducing Registered Devices and will mandate use of Registered Devices after 30th September 2017 for all authentication requests. The key features of Registered Devices are:
 - (a) Device identification – Every biometric device will have a unique identifier allowing traceability, analytics and fraud management
 - (b) Eliminating use of stored biometrics – Biometric data is signed within the device using the provider key to ensure it is indeed captured live.
 - (c) A standardized and certified Device Driver is to be provided by the device providers. This device driver (exposed via an SDK/Service) encapsulates the biometric capture, any user experience while capture (such as preview), and signing and encryption of biometrics all within it. The Device Driver must form the encrypted PID block before returning to the host application.
- (vii) Alert notifications: UIDAI provides instant e-mail alert notifications to Aadhaar number holder for biometric authentication with details such as time of authentication, mode of authentication, the name of Authentication user agency through which authentication has happened and contact details of UIDAI. Therefore, in case of any issues with the transaction, Aadhaar number holder may approach UIDAI or the Authentication user agency.
- (viii) Fraud detection and prevention: UIDAI keeps on doing analysis on the transactions performed by various authentication user agencies and based on the requirement keeps on adding new features or rules to ensure increased security of authentication transactions. Authentication user agencies are also advised to perform analysis on the transactions to monitor and avoid any irregular or fraudulent activity.
- (ix) Assisted mode: There are various applications which are being used in assisted mode such as PDS, MGNREGS, Passport, Telecom, Bank account opening, Loan disbursement etc where an operator / official of the organization assist the Aadhaar number holder for Aadhaar authentication during service delivery. Assisted mode certainly provides an additional layer of security and should be encouraged wherever possible.

CHAPTER-5

Digital and Cyber Security Issues

A. Scenario

5.1 Cyber-attacks and data leakage are the main vulnerabilities associated with digital transactions. There are also risks like online fraud and information theft. Post demonetisation, there has been a significant rise in online apps, payment wallets and plastic money transactions in the country. UPI and BHIM have facilitated financial inclusion while seeking to spread the outreach of the Digital Economy.

5.2 There are several Organizations of Government of India dealing with different aspects of cyber security:

- (i) National Security Council Secretariat (NSCS) is the apex agency looking into the political, economic, energy and strategic security concerns.
- (ii) While the State Police have the responsibility to deal with cyber crime, the CBI deals with serious cyber crimes including those cases that are referred to it by various Courts and State Governments. The CBI also coordinates with various countries and INTERPOL in this regard. The National Crime Record Bureau maintains cyber crime statistics and generates related reports. Ministry of Home Affairs (MHA), through the Central Forensic Science Laboratories (CFSLS), including the CBI-CFSL, provides cyber forensic examination services to various Central and State crime investigation agencies.
- (iii) Ministry of Electronics and Information Technology (MeiTY) - Under MeiTY several Organisations deal with cyber threats, such as:
 - (a) National Cyber Response Centre – Indian Computer Emergency Response Team (CERTIn) monitors Indian cyberspace and coordinates alerts and warnings of imminent attacks and detection of malicious attacks among public and private cyber users and organizations in the country. It maintains a 24×7 operations centre and has working relations/collaborations and contacts with CERTs all over the world; and Sectoral CERTs in the country, concerned public and private bodies, academia, Internet Service Providers and vendors of Information Technology products in the country.
 - (b) National Informatics Centre - NIC provides network backbone, manages IT services, E -GOV initiatives of central and state governments.
- (iv) Department of Telecommunications (DoT) under the Ministry of Communications, Government of India, is responsible to coordinate with all ISPs and service providers with respect to cyber security incidents and response actions as deemed necessary by CERT-In and other government agencies. DoT provides guidelines regarding roles and responsibilities of Private Service Providers and ensures that these Service Providers are able to track the critical optical fiber networks for uninterrupted availability and have arrangements for alternate routing in case of physical attacks on these networks.
- (v) National Information Infrastructure Protection Centre (NIIPC) - NIIPC, under the National Technology Research Organisation (NTRO) is a designated agency to

protect the critical information infrastructure in the country. It gathers intelligence and keeps a watch on emerging and imminent cyber threats in strategic sectors including National Defence. They prepare threat assessment reports and facilitate sharing of such information and analysis among Intelligence, Defence and Law enforcement agencies with a view to protecting these agencies' ability to collect, analyse and disseminate intelligence.

(vi) Reserve Bank Information Technology Pvt Ltd (ReBIT) has been set up by the Reserve Bank of India (RBI), to take care of the IT requirements, including the cyber security needs of the Reserve Bank and its regulated entities. It focuses on IT and cyber security (including related research) of the financial sector and assists in IT systems audit and assessment of the RBI regulated entities; advises, implements and manages internal or system-wide IT projects (both the existing & new) of the Reserve Bank as mutually decided between the Reserve Bank and ReBIT. ReBIT acts as a catalyst for innovation, big systems and new ideas apart from having the capability to guide the regulated entities in the IT areas of their operations as also for the RBI's IT related functions and initiatives. Given the need for inter-operability and cross-institutional cooperation, ReBIT will effectively participate in setting up standards to strengthen Reserve Bank's role as regulator.

B. Initiatives taken by Ministry of Home Affairs to address Cyber crimes

5.3 An Expert group has been constituted by MHA in December 2014 to suggest recommendations for effective measures to prevent cybercrime in general and particularly against women and children. As per the recommendations of the committee, a centrally sponsored scheme for Cyber Crime Prevention, with an approved outlay of Rs.195.83 Crores, is under implementation, with the following objectives:

- (i) To setup an online cybercrime reporting platform
- (ii) To establish a National level advanced Cyber forensic laboratory
- (iii) To establish cyber training and operational labs in 36 State/UTs to create infrastructure for training Police, Forensics and Judicial officers and create operational infrastructure for cyber forensic investigations.

(iv) A total of 27500 Police and Forensics Officers, including 2500 Women Police Officers, and 13000 Judicial Officers are proposed to be trained under the Project.

(v) Separate outlays of Rs. 15.72 crores and Rs. 15.00 crores have been provided for generating awareness with respect to cyber-crime and Research and Development projects respectively.

(vi) The project will also increase the capabilities of Central Forensic Science Laboratories (CFSs) in cyber forensics and establish a Centre of Excellence (CoE) for Cyber Forensics in one CFS.

5.4 An Expert committee under the chairmanship of Shri T.K. Vishwanathan, Secretary (Law) (Retd.) has also been constituted by MHA to study and examine the existing Domestic and International Cyber Laws to suggest suitable additions/amendments in Cyber Laws. The committee is also looking into reviewing Section 66-A (which has since been struck down by the Supreme Court) of the IT (Amendment) Act, 2008 and the corresponding provisions in the IPC, Cr. PC and Evidence Act.

(i) Cyber Crimes in India are registered under three broad heads, the IT Act, the Indian Penal Code (IPC) and other State Level Legislations (SLL). The cases registered under the IT Act include

(a) Tampering computer source documents (Section 65 IT Act)

(b) Loss /damage to computer resource/utility (Section 66 (1) IT Act)

(c) Hacking (Section 66 (2) IT Act)

(d) Obscene publication/transmission in electronic form (Section 67 IT Act)

(e) Failure of compliance/orders of Certifying Authority (Section 68 IT Act)

(f) Failure to assist in decrypting the information intercepted by Govt Agency (Section 69 IT Act)

(g) Un-authorised access/attempt to access to protected computer system (Section 70 IT Act)

- (h) Obtaining licence or Digital Signature Certificate by misrepresentation / suppression of fact (Section 71 IT Act)
 - (i) Publishing false Digital Signature Certificate (Section 73 IT Act)
 - (j) Fraud Digital Signature Certificate (Section 74 IT Act)
 - (k) Breach of confidentiality/privacy (Section 72 IT Act)
 - (l) Others
- (ii) On the other hand, cases are also registered under the IPC and those include :
- (a) Offences by/against Public Servant (Section 167, 172, 173, 175 IPC)
 - (b) False electronic evidence (Section 193 IPC)
 - (c) Destruction of electronic evidence (Section 204, 477 IPC)
 - (d) Forgery (Section 463, 465, 466, 468, 469, 471, 474, 476, 477A IPC)
 - (e) Criminal Breach of Trust (Section 405, 406, 408, 409 IPC)
 - (f) Counterfeiting Property Mark (Section 482, 183, 483, 484, 485 IPC)
 - (g) Tampering (Section 489 IPC)
 - (h) Counterfeiting Currency / Stamps (Section 489A to 489E IPC)
- (iii) The Reserve Bank of India (RBI) reported 16,468 cyber crimes related to ATM, debit card, credit card and net banking frauds for the year 2015-16 and 13,083 cyber crimes for the year 2014-15.

5.5 Questioned on the role of institutions and regulatory changes required to provide impetus to cyber security as an area in India and the need of integration of regulators to tackle the menace of cyber attacks, Data Security Council of India (DSCI), in a written reply stated that Cyber security is multi-dimensional, and a complex domain straddling many disciplines and fields. It requires effective participation of all stakeholders to protect against this growing global menace. In India, while we do have a national cyber security policy, enforcement is primarily done by sectoral regulators and national security agencies. Rising number of guidelines, sectoral Cyber security frameworks, policy initiatives are an indicator to proactively mitigate cyber security threats and to curb cybercrimes. There needs to be better coordination on cyber security matters

amongst all stakeholders, including regulators and government agencies to harmonize cyber security efforts across the country to move towards the vision of 'Secure Digital India'. Industry bodies like DSCI are also taking steps to address security and privacy issues by providing guidelines and best practices and contributing significantly to Capacity Building and Skills Development. Since Cyber security cuts across all sectors, in our view having a separate ministry may not be effective to enforce cyber security across all sectors. Instead an empowered authority under Prime Minister's Office vested with the powers and budgets can coordinate and execute the cyber security efforts in the country, set the cyber security agenda of the country in close collaboration with all the stakeholders (line ministries, state governments critical sector enterprises both Public and private sector in Public-Private-Partnership mode). All the decisions/ initiatives with respect to cyber security matters (that includes securing domestic cyber space, cyber security R&D, education and awareness, international cooperation, cyber diplomacy etc.) in the country should be vested in this designated entity, and should be executed by respective stakeholders tasked with the responsibility. All the line ministries and regulators will have the onus to drive cyber security initiative in their respective domains, aligned to the national cyber security initiatives. We have seen similar examples of success in US (empowered Cyber Security Coordinator in President's office), national cyber bureau in Prime Minister's office in Israel, (Prime Minister's Cyber Security Advisor, Australia) etc. Given the importance of cyber security as a strategic domain, many countries are elevating role of National Cyber Security chief. We are also witnessing increased attention at a President / Prime Minister's Level in setting Cyber Security Priorities for the country, notifying the Cyber Security Agenda, and also issuing necessary directives and Presidential orders. Some of these best practices from other developed countries may be studied and adopted in India.

PART II

OBSERVATIONS / RECOMMENDATIONS

1. India's cash to GDP ratio (12.2 % as at the end of March 2016 and 8.8 % as at the end of March 2017) is substantially higher and it ranks very low with respect to total number of digital transactions as well as number of digital payment points per million persons. In the given scenario, transformation to digitalised economy is not only a natural trajectory of progression to a developed economy but also an expedient necessity. The Committee note that digitalisation leading to a less-cash economy was included as a supplementary objective of demonetisation of high-value currency notes of Rs 500 and Rs 1000 effected on 8 November 2016, while there was an ongoing Digital India Programme which envisaged transforming India into a digitally empowered economy and knowledge society through a capable infrastructure, digital governance and digital services to the citizens. It is a programme that covers multiple Ministries and Departments and is being implemented and funded by various central Ministries/Departments of Government of India and State/UT Governments. The Committee note that promotion of a digital transaction ecosystem is a consequential extension of the Digital India programme and has the inherent capacity to transform India's economy through formalization of financial transactions / payments. Digital transactions allow for services to be delivered at a competitive cost, afford greater scalability and enable small and micro enterprises to access formal financial services and benefits of e-commerce. Such a process can create a multiplier effect in efficiency of capital use through greater transparency, traceability of transactions, enforceability of law and significantly buoyed tax revenues for social welfare. Further, in addition to accelerating financial inclusion, opening up new business models and markets, digital payments can be expected to improve the State's ability to curb tax leakages and reduce cash related costs and inconvenience. The Committee would therefore expect the government to proceed systematically towards achievement of these objectives, so that the transformation towards a digital economy can take place in a smooth and orderly manner.

2. The Committee find from available accounts that progress of digitalisation has been slower than envisaged, although certain digital modes had peaked soon

after demonetisation due to cash crunch. As re-monetisation took apace, the initially increasing trend tapered off with greater availability of cash. In fact, it increased much more only in volume terms rather than in value terms. The Committee believe that although the government is taking steps towards promoting digital economy, glaring challenges and lingering issues remain to be resolved. The Committee find that issues such as unreasonable cost of digital transactions, lack of coordination between central and state governments in expanding digital infrastructure, issues of quality in telecom coverage including network and inadequate telecom infrastructure are some of the major roadblocks on the path to rapid digitalisation. As per Internet and Mobile Association of India (IAMAI) estimation, 175 million urban and 750 million rural users are still to be connected. Regarding quality of connectivity, India ranks second last in APAC region on average speed and threshold speed parameters. Urgent attention is thus called for in this regard to achieve the stated objectives.

3. The Committee are perturbed to note that high cost of digital transactions is one of the major lacunae for the masses to adopt this transformative mode. The Committee would like to point out that the average volume of digital transactions being on the lower side, the related transaction cost gets higher. Although, the government has begun to somewhat incentivise digital transactions, the Committee would recommend that to institute a behavioural and societal change, the government needs to substantially rationalise digital transaction costs and provide incentives, especially for the lower value of transactions.

4. In this connection, the Committee during the course of their examination of the subject had raised the issue of waiving off the merchant discount rate (MDR) applicable on digital payments pertaining to the retail sector. It is a charge paid by a merchant to a bank for accepting payment from customers through credit or debit cards and is expressed as a percentage of the transaction amount. The Committee are happy to note that the government has now taken a decision to bear the cost of MDR applicable on transactions made through debit cards, the Unified Payments Interface (UPI) and Aadhar-enabled payments system upto and including a value of Rs 2000 for a period of two years with effect from January 1, 2018. Earlier, the RBI brought in changes to the MDR for debit card transactions, capping it at 0.4% (MDR cap of Rs 200 per transaction) for merchants with a

turnover of Rs 20 lakh, if the transaction involves physical infrastructure such as a swipe machine. For merchants with annual turnover of more than 20 lakh, it has been capped at 0.9% (MDR cap of Rs 1000 per transaction). The Committee hope that these measures along with such other incentives will help truly popularise digital mode of transactions and encourage customers to prefer digital to cash mode. In this context, the Committee would like to emphasise that digitalisation should be incentivized and not pushed in a coercive manner by rendering ATM machines non-functional etc, and causing needless inconvenience to the common people. Processes should not be hastened without adequate back-up infrastructure and a robust framework. In the meantime, vigorous efforts should be made to expand and improve in tandem digital infrastructure and network connectivity for smoothening the process of digitalisation. Efforts should also be made to promote and encourage indigenous manufacture of consumer devices and other telecom equipment as well as R&D in the telecom sector.

5. The Committee are of the view that the Digital India platform depends markedly on the telecom services and coverage. However, the quality of telecom coverage in the country is unevenly distributed, viz., 97%, 75% and less than 60% population is covered by 2G, 3G and 4G spectrum respectively. It is particularly inadequate in case of hilly and tribal habitations. The Committee would thus strongly recommend that urgent and earnest efforts are required by both central and state governments along with the industry to vastly improve the quality of telecom, internet and other digital coverage evenly over the landscape of the country, so that the digital divide is soon bridged. It is necessary to be truly inclusive in such an effort. Government's internet growth strategy should be synergised with their larger digital objectives. Towards this end, the Universal Service Obligation (USO) Fund should be fully deployed, particularly with public sector telecom companies for extending mobile and internet penetration and delivering digital services to the hitherto unserved areas. TRAI should also act as a facilitator to achieve these objectives through their regulatory powers.

Various initiatives set forth by the central government towards transforming country into a digital economy also needs to be complemented adequately by follow-up action on the part of the state governments. Hence consistent coordination between centre and the states and also with other stakeholders would be required. Furthermore, sharing of network among all

telecommunication companies (including those in the public sector) would lead to wider coverage. Telecom service providers should be able to get 'right of way' from state agencies while building their infrastructure. Festering issues relating to the debt-ridden telecom sector (which is relatively in nascent stage), with a levy imposed in the range of 25-29% of revenue require to be squarely addressed on urgent basis. All hurdles on this count should be removed forthwith so that telecom/digital network can expand fast, while ensuring service quality to the public.

6. The Committee note that the Government is keeping pace with respect to the trends in Information Technology (IT) and was in time able to create an IT Act, Indian Computer Emergency Response Team (CERT-In), education, awareness and Research and Development (R&D) programmes through Ministry of Electronics and Information Technology. These initiatives were mostly in line with and motivated by the changing perception of the rise of cyber space and network security. Taking cognizance of the present scenario, the Committee feel that as the cyber space expands and intensifies with implications for national security, monitoring/ surveillance and protecting the national information infrastructure needs to be included in the national agenda on priority basis. Robust Cyber/Information Security requires creation of structures which cut across line ministries and disciplines, as the issues ahead of the government are complex and from the science and technology point of view stand at the inter-section of Information and communication technology, social science, economics and psychology. The Committee therefore recommend due consultations with domain experts and industry and creation of a duly empowered coordinating authority, with status at par with Space and Atomic Energy Departments with adequate budget, reporting directly to the Prime Minister's Office (PMO). The proposed entity should be vested with adequate responsibilities and powers. It must develop comprehensive security standards, technical guidance roadmap and institutionalise a comprehensive risk management framework to promote flexible, cost-effective information security programmes, which shall establish a fundamental level of 'security due diligence' for private/public agencies based on minimum security requirements and protocol including Crypto Analysis and adequate offensive capabilities. Accordingly, the Committee would suggest that the authority should adopt and create internationally accepted security standards

and guidelines and further classify the threat hierarchy to model the potential attacker's skill level and accordingly articulate the nations' priority in cyber space.

7. The Committee observe that incidents of cyber attacks including ransomware etc. have occurred in the recent past. According to the IAMAI, India is the most hit in regard to data security accounting for over 50% of the total infections. Identified cyber threats include intrusion for monetary or other benefit, interception for espionage, manipulation of information on network, data extraction, misuse of processing power, counterfeit items and evasion tools/techniques. The Committee observe that enterprises are really apprehensive about losing their intellectual property, their e-mail, their data on users like credit cards, banking information, health records etc. The Committee are of the view that government's response to such attacks should be active and professional rather than passive with a view to ensuring high degree of confidence towards the goal of digitalisation, securing the digital transaction ecosystem and for smooth and secured transformation towards a less- cash economy. The Committee note with concern that with rising cyber challenges and issues both nationally and globally, lack of trained professionals to deal with any complex challenge posed by cyber attackers is a major constraint, which thus needs immediate attention. The Committee therefore recommend that capacity and capability building on cyber security should be taken up on 'Mission mode'. Areas, particularly prone to cyber crime, should be specially monitored and taken care of by state agencies in coordination with Ministry of Home Affairs.

8. As digital literacy is sparsely and unevenly spread across our population, the Committee desire that the government must take concrete steps to promote digital literacy and awareness among the population, especially the vulnerable sections. In this connection, suitable programmes may be included in the curriculum in High School or 10+2 level, which would cover aspects of ease of transaction, costs, benefits and associated risks.

9. The Committee would stress upon the need for the Government to be proactive regarding a comprehensive cyber crisis management proposition with a well laid out action plan and assigned duties to the respective department / organisation / agencies in the event of a cyber crisis. Although some coordination is visible, still a lot of ground work needs to be done to bring all the

stakeholders together in a professional set up. The Committee desire that the Government come up with a comprehensive security roadmap, security practices and extent of compliance/ adherence by the concerned agencies as per their vulnerabilities/risks etc. The Committee may be apprised of the action taken by the government in this regard within three months of presentation of this Report.

10. As country marches towards digitalisation, the Committee believe that it is absolutely necessary to have a sound consumer privacy and data protection or empowerment law in the statute book to ensure that users/individuals have control, access or even ownership of the data they have shared with various entities, foreign or domestic, who have become massive aggregators of data on their respective platforms; lest we become a digital colony with global entities having virtual control over data. The Committee, therefore feel that the country now urgently needs a data minimization, data privacy and data residency law to ensure security of public and private data. The Committee would therefore urge upon the government to bring such a data protection legislation before Parliament at the earliest.

11. It is heartening to note that Unified Payments Interface (UPI) under the auspices of the National Payments Corporation of India (NPCI) has rapidly emerged as an important mobile-based payment platform, although it remained as a slow-starter. The launch of the UPI-based BHIM (Bharat Interface for Money) app on December 30, 2016 gave a thrust to this payment platform. UPI usage seems to have gained further traction with the number of transactions crossing the one-crore mark. The Committee desire that with UPI having completed a year in operation in August 2017, the government and the NPCI must further popularise this platform with the common man and the merchant establishments, including private and government agencies and take this forward as an easy and common instrument of carrying out digital transactions. In the same vein, NPCI must also further promote, incentivise and popularise the usage of their Rupay cards and make it a truly international plastic money of standing.

12. As the economy shifts gears to the digital mode, the Committee find that the official websites/portals- both governmental as well as non-governmental often present a sorry picture. They are not properly updated or simply remain non-functional and in many cases, important information is not available at all.

The Committee would therefore like the Ministry of Electronics and Information Technology to pro-actively address this issue so that the websites/portals remain useful and relevant for the public.

13. The Committee find it rather disconcerting that even as the country moves towards a digital economy, transactional hassles and grievances of users including ATM frauds such as cloning, phishing etc. have also been increasing manifold. Ordinary customers are then left high and dry, extremely helpless and clueless about the next course of action for a remedy and redressal of grievance. The liability and accountability question in all such cases still remains fluid. The Committee would therefore urge the government to bring in necessary legal/procedural provisions which would pinpoint consequential liability of the bank or financial institution or any other entity connected with the transaction, so that the user/customer is not put to hardship for no fault of his/her. The customer/user should also be provided with an empowered and responsive common Helpline (SOS) number, which he/she can approach whenever he/she requires. There should also be a dispute settlement mechanism wherein the onus of frauds etc. can be clearly defined and resolution provided promptly in a time-bound manner.

New Delhi;
02 January, 2018
12 Pausha, 1939 (Saka)

DR. M. VEERAPPA MOILY
Chairperson
Standing Committee on Finance

Minutes of the Sixteenth sitting of the Standing Committee on Finance (2016-17).

The Committee sat on Thursday, the 25 May, 2017 from 1100 hrs. to 1400 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

1. Shri Venkatesh Babu T.G.
2. Shri Nishikant Dubey
3. Shri P.C. Gaddigoudar
4. Shri Shyama Charan Gupta
5. Shri Rattan Lal Kataria
6. Shri Chandrakant B. Khaire
7. Shri Bhartruhari Mahtab
8. Shri Rayapati Sambasiva Rao
9. Prof. Saugata Roy
10. Shri Jyotiraditya M. Scindia
11. Shri Gajendra Singh Sekhawat
12. Shri Gopal Chinayya Shetty
13. Shri Anil Shirole
14. Shri Kirit Somaiya
15. Shri Dinesh Trivedi
16. Shri Shivkumar Udasi

RAJYA SABHA

17. Shri Naresh Agrawal
18. Shri Naresh Gujral
19. Shri Satish Chandra Misra
20. Dr. Mahendra Prasad
21. Shri C.M. Ramesh
22. Shri T.K. Rangarajan
23. Shri Ajay Sancheti
24. Shri Digvijaya Singh
25. Dr. Manmohan Singh

SECRETARIAT

- | | | | |
|----|------------------------------|---|---------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. | Shri R.C Tiwari | - | Director |
| 3. | Shri Ramkumar Suryanarayanan | - | Additional Director |

WITNESSES

Ministry of Finance (Department of Economic Affairs)

1. Shri Shaktikanta Das, Secretary
2. Dr. Saurabh Garg, Joint Secretary (I&C)

Ministry of Finance (Department of Expenditure)

1. Shri Ashok Lavasa, Finance Secretary & Secretary
2. Shri Anthony Lainzuala, Controller General of Accounts
3. Shri Pramod Kumar Das, Additional Secretary (Expenditure)
4. Ms. Annie George Mathew, Joint Secretary (Pers.)

Ministry of Finance (Department of Financial Services)

1. Smt. Anjuly Chib Duggal, Secretary
2. Shri Amit Agrawal, Joint Secretary

Ministry of Electronics & Information Technology

1. Shri Rajiv Bhansal, Joint Secretary

Unique Identification Authority of India

1. Shri Ajay Bhushan Pandey, CEO
2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction of the witnesses, each of them submitted their respective views on the subject 'Demonetisation and Transformation towards digital economy' before the Committee one after another. The major issues discussed during the sitting included, overall cost of implementation of demonetisation of Rs. 500 and Rs. 1000 currency notes, the quantum of Rs. 500 and Rs. 1000 currency notes returned / deposited in the banks as a result of demonetisation, fake currency notes received by banks in the process of demonetisation, comprehensive review of Payment and Settlement Act, 2007 incentivisation of digital transaction, cyber crimes management plans, Bitcoins and issues related thereto, digital transactions vis-a-vis freedom of citizen to choose mode of payments etc.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

**Minutes of the Seventeenth sitting of the Standing Committee on
Finance (2016-17).**

**The Committee sat on Thursday, the 01 June, 2017 from 1100 hrs. to 1400 hrs. in
Committee Room 'D', Parliament House Annexe, New Delhi.**

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

1. Shri Venkatesh Babu T.G.
2. Shri Nishikant Dubey
3. Shri P.C. Gaddigoudar
4. Shri Shyama Charan Gupta
5. Prof. Sanwar Lal Jat
6. Shri Rattan Lal Kataria
7. Shri Rayapati Sambasiva Rao
8. Prof. Saugata Roy
9. Shri Jyotiraditya M. Scindia
10. Shri Gopal Chinayya Shetty
11. Shri Anil Shirole
12. Shri Dinesh Trivedi
13. Shri Shivkumar Udasi

RAJYA SABHA

14. Shri Naresh Gujral
15. Shri A. Navaneethakrishnan
16. Dr. Mahendra Prasad
17. Shri Ajay Sancheti
18. Dr. Manmohan Singh

SECRETARIAT

- | | | |
|---------------------------------|---|---------------------|
| 1. Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. Shri R.C Tiwari | - | Director |
| 3. Shri Ramkumar Suryanarayanan | - | Additional Director |
| 4. Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Indian Banks' Association

1. Mr. Rajeev Rishi, Chairman, IBA & Chairman & Managing Director, Central Bank of India
2. Ms. Chanda Kochhar, Deputy Chairperson, IBA & MD & CEO, ICICI Bank Ltd.

Punjab National Bank

1. Shri Sunil Mehta, MD & CEO
2. Shri V.P. Jain, General Manager (SMEAD)

Oriental Bank of Commerce

1. Shri Rajkiran Rai G., Executive Director
2. Shri S.P. Chugh, General Manager
3. Shri Kuldeep Bhalla, General Manager

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction of the witnesses, each of them submitted their respective views on the subject 'Demonetisation and Transformation towards digital economy' and 'Banking Sector in India - Challenges and the Way Forward' before the Committee one after another. The major issues discussed during the sitting included, overall impact of demonetisation, huge spike in payments other than cash and decline in digital transactions from April, 2017, cost of demonetisation including cost of recalibration of ATMs, role played by IBA in the process of transformation towards digital economy, rise in customer grievances in digital era, non-bank operating payment systems, mitigation of electronic fraud, quantum of capital requirement of banks, service charges levied by banks to their clients/customers, impending high rate of retirement and attrition in the banking sector, viability of portability of bank account number, reasons for sluggish growth in GDP, forensic investigation of large bank accounts, digital transactions in semi-urban and rural areas etc.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

Minutes of the Eighteenth sitting of the Standing Committee on Finance (2016-17).

**The Committee sat on Thursday, the 08 June, 2017 from 1100 hrs. to 1430 hrs. in
Committee Room 'D', Parliament House Annexe, New Delhi.**

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

1. Shri Venkatesh Babu T.G.
2. Shri Nishikant Dubey
3. Shri Shyama Charan Gupta
4. Shri Rattan Lal Kataria
5. Shri Bhartruhari Mahtab
6. Shri Prem Das Rai
7. Prof. Saugata Roy
8. Shri Gopal Chinayya Shetty
9. Shri Anil Shirole
10. Dr. Kirit Somaiya
11. Shri Dinesh Trivedi
12. Shri Shivkumar Udasi

RAJYA SABHA

13. Shri Naresh Agrawal
14. Shri Naresh Gujral
15. Shri Satish Chandra Misra
16. Shri A. Navaneethakrishnan
17. Dr. Mahendra Prasad
18. Shri C.M. Ramesh
19. Shri T.K. Rangarajan
20. Shri Ajay Sancheti
21. Dr. Manmohan Singh

SECRETARIAT

- | | | |
|---------------------------------|---|---------------------|
| 1. Shri R.C Tiwari | - | Director |
| 2. Shri Ramkumar Suryanarayanan | - | Additional Director |
| 3. Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Ministry Of Electronics And Information Technology, UIDAI and CERT-In

1. Smt. Aruna Sundararajan, Secretary
2. Dr. A.B. Pandey, CEO, UIDAI
3. Dr. Ajay Kumar, Additional Secretary
4. Shri Rajiv Bansal, Joint Secretary
5. Shri Sanjiv Kumar Mittal, Joint Secretary
6. Shri Sanjay Kumar Rakesh, Joint Secretary
7. Dr. Debashish Dutta, Group Coordinator
8. Dr. Sanjay Bahl, Director General, CERT-In

Ministry Of Finance

1. Shri Amit Aggarwal, Joint Secretary (Department of Financial Services)
2. Dr. Anil Ranga, Director (Department of Economic Affairs)

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction of the witnesses, Secretary (Meity) made a power point presentation and subsequently the witnesses submitted their respective views on the subject 'Demonetisation and Transformation towards digital economy' before the Committee. The major issues discussed during the sitting included the progress of digitalisation till date, various issues with regard to cash shortfall in the economy, steps taken to incentivise digital transactions post demonetisation, decline in digital transactions post normalisation of cash supply, need for an adequate cyber security policy, a satisfactory cyber/internet connectivity mechanism to compliment digital transformation and need for a comprehensive institutional and regulatory policy initiative, elimination of various concerns with regard to the protection of personal data and subsequent privacy concerns, need for regulation of digital crypto currency and development of BHIM application with further inclusion of Regional Rural Banks (RRB's) and requisite last mile connectivity.

The Committee further deliberated upon a binding mechanism to make service providers liable towards failed and unauthorised transactions, a new security framework to deal with severe cyber/internet security breach, functional accountability of UIDAI and its grievances redressal mechanism, issues pertaining to imposition of extra charge

levied by service providers and banks for using their digital applications and transaction interface, policy position of Government with respect to adoption and institutionalisation of digitalisation and digital payments and reasons leading to an abrupt initiation of a major and far-reaching process of digitisation.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

Minutes of the Twentieth sitting of the Standing Committee on Finance (2016-17).

**The Committee sat on Thursday, the 12 July, 2017 from 1500 hrs. to 1800 hrs. in
Committee Room 'D', Parliament House Annexe, New Delhi.**

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

2. Shri Nishikant Dubey
3. Shri P.C. Gaddigoudar
4. Shri Shyama Charan Gupta
5. Shri Rattan Lal Kataria
6. Shri Bhartruhari Mahtab
7. Shri Rayapati Sambasiva Rao
8. Prof. Saugata Roy
9. Shri Gajendra Singh Sekhawat
10. Shri Gopal Chinayya Shetty
11. Shri Anil Shirole
12. Dr. Kiritbhai Solanki
13. Dr. Kirit Somaiya
14. Shri Dinesh Trivedi
15. Shri Shivkumar Udasi

RAJYA SABHA

16. Shri Naresh Agrawal
17. Shri Naresh Gujral
18. Dr. Mahendra Prasad
19. Shri T.K. Rangarajan
20. Shri Ajay Sancheti
21. Shri Digvijaya Singh
22. Dr. Manmohan Singh

SECRETARIAT

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|----|------------------------------|---|---------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. | Shri R.C Tiwari | - | Director |
| 3. | Shri Ramkumar Suryanarayanan | - | Additional Director |
| 4. | Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Reserve Bank of India

1. Dr. Urjit R. Patel, Governor
2. Shri S.S. Mundra, Deputy Governor
3. Shri N.S. Vishwanathan, Deputy Governor
4. Shri B.P. Kanungo, Deputy Governor

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction of the witnesses, the Committee discussed various issues which included, achievements of demonetisation as on date, whether black money has been flushed out, actual status of counting or cash verification, number of Suspicious Transaction Reports (STRs), estimates of quantum of currency in circulation as on date, progress towards digital payments in rural areas, digital transactions, the efficacy of NPAs resolution under the Bankruptcy Code, crypto currency transactions, etc. Thereafter, the Chairperson directed the representatives of Reserve Bank of India to furnish written replies to the points raised by the Members which could not be answered to / adequately responded to during the discussion.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

**Minutes of the Twenty First sitting of the Standing Committee on
Finance (2016-17).**

**The Committee sat on Thursday, the 13 July, 2017 from 1100 hrs. to 1330 hrs. in
Committee Room 'D', Parliament House Annexe, New Delhi.**

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

1. Shri Venkatesh Babu T.G.
2. Shri Nishikant Dubey
3. Shri Shyama Charan Gupta
4. Shri Rattan Lal Kataria
5. Shri Bhartruhari Mahtab
6. Prof. Saugata Roy
7. Shri Gopal Chinayya Shetty
8. Shri Anil Shirole
9. Dr. Kiritbhai Solanki
10. Dr. Kirit Somaiya
11. Shri Dinesh Trivedi
12. Shri Shivkumar Udasi

RAJYA SABHA

13. Shri Naresh Gujral
14. Dr. Mahendra Prasad
15. Shri T.K. Rangarajan
16. Shri Ajay Sancheti
17. Shri Digvijaya Singh
18. Dr. Manmohan Singh

SECRETARIAT

- | | | |
|---------------------------------|---|---------------------|
| 1. Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. Shri R.C Tiwari | - | Director |
| 3. Shri Ramkumar Suryanarayanan | - | Additional Director |
| 4. Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Ministry of Home Affairs

1. Shri Rajiv Gauba, OSD/ Designated HS
2. Shri Praveen Vasistha, JS(LWE), MHA
3. Shri T.V.S.N. Prasad, JS(PM), MHA
4. Shri A.k. Ganjoo, Director, DFSS
5. Shri Bharat Panchal, Head, Risk Management, NPCI
6. Shri Arun Kampani, Joint Commissioner Police, Delhi Police
7. Shri Anyesh Roy, DCP, Delhi Police
8. Shri Shailendra Vikram Singh, DGM (MU)

Central Bureau of Investigation (CBI)

1. Shri A. K. Sharma, Joint Director
2. Shri Anish Prasad, Deputy Director

Reserve Bank of India

1. Shri A. R. Joshi, CGM
2. Shri A.G. Giridharan, DGM

Ministry Of Electronics And Information Technology

1. Dr. Sanjay Bahl, DG, CERT
2. Shri Arvind Kumar, Sr. Director
3. Shri Rajiv Bansal, Joint Secretary

Intelligence Bureau

1. Shri A. Sunil Achaya, Joint. Director

National Critical Information Infrastructure Protection Centre,(NCIIPC)

1. Comd. A. Anand, ADG, NCIIPC

National Cyber Security (NCS)

1. Dr. Gulshan Rai, Coordinator

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction, the witnesses submitted their respective views on the subject 'Demonetisation and Transformation towards digital economy' before the Committee. The major issues discussed during the sitting included the steps required to transform India into a digitally empowered society; availability of quality digital infrastructure and governance, cyber security measures taken by Government to curb cyber crimes, lack of a foolproof system and mechanism to ensure cyber security, need for a holistic approach towards a comprehensive amendment to cyber crime laws, timely and all inclusive evolution of National Cyber Security Policy 2013, quantification of number of cases detected with regard to cyber and data security issues, empowering State Governments and industrial entities to deal with various cyber challenges. The Committee further deliberated upon the steps taken to counter and pre-empt attacks on data security, crucial role of Ministry of Home Affairs as an internal security ministry, threat to digital India from national and global hackers, need for rapid expansion of internet connectivity in hitherto untapped areas, proper registration of First Information Report (FIR) and cognizance of cyber crimes by local police authorities, need for a separate Ministry / Department on Cyber Security, areas of vulnerabilities in IT Infrastructure, typical response protocol in case of a breach, need for private-public partnership in the realm of cyber security. Thereafter, the Chairperson directed the representatives of Ministry of Home Affairs to furnish written replies to the points raised by the Members which could not be answered to / adequately responded to during the discussion within ten days to the Committee Secretariat.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

**Minutes of the Twenty Second sitting of the Standing Committee on
Finance (2016-17).**

**The Committee sat on Thursday, the 20 July, 2017 from 1500 hrs. to 1800 hrs. in
Committee Room 'D', Parliament House Annexe, New Delhi.**

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

1. Shri Venkatesh Babu T.G.
2. Shri Nishikant Dubey
3. Shri P.C. Gaddigoudar
4. Shri Shyama Charan Gupta
5. Shri Chandrakant B. Khaire
6. Shri Bhartruhari Mahtab
7. Shri Prem Das Rai
8. Shri Gopal Chinayya Shetty
9. Shri Anil Shirole
10. Dr. Kiritbhai Solanki
11. Dr. Kirit Somaiya
12. Shri Dinesh Trivedi
13. Shri Shivkumar Udasi

RAJYA SABHA

14. Dr. Mahendra Prasad
15. Shri T.K. Rangarajan
16. Shri Ajay Sancheti
17. Shri Digvijaya Singh

SECRETARIAT

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|---------------------------------|---|---------------------|
| 1. Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. Shri R.C Tiwari | - | Director |
| 3. Shri Ramkumar Suryanarayanan | - | Additional Director |
| 4. Shri Kulmohan Singh Arora | - | Deputy Secretary |

PART I (1500 hrs - 1630 hrs)

WITNESSES

National Association of Software and Services Companies (NASSCOM)
(Data Security Council of India)

1. Ms. Rama Vedashree, CEO, DSCI
2. Mr. Vinayak Godse, Sr. Director, DSCI
3. Mr. Rahul Sharma, Sr. Consultant, DSCI
4. Mr. Mayank Lau, Sr. Consultant, DSCI
5. Ms. Smriti Bali, Sr. Manager Finance and Company Secretary, DSCI

2. At the outset, the Chairperson welcomed the Members and witnesses from Data Security Council of India (DSCI) to the sitting of the Committee. After the customary introduction, the witnesses submitted their respective views on the subject 'Demonetisation and Transformation towards digital economy' with particular reference to cyber security aspects before the Committee. The major issues discussed during the sitting included, various aspects of cyber security, measures required to curb cyber crimes in wake of faster digitalisation, foolproof measures and comprehensive mechanism to check cyber terrorism, lack of cyber awareness among citizens, need for a separate cyber security Ministry, various issues with respect to right to privacy, difference between ethical and criminal hackers, need for a counter check system to deal with lingering vulnerabilities, steps / initiatives required to strengthen network connectivity, need to initiate a definitive institutional and regulatory change for digital transformation and need for an indigenous systems to deal with cyber/digital challenges. Thereafter, the Chairperson directed the representatives to furnish written replies to the points raised by the Members which could not be answered to / adequately responded to during the discussion within fifteen days to the Committee Secretariat.

(The witnesses then withdrew)

The Committee then adjourned for tea break.

PART II (1630 hrs - 1800 hrs)

WITNESSES

NITI Aayog

1. Shri Amitabh Kant, CEO
2. Shri Yaduvendra Mathur, Additional Secy.
3. Ms. Anna Roy, Advisor

3. The Chairperson welcomed the Members and witnesses from National Institution for Transforming India (NITI) to the sitting of the Committee. After the customary introduction the Members sought clarification from the witnesses on the subject 'Demonetisation and Transformation towards digital economy'. The major issues discussed during the sitting included, progress of movement towards a less cash economy, reason for acute cash crunch after demonetisation, lack of adequate incentive for a decisive push towards digitalisation, lack of proper digital infrastructure and security apparatus, need to evolve new policies to meet glaring challenges in cyber security and specific steps initiated by NITI as a premier policy think tank of the Government to facilitate faster and smoother digitalisation. The Committee further deliberated upon the steps taken to implement the suggestion given by the Committee of Chief Ministers, loss of initial momentum of digitalisation trends and demonetisation as the only tool to usher into the digitalisation era, steps taken by the Government and NITI to ensure cheaper digitalisation costs, estimated expenditure incurred by the Government towards systems and processes of re-monetisation, non operability of BHIM application in rural areas and reasons for introducing Rs. 2000 denomination note after demonetisation. Thereafter, the Chairperson directed the representatives to furnish written replies to the points raised by the Members which could not be answered to / adequately responded to during the discussion within fifteen days to the Committee Secretariat.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

**Minutes of the Twenty Third sitting of the Standing Committee on
Finance (2016-17).**

**The Committee sat on Thursday, the 27 July, 2017 from 1500 hrs. to 1700 hrs. in
Committee Room '139' 1st Floor, Parliament House Annexe, New Delhi.**

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

1. Shri Nishikant Dubey
2. Shri P.C. Gaddigoudar
3. Shri Shyama Charan Gupta
4. Shri Rattan Lal Kataria
5. Shri Bhartruhari Mahtab
6. Shri Prem Das Rai
7. Shri Rayapati Sambasiva Rao
8. Prof. Saugata Roy
9. Shri Gopal Chinayya Shetty
10. Shri Anil Shirole
11. Dr. Kiritbhai Solanki
12. Dr. Kirit Somaiya
13. Shri Dinesh Trivedi
14. Shri Shivkumar Udasi

RAJYA SABHA

15. Dr. Mahendra Prasad
16. Shri Ajay Sancheti

SECRETARIAT

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|----|------------------------------|---|---------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. | Shri Ramkumar Suryanarayanan | - | Additional Director |
| 3. | Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Indian Institute of Technology, Kanpur

1. Prof. Manindra Agarwal, Indian Institute of Technology, Kanpur
2. Prof. Sandeep Shukla, Indian Institute of Technology, Kanpur

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction, the witnesses submitted their respective views on the subject 'Demonetisation and Transformation towards digital economy with particular reference to cyber security aspects'. The major issues discussed during the sitting included the vision of Digital India Programme to empower the society, need for digital infrastructure and governance and availability of digital services to common citizens, possibility of creation of a Cyber Commission on the lines of Indian Space Research Organisation (ISRO), internal and international aspect of cyber security, need for the country to have its own ecosystem of Satellites, overlapping of responsibilities and no unity of command, lack of proper Research and Development experts with respect to cyber issues in technical Universities like IITs, steps required towards making a portion of funds from CSR to be invested in innovation and research institutions, various issues related to right to privacy, need to remedy the existing inadequacies in cyber security framework and making digital transactions attractive to common citizens. Thereafter, the Chairperson directed the representatives from Indian Institute of Technology, Kanpur, to furnish written replies to the points raised by the Members which could not be answered to / adequately responded to during the discussion within ten days to the Committee Secretariat.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

Minutes of the Second Sitting of the Standing Committee on Finance (2017-18)
The Committee sat on Friday, the 3rd November, 2017 from 1100 hrs. to 1400 hrs.
in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

2. Shri Kunwar Pushpendra Singh Chandel
3. Shri Bandaru Dattatreya
4. Shri Nishikant Dubey
5. Shri Venkatesh Babu T.G.
6. Shri P.C. Gaddigoudar
7. Shri Shyama Charan Gupta
8. Shri Rattan Lal Kataria
9. Shri Chandrakant Khaire
10. Shri Bhartruhari Mahtab
11. Prof. Saugata Roy
12. Shri Rajiv Pratap Rudy
13. Shri Gopal Shetty
14. Shri Kirit P. Solanki
15. Shri Dinesh Trivedi
16. Shri Shivkumar Udasi

RAJYA SABHA

17. Shri Rajeev Chandrasekhar
18. Shri Mahesh Poddar
19. Dr. Mahendra Prasad
20. Shri C.M. Ramesh
21. Shri Ajay Sancheti
22. Dr. Manmohan Singh

SECRETARIAT

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|----|------------------------------|---|---------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. | Shri Rajesh Ranjan Kumar | - | Director |
| 3. | Shri Ramkumar Suryanarayanan | - | Additional Director |
| 4. | Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Ministry of Electronics and Information Technology (MeitY)

Shri Ajay Prakash Sawhney, Secretary

Ministry of Communications (Department of Telecommunications)

Ms. T. Lynda Yaden, DDG

Unique Identification Authority of India (UIDAI)

Dr. YLP Rao, Deputy Director General

Reserve Bank of India (RBI)

Shri P. Vasudevan, CGM

Indian Computer Emergency Response Team CERT-In

Dr. Sanjay Bahl, Director General

National Payments Corporation of India (NPCI)

Shri Dilip Asbe, CEO

National Informatics Centre (NIC)

Ms. Nandita Chaudhari, DDG

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction and power point presentation the witnesses submitted their respective views on the subject 'Transformation towards a digital economy' before the Committee. The major issues discussed during the sitting included various aspects related to digital transactions, data security, momentum of digitalisation and need for a comprehensive digital framework; steps required to make digitalisation a popular and viable option for the masses; issues with regard to usage of BHIM application, especially involving the Regional Rural Bank's (RRBs); rise in digital transactions in both volume and value terms and lack of internet penetration; policy of Government to increase the intensity of digital transactions and use of coercive means

thereof. The Committee further deliberated upon the issues like lack of required digital infrastructure to make digitalisation a long term success; issues regarding consumer rights and protection and need for it to be built into the digital ecosystem itself; quantum of digitalisation with regard to the percentage of Gross Domestic Product (GDP) and working of the Government; concerns related to the definition of 'breach' with respect to UIDAI data; work done on a Pan-India Electronic Network as of today, issues related to bandwidth, internet connectivity and inadequate Information technology systems; present situation with regard to the status of crypto currency in the country and budget provided for Research and Development of cyber security network. Thereafter, the Chairperson directed the representatives to furnish written replies to the points raised by the Members which could not be answered / adequately responded to during discussion, within ten days to the Committee Secretariat.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.

Minutes of the Fourth sitting of the Standing Committee on Finance (2017-18)
The Committee sat on Thursday, the 16 November, 2017 from 1500 hrs. to 1800 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

MEMBERS

Dr. M. Veerappa Moily - Chairperson

LOK SABHA

2. Shri Kunwar Pushpendra Singh Chandel
3. Shri Bandaru Dattatreya
4. Shri Nishikant Dubey
5. Shri Venkatesh Babu T.G.
6. Shri P.C. Gaddigoudar
7. Shri Shyama Charan Gupta
8. Shri Rattan Lal Kataria
9. Shri Chandrakant Khaire
10. Shri Bhartruhari Mahtab
11. Shri Prem Das Rai
12. Prof. Saugata Roy
13. Shri Rajiv Pratap Rudy
14. Shri Gopal Shetty
15. Shri Kirit Somaiya
16. Shri Dinesh Trivedi
17. Shri Shivkumar Udasi

RAJYA SABHA

18. Shri A. Nvaneethakrishnan
19. Dr. Mahendra Prasad
20. Shri Ajay Sancheti
21. Dr. Manmohan Singh

SECRETARIAT

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|----|------------------------------|---|---------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. | Shri Rajesh Ranjan Kumar | - | Director |
| 3. | Shri Ramkumar Suryanarayanan | - | Additional Director |
| 4. | Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Ministry of Communications (Department of Telecommunications)

Ms. Aruna Sundrarajan, Secretary

Universal Service Obligation Fund (USOF)

Shri Sanjay Singh, Administrator (USO Fund)

Bharat Sanchar Nigam Ltd. (BSNL)

Smt. Sujata T. Ray, Director (Finance & HR), BSNL Board

Mahanagar Sanchar Nigam Ltd. (MTNL)

Sh. P.K. Purwar, CMD

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction and power point presentation the witnesses submitted their respective views on the subject 'Transformation towards a digital economy' before the Committee. The major issues discussed during the sitting included the lack of even basic mobile services (like 2G) in the North-east and hilly regions; providing latest global technology to the customers as and when the same is available; need to create various wi-fi hotspots for easy and immediate internet access to the masses; slow rate of digitalization and lack of infrastructure for providing range of available services; various issues related to the National Telecom Policy and provision of 4G spectrum to Bharat Sanchar Nigam Limited (BSNL); policy outlook of the government to take the telecom sector forward, promoting healthy competition and providing satisfactory services; steps initiated by Department of Telecommunications to facilitate conducive business environment, expedite digitalization and fixing of responsibility with respect to the issue of call drops and user charges accordingly. The Committee further deliberated upon the issues like utilization and expenditure of Universal Service Obligation Fund (USOF) and its ability to provide connectivity in a non discriminatory manner; ratio of 3G and 4G revenue of BSNL and MTNL *vis-a-vis* private service providers; fixing of targets and time schedule by Department of Telecommunications to achieve desired network capability; various aspects related to the harmful effect of radiations from mobile towers; measures anticipated by Department of

Telecommunications to incentivize and encourage investment in telecom sectors and establishment of proper procedure with respect to redressal of public grievance and use of social media thereof. Thereafter, the Chairperson directed the representatives to furnish written replies to the points raised by the Members which could not be answered/adequately responded to during discussion, within ten days to the Committee Secretariat.

(The witnesses then withdrew)

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4.	XX	XX	XX	XX	XX	XX
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A verbatim record of the proceedings has been kept

The Committee then adjourned.

Minutes of the Fifth sitting of the Standing Committee on Finance (2017-18)
The Committee sat on Thursday, the 30th November, 2017 from 1100 hrs. to 1330 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

PRESENT

Dr. M. Veerappa Moily - Chairperson

MEMBERS

LOK SABHA

2. Shri Kunwar Pushpendra Singh Chandel
3. Shri Bandaru Dattatreya
4. Shri Nishikant Dubey
5. Shri P.C. Gaddigoudar
6. Shri Rattan Lal Kataria
7. Shri Chandrakant Khaire
8. Shri Bhartruhari Mahtab
9. Shri Rayapati Sambasiva Rao
10. Shri Rajiv Pratap Rudy
11. Shri Jyotiraditya M. Scindia
12. Shri Gopal Shetty
13. Shri Dinesh Trivedi
14. Shri Shivkumar Udasi

RAJYA SABHA

15. Shri A. Navaneethakrishnan
16. Dr. Mahendra Prasad
17. Shri T.K. Rangarajan
18. Shri Ajay Sancheti
19. Dr. Manmohan Singh

SECRETARIAT

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|----|------------------------------|---|---------------------|
| 1. | Smt. Abha Singh Yaduvanshi | - | Joint Secretary |
| 2. | Shri Rajesh Ranjan Kumar | - | Director |
| 2. | Shri Ramkumar Suryanarayanan | - | Additional Director |
| 3. | Shri Kulmohan Singh Arora | - | Deputy Secretary |

WITNESSES

Cellular Operators Association of India (COAI)

1. Shri Rajan S Mathews, Director General
2. Shri Vikram Tiwathia, Dy. Director General
3. Shri Saurabh Puri : Sr. Director
4. Shri Gopal Mittal, Sr. Director
5. Ms. Vertika Misra Sr. Director
6. Shri Ravi Gandhi, CRO, Airtel
7. Shri P Balaji, Director (Regulatory & Govt. Affairs), Vodafone
8. Shri Rajat Mukarji, Chief Officer (Corporate Affairs), Idea
9. Shri Mahipal Singh, VP(Regulatory), Reliance JIO

Internet and Mobile Association of India (IAMAI)

1. Dr Subho Ray, President
2. Ms Chitrita Chatterjee, Associate Vice President

2. At the outset, the Chairperson welcomed the Members and witnesses to the sitting of the Committee. After the customary introduction and power point presentation the witnesses submitted their respective views on the subject 'Transformation towards a digital economy' before the Committee. The major issues discussed during the sitting included the innovation done by Cellular Operators Association Of India (COAI) and its Members; Cyber Security aspects; dependency and success of digitalisation and digital programmes / schemes on the quality of connectivity; facets of COAI and telecom industry's view to ensure reasonable traffic management practices; steps required to encourage fresh investment in the telecom sector and general financial health thereof; effects of demonetisation and Goods and Services Tax (GST) on the telecom industry; views of COAI and Internet and Mobile Association of India (IAMAI) with respect to the issues pertaining to privacy; suggestions / views of COAI and IMAI to improve mobile connectivity and quality in hilly and North Eastern States; steps required to reconcile ballooning gap between subscriber base and deteriorating quality of connectivity; issues

regarding harmful emission / radiation from mobile towers; steps envisaged by COAI and IAMAI to sync their future roadmap with Bharat Net project and issues regarding multiplicity and overlapping of policies. Thereafter, the Chairperson directed the representatives to furnish written replies to the points raised by the Members which could not be answered/adequately responded to during discussion, within two weeks to the Committee Secretariat.

(The witnesses then withdrew)

A verbatim record of the proceedings has been kept

The Committee then adjourned.